

Population Representation in the Military Services: Fiscal Year 2013 Summary Report

Office of the Under Secretary of Defense, Personnel and Readiness

Population Representation in the Military Services

Fiscal Year 2013

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2013



Introduction

This is the 40th annual Department of Defense (DOD) report describing characteristics of U.S. military personnel. The goal of the *Population Representation in the Military Services* (Pop Rep) report is to provide the most comprehensive, reliable, and consistent data tabulations on military personnel for policy-makers, the media, and the general public.¹

Today's recruiting environment is good. For the last five years, the services have experienced extraordinary recruiting success. Probably the most notable contributing factor has been the persistently high unemployment rate, particularly among young people. Although unemployment rates for all groups (16- to 19-year-old, 20- to 24-year-old, and 16- to 24-year-old) improved in 2013, they are all still higher than at any time since the recession of 1982 to 1983. Given the scarcity of civilian job opportunities and a somewhat reduced requirement for enlisted accessions, the services met their numerical goals, and the quality of accessions (in terms of educational credentials and aptitude test scores) has been extraordinarily high. In fact, accessions in FY12 reflected the highest quality attained since the inception of the All-Volunteer Force (AVF) in 1973. Accession quality in FY13 was only slightly lower than it was in FY12.

As the economy improves, however, it will be difficult to sustain this high quality. Youth influencers have not been as likely to recommend military service as they were in the 1980s and 1990s. Increasing numbers of bright young Americans are going to college immediately after completing high school. Some commentators expect federal budgetary problems to create pressures to stop increasing or even to reduce part of the military compensation package. Even though few troops are expected to remain in Afghanistan in 2014, numerous international "hot spots" may keep operational tempo high. Finally, the proportion of youth that is ineligible to serve – primarily because of weight – is both large and growing.

Although the military requires only a small proportion of the youth population, many youth are not qualified to serve. The Office of Accession Policy (OUSD-AP) sponsored a recent study to estimate the "qualified military available" or QMA.² This is an estimate of the proportion of the 17- to 24-year-old youth population in the United States who would qualify without needing a waiver and be available to enlist in the active-component military. The 2013 QMA estimates that only 17 percent of the youth population is available (i.e., not enrolled in college) and qualify to enlist without a waiver. In practice, the services typically deny enlistment to youth who score in the bottom 30th percentile (i.e., category IV and V) on the Armed Forces Qualification Test

¹ Summaries and appendixes (for FY97 through FY11) of the Pop Rep report are available online at <http://prhome.defense.gov/RFM/MPP/AP/POPREP.aspx> and at www.cna.org/pop-rep (for FY07 through FY12).

² See The Lewin Group, Inc., *Qualified Military Available (QMA) Final Technical Report*, October 10, 2013.

(AFQT).³ Incorporating this criterion, only 13 percent of youth would qualify without a waiver, be available, and score above the 30th percentile on the AFQT.

Disqualification rates for each of the categories are as follows:⁴

- Medical/physical (22 percent)
- Overweight (21 percent)
- Mental health (14 percent)
- Drugs (8 percent)
- Conduct (1 percent)
- Dependents (2 percent)
- Aptitude (2 percent)

Given the high disqualification rates, the following questions become critical: Are those qualified willing to serve? And will they view the military as a viable option after high school – not just as a short-term alternative to college or the job market, but as a possible career?

Although today's recruiting environment is strong, more challenging recruiting periods will likely return. If the military enters these difficult periods with insufficient resources, it risks returning to the "boom and bust" recruiting cycles that characterized some past years. Contracting and expanding recruiting resources are not symmetric processes. Cuts in the recruiting force, for example, can be achieved quickly; expansions, however, take much more time because recruiters must be selected and trained. Newly trained recruiters are not immediately productive with some estimating their learning curves to be almost a year long. Thus, considerable care must be taken to ensure that recruiting resource cuts are not so severe that they cause recruiting failure and reduced military readiness when the economy recovers. Because there is no lateral entry in the military, new accessions are both tomorrow's career force and tomorrow's leaders. If the military accesses low-quality recruits today, it jeopardizes future readiness.

This summary report highlights recent and historical personnel trends in the DOD services (the Army, Navy, Marine Corps, and Air Force) and the U.S. Coast Guard, which is part of the Department of Homeland Security. It examines both the active component (AC) and the reserve component (RC) in all services. It describes demographic characteristics of applicants, accessions, enlisted personnel, and officers, referencing data from the tables in the technical appendixes, as well as from previous

³ The AFQT score is computed from Armed Services Vocational Aptitude Battery (ASVAB) sub-tests.

⁴ Since many youth have more than one disqualifying factor, the percentages sum to greater than 100 percent. In fact, 39 percent of all youth are predicted to be disqualified from enlisting in the military for more than one reason. Medical/physical, overweight, and drugs are common multiple disqualifiers.

Pop Rep reports. Finally, it includes information on the socioeconomic characteristics of the neighborhoods of those accessed into the military in FY13.

The remainder of this report is organized as follows: In section I, we present an overall summary of the armed services. Sections II and III cover the DOD's AC and RC, respectively. In section IV, we discuss the U.S. Coast Guard.

The FY13 technical appendixes (A through E), located on this website, provide current data on the demographics—including education and aptitude—of new recruits, enlisted personnel, and officers of the AC and RC, as well as historical data on their selected demographic and service-related characteristics. Except where otherwise noted, data are provided by the Defense Manpower Data Center (DMDC) and all data are derived from the technical appendixes.

Section I: Summary statistics

Each year, Congress sets authorized endstrength—the number of servicemembers—for each service. Actual endstrength may differ from authorized endstrength, however, in that the former refers to the number of servicemembers as of the 30th of September in a given fiscal year. To meet authorized endstrength, each service balances retention (those remaining in the service) with accessions (those entering the service). In this report, “endstrength” refers to *actual* endstrength. We show individual service total endstrength—the sum of enlisted members, commissioned officers, and warrant officers—for the past three fiscal years in table 1. The table also shows FY13 endstrength by personnel type.

Table 1. Actual endstrength, by service and personnel type, FY11-FY13

	Endstrength			FY13 endstrength, by personnel type		
	FY11	FY12	FY13	Enlisted	Commissioned officers	Warrant officers
Component						
Active (AC)						
Army	561,437	546,059	528,070	429,103	83,233	15,734
Navy	320,141	314,339	319,839	265,978	52,257	1,604
Marine Corps	201,026	198,820	195,848	174,610	19,189	2,049
Air Force	328,821	328,812	326,573	261,775	64,798	0
DOD total	1,411,425	1,388,030	1,370,330	1,131,466	219,477	19,387
Reserve (RC)						
ARNG	361,561	358,078	357,735	312,670	36,601	8,464
USAR	204,803	201,166	198,209	162,959	32,000	3,250
USNR	64,792	64,715	62,444	48,124	14,233	87
USMCR	39,772	39,544	39,501	35,401	3,821	279
ANG	105,685	105,389	105,708	90,977	14,731	0
USAFR	71,321	71,817	70,913	56,853	14,060	0
DOD total	847,934	840,320	834,510	706,984	115,446	12,080
U.S. Coast Guard						
AC	42,011	41,849	40,420	32,029	6,708	1,683
RC	7,933	7,982	8,000	6,695	1,160	145
Total	49,944	49,831	48,420	38,724	7,868	1,828

Notes:

1. The RC consists of the Army National Guard (ARNG), the U.S. Army Reserve (USAR), the U.S. Navy Reserve (USNR), the U.S. Marine Corps Reserve (USMCR), the Air National Guard (ANG), and the U.S. Air Force Reserve (USAFR).
2. Data come from appendix tables B-17, B-22, B-34, C-11, C-17, C-28, D-39, E-12, E-15, E-19, E-25, E-26, and E-29.
3. The Air Force does not have warrant officers.

FY13 DOD AC endstrength totaled 1.37 million servicemembers, 41,000 fewer than in FY12 and 18,000 fewer than in FY11. Given the overall size of the AC, these are small

changes. The Army's endstrength is about 75 percent larger than the Navy's and 70 percent larger than the Air Force's. Relative to the military services, the Coast Guard is small – about one-fifth the size of the Marine Corps, the smallest AC service.

The small overall reduction in AC endstrength since FY11, however, masks somewhat different patterns among the services' active components; the Navy and Air Force stayed approximately the same size, but the Army and Marine Corps dropped in size. Moreover, the changes were on the enlisted side, as overall commissioned officer endstrength increased slightly. Although the detail is not shown in table 1, between FY11 and FY 13:

- Army enlisted strength fell 35,000, while commissioned officer strength increased by 1,500.
- Marine Corps enlisted strength fell by 4,500, and commissioned officer strength fell by about 700.
- There were small changes in the Navy and Air Force.

Both the Army and the Marine Corps are programmed for further AC endstrength reductions, but the Navy and the Air Force are expected to remain about the same size.

At 834,510 members in FY13, the RC is 61 percent the size of the AC. The RC has two National Guard components – the Army National Guard (ARNG) and the Air National Guard (ANG) – and four reserve components – the U.S. Army Reserve (USAR), the U.S. Marine Corps Reserve (USMCR), the U.S. Navy Reserve (USNR), and the U.S. Air Force Reserve (USAFR). In terms of size, the Army dominates the RC; its guard and reserve forces make up over 66 percent of reserve endstrength.

Table 2 shows the number of accessions and gains for the past three years by service and component.⁵ For enlisted personnel, we include non-prior-service (NPS) and prior-service (PS) accessions, and for officers we include commissioned and warrant officer gains. The accession percentages for PS and warrant officers are shown in parentheses below the numerical gains.

⁵ Our DMDC data track "accessions" for AC enlisted personnel and "gains" for officers and all reservists. Gains data count officers and RC members who exit one component and enter another. We follow the definitions from the Office of the Secretary of Defense for accessions and gains:

- *Accessions*: Number associated with recruiters' productivity and used in reporting the achievements of the services' recruiting commands (and other accessioning agencies).
- *Gains*: Number associated with transactions in a database that reflects the addition of a Social Security Number (SSN) that was not in the previous file.

Table 2. Number of accessions and gains, by service and personnel type, FY11–FY13

	Enlisted (% PS)			Officers (% Warrants)		
	FY11	FY12	FY13	FY11	FY12	FY13
Active						
Army	64,019 (3.2)	60,253 (2.3)	68,776 (3.4)	8,394 (14.0)	7,178 (14.8)	7,109 (14.5)
Navy	33,444 (0.3)	36,329 (0.1)	39,970 (0.2)	4,084 (4.3)	4,242 (4.2)	4,253 (3.9)
Marine Corps	29,771 (0.1)	30,504 (0.0)	32,185 (0.3)	1,956 (13.8)	1,691 (12.1)	1,267 (13.3)
Air Force	28,526 (0.9)	29,035 (1.0)	26,586 (1.2)	4,491 (0.0)	4,603 (0.0)	4,152 (0.0)
DOD total	155,760 (1.6)	156,121 (1.1)	167,517 (1.7)	18,925 (8.6)	17,714 (8.2)	16,781 (8.1)
Reserve						
ARNG	49,253 (33.3)	51,128 (28.4)	52,966 (26.5)	4,831 (15.8)	4,420 (13.7)	4,479 (15.9)
USAR	30,162 (48.0)	26,077 (53.8)	26,863 (52.0)	4,565 (8.0)	4,879 (6.9)	4,873 (6.5)
USNR	14,382 (74.4)	13,260 (75.8)	11,323 (71.6)	2,150 (0.8)	2,049 (0.9)	2,162 (0.8)
USMCR	9,269 (38.2)	8,996 (37.7)	9,220 (34.8)	872 (4.2)	986 (4.6)	1,092 (4.2)
ANG	7,072 (34.4)	8,417 (36.5)	9,213 (46.8)	1,122 (0.0)	1,325 (0.0)	1,293 (0.0)
USAFR	9,134 (55.7)	8,463 (55.9)	7,940 (59.6)	1,612 (0.0)	1,553 (0.0)	1,438 (0.0)
DOD total	119,272 (44.1)	116,341 (42.8)	117,525 (41.2)	15,152 (7.8)	15,212 (6.6)	15,337 (7.1)

Notes:

1. Enlisted accessions for all components include both non-prior-service (NPS) and prior-service (PS) accessions.
2. The RC consists of the Army National Guard (ARNG), the U.S. Army Reserve (USAR), the U.S. Navy Reserve (USNR), the U.S. Marine Corps Reserve (USMCR), the Air National Guard (ANG), and the U.S. Air Force Reserve (USAFR).
3. Data come from appendix tables B-1, B-12, B-22, B-34, C-1, C-8, C-16, C-28, E-5, E-10, E-15, E-19, E-20, E-22, E-26, and E-29.
4. The Air Force has no warrant officers.

Since FY11, enlisted AC accessions have risen by almost 12,000, with accessions increasing in all services except the Air Force. PS accessions for the AC are small. In part, this reflects the continuing strong market for NPS accessions.

AC officer gains have fallen since FY11, most sharply in the Army and Marine Corps.

Since FY11, overall RC enlisted gains fell, but the changes were different in the Guard and Selected Reserve; gains in the Selected Reserve (USAR, USNR, USMCR, and USAFR) fell, while gains in the Guard (ARNG and the ANG) grew substantially. In sharp contrast to enlisted AC gains, PS personnel represent over 40 percent of yearly reserve force enlisted gains and the percentages vary considerably by component. Overall reserve officer gains have been relatively constant over the last three years.

Enlisted personnel make up the bulk of total endstrength and accessions/gains for all DOD services (AC and RC). In FY13, enlisted personnel made up between 80 (Air Force) and 89 percent (Marine Corps) of AC endstrength. This follows the historical pattern of the Air Force having the richest mix of officers and the Marine Corps the leanest.

Warrant officers

Most officers are commissioned officers. Across DOD, warrant officers accounted for about 8 percent of AC strength and 8 percent of gains. There are no warrant officers in the Air Force,⁶ but warrant officers make up 16 percent of Army, 10 percent of Marine Corps, and 3 percent of Navy AC officer strength. In the RC, warrant officers average about 7 percent of officer gains, except in the Army, where the percentage is substantially higher. Warrant officers are generally technical leaders and specialists, and most are PS enlisted, although the Army does have a direct accession program for helicopter pilots.⁷

⁶ The Air Force stopped accessing warrant officers in 1958 when the services expanded enlisted paygrades to include E8s and E9s. The last warrant officer retired from the Air Force in 1984.

⁷ For the remainder of this report, we focus almost exclusively on enlisted personnel and commissioned officers.

Section II: DOD active component (AC)

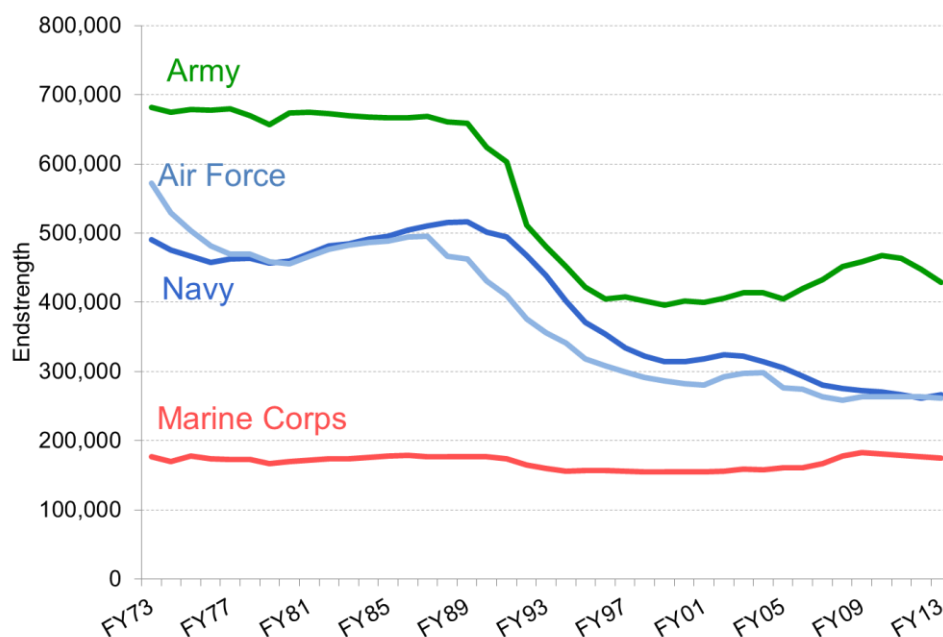
In this section, we focus on the AC, beginning with a historical analysis of trends in the size of the enlisted force and the commissioned officers corps. We then focus on non-prior-service (NPS) enlisted accessions, as well as on applicants for the enlisted force. After discussing trends, we provide descriptive statistics on the quality, age, geographic background, and neighborhood median household income for enlisted NPS recruits. We then turn to marital status of AC personnel and racial, ethnic, and gender representation. After that, we look at separation and continuation rates for enlisted personnel and how continuation rates translate into different retirement probabilities for the various services. We conclude by comparing trends in years of completed service for AC enlisted personnel and commissioned officers.

Strength over time

Enlisted endstrength

The AC's enlisted endstrength was 1,131,466 in FY13, accounting for 83 percent of total AC endstrength for the year. Figure 1 shows AC enlisted endstrength by service over the past 40 years.

Figure 1. AC enlisted endstrength, by service, FY73–FY13



Note: Data are from appendix table D-11.

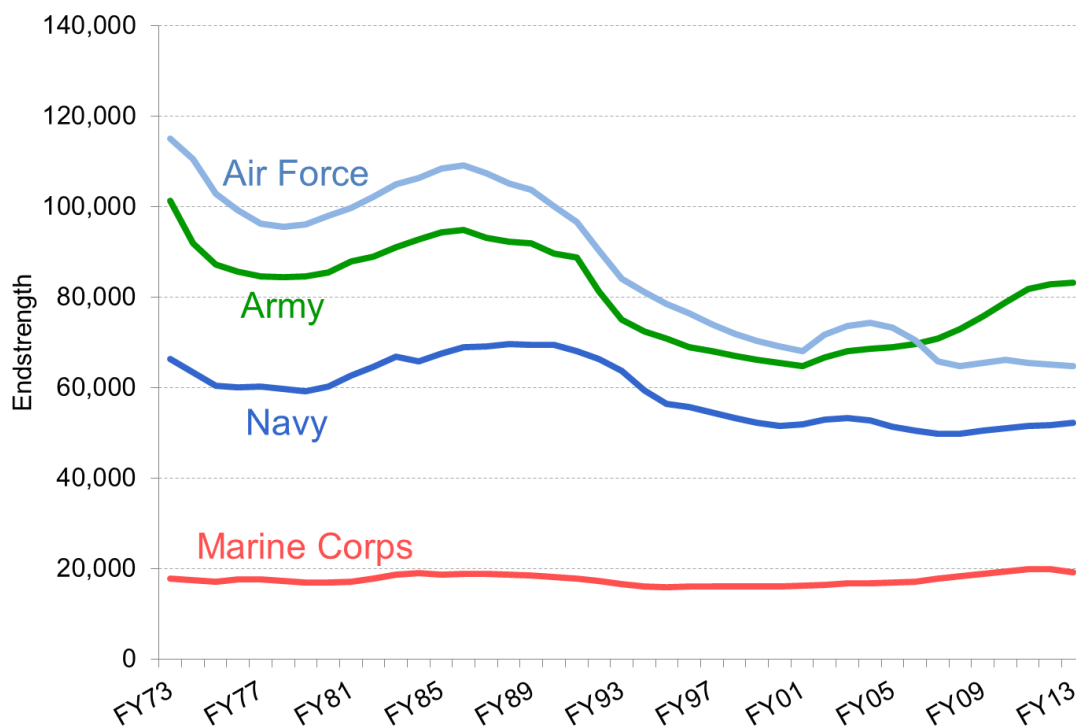
At the beginning of the AVF in FY73, 1.9 million servicemembers were in the enlisted force. The end of the Cold War in the early 1990s led to a significant drop in force size, and, from FY97 to FY13, the enlisted force fluctuated between 1.1 and 1.2 million servicemembers. Because of the wars in Iraq and Afghanistan in the last decade, there was an increase in the size of the Army and the Marine Corps, but this increase was at least partly offset by decreases in the size of the Air Force and the Navy. Reflecting reduced operational commitments, the Army and Marine Corps are now drawing down their forces.

The Marine Corps has been the smallest of the DOD services for the past 50 years. But, while all the services shrunk in the 1990s, the Marine Corps decreased the least and, by FY08, its enlisted force was back to the size it had been at the beginning of the AVF in FY73. In contrast, the Air Force, Navy, and Army were 46, 54, and 63 percent of their respective FY73 totals in FY13.

Commissioned officer corps

Figure 2 shows AC commissioned officer endstrength by service.

Figure 2. AC commissioned officer endstrength, by service, FY73–FY13



Note: Data are from appendix table D-16.

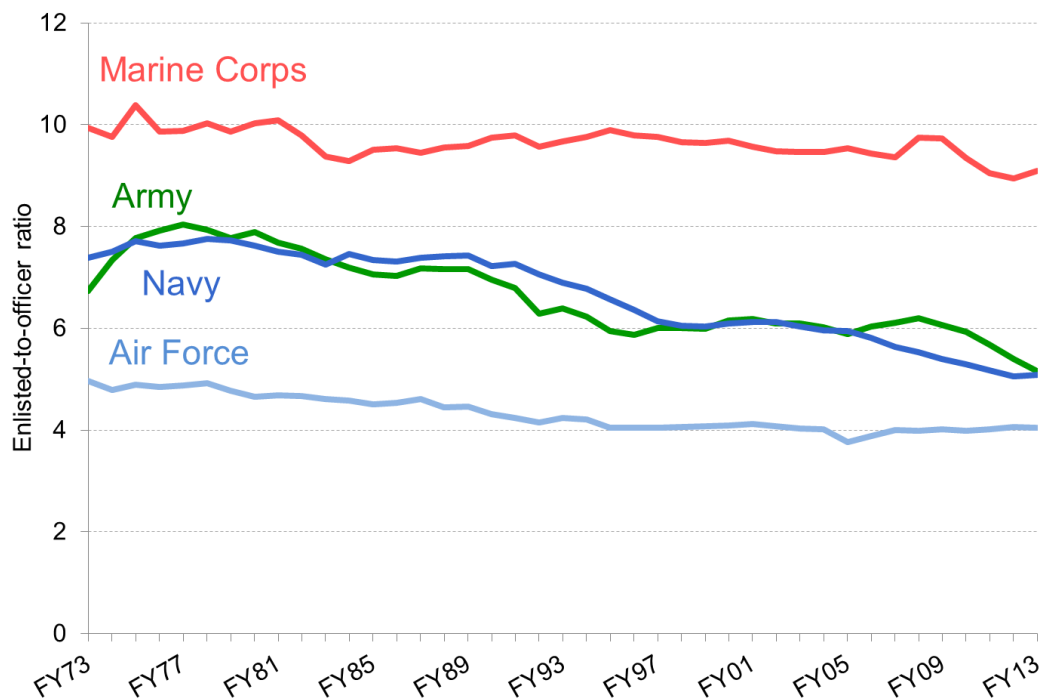
Starting from a high of 300,000 at the start of the AVF in FY73, the commissioned officer corps fell to 260,000 by FY80, grew to 292,000 by FY86, fell to 201,000 by FY01, and grew back to approximately 219,000 in FY11 where it remains today (see appendix table D-17). Commissioned officer gains followed similar patterns (see appendix table D-15). In percentage terms, officer gains have fallen more than officer corps endstrength since FY73, leading to a more experienced commissioned officer corps.

We saw earlier that the Army in FY13 had the highest number of AC enlisted personnel since the onset of the AVF. For commissioned officers, however, the Air Force had the largest number until FY07 when the Army overtook the Air Force. In FY13, AC Army commissioned officer endstrength was 18,435 greater than officer endstrength in the Air Force.

Enlisted- to commissioned-officer ratio

Although Congress sets authorized endstrength, each service determines its own enlisted and officer mix. Figure 3 illustrates how the enlisted- to commissioned-officer ratio for each service has changed over time.

Figure 3. AC enlisted- to commissioned-officer ratio, by service, FY73–FY13



Note: Data are from appendix tables D-11 and D-16.

The Marine Corps has the highest ratio of enlisted personnel to commissioned officers, ranging from 9.1 to 10.4 over nearly 40 years. The Air Force is at the other end of the

spectrum; in FY73, there were only 5.0 enlisted personnel for every commissioned officer and, since about FY95 that ratio has been at 4.0. The Army and Navy have similar historical trends; both had highs of 8.0 enlisted personnel per commissioned officer in the late FY70s, but their ratios fell steadily to 5.2 and 5.1, respectively, in FY13. Over the 40 years of the AVF, in all services, the enlisted forces have been reduced more than the commissioned officer corps. With warrant officers included the Marine Corps still has the most and the Air Force has the fewest enlisted personnel per officer.⁸

Whether the current mix of commissioned officers to enlisted personnel or the very different mixes across the services will be sustained under current budgetary pressures is an open question. Even with the increase in enlisted compensation associated with the AVF, commissioned officers are still considerably more expensive than enlisted personnel.

Enlisted accessions over time

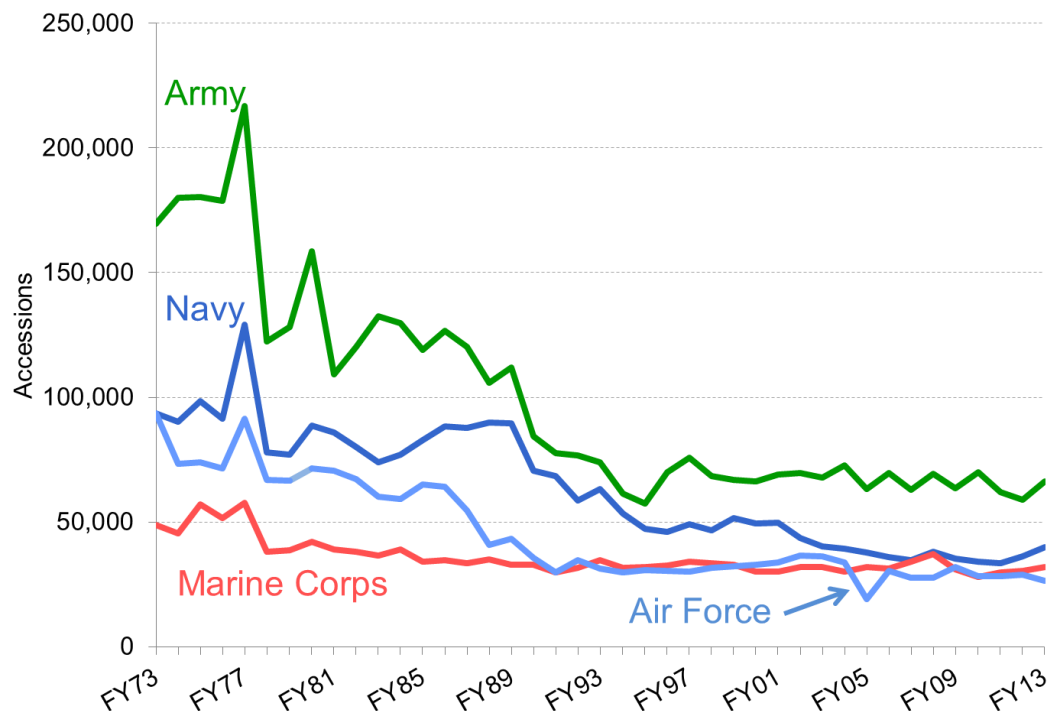
Additions to the enlisted force come entirely from accessions; there is no lateral entry. As suggested earlier, virtually all enlisted accessions are NPS. It was NPS accessions who were subject to the draft prior to the AVF in FY73. Figure 4 shows the number of NPS enlisted accessions from FY73 to FY13. Similar to enlisted endstrength, overall accessions declined between FY73 and FY13; however, unlike enlisted endstrength, which declined sharply during the 1990s, accessions fell more steadily between the late 1970s and early 1990s.

In FY13, Army, Air Force, and Navy NPS accessions were less than half their FY73 levels,⁹ while enlisted endstrengths for the three services were generally a larger proportion of their FY73 levels. Fewer accessions for a given endstrength contributed to a more senior enlisted force, especially in the Army, Air Force, and Navy. Marine Corps accessions fell by smaller percentages and, in recent years, Marine Corps accessions have been approximately equal to those of the Navy and Air Force despite the Marine Corps' smaller size. By design, the Marine Corps has opted for a more junior force.

⁸ If we include warrant officers, the enlisted- to commissioned-officer ratio in FY13 changes as follows: the Marine Corps' ratio of 9.1 goes to 8.2, the Army's ratio of 5.2 goes to 4.3, the Navy's ratio of 5.1 goes to 4.9, and the Air Force's ratio of 4.0 stays at 4.0.

⁹ They were 39 percent, 28 percent and 42 percent respectively.

Figure 4. NPS AC enlisted accessions, by service, FY73–FY13



Note: Data are from appendix table D-4. Enlisted accessions include only NPS accessions. The data point for FY77 is unusually high because of an extra “transition quarter” when the end of the fiscal year was changed from June 30 to September 30.

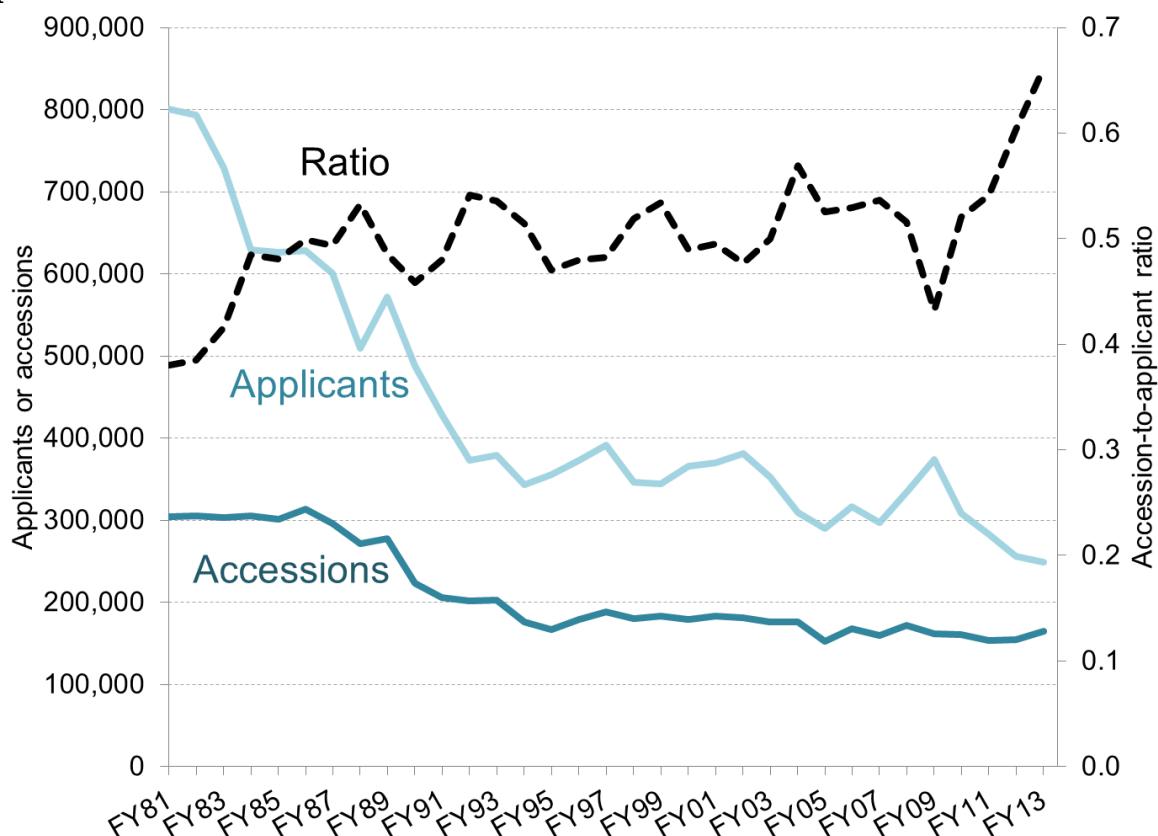
Applicants and NPS accessions

We now turn to enlisted applicants and NPS accessions across all DOD services for the FY81–FY13 period. Both the number of applicants and the number of accessions have fallen, although, in the last few years, the number of applicants processed by the Military Entrance Processing Stations (MEPS) has fallen more rapidly than accessions. The enlisted accession to applicant ratio has grown, albeit with much fluctuation, from 38 percent of applicants accessed in FY81 to 66 percent of applicants accessed in FY13 (see figure 4).¹⁰ For most years, however, it has been between 50 and 60 percent. In

¹⁰ DMDC applicant data come from the MEPS. Applicants cannot go directly to the MEPS; they must be sent by recruiters. Given the paperwork associated with sending an applicant to the MEPS, not all those who want to enlist will be sent to the MEPS and counted as applicants. In fact, when recruiting is relatively easy, if the recruiter believes the applicant is marginally qualified, the recruiter will probably decide not to put together an applicant package and, instead, will look for more qualified applicants. In tough recruiting environments, however, the recruiter is willing to put in the time, on the chance that the marginally qualified applicant will qualify for service. This behavior leads to the phenomena shown in figure 5: more applicants in FY07–FY08 when recruiting was tougher and fewer since FY09 when recruiting became easier.

FY13, the MEPS processed 248,932 applicants, 164,674 of whom were accessed as NPS accessions into the four services.

Figure 5. AC enlisted applicants, NPS enlisted accessions, and the accession to applicant ratio, FY81-FY13



Note: Data are from appendix table D-3. Enlisted accessions include only NPS enlisted personnel.

There are a number of reasons why an applicant for enlisted service may not serve in the military. An applicant will not be accessed for many reasons including a low AFQT score, not medically or physically qualified, too many dependents, disqualifying tattoos, history of criminal activity, or testing positive for disqualifying drugs. Some of these individuals may be allowed to serve if they are eligible for granted an enlistment waiver. Furthermore, many applicants simply change their minds and decide not to enter military service.

Characteristics of enlisted NPS accessions

Quality of enlisted applicants and NPS accessions

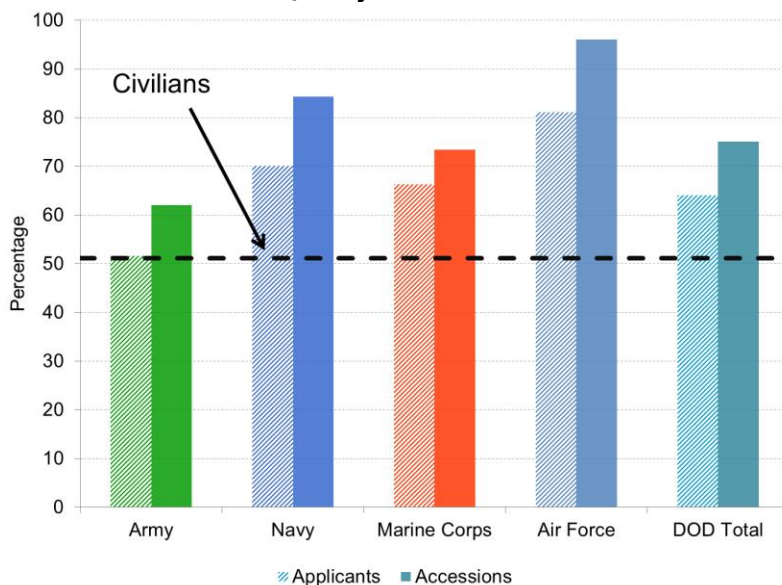
DOD sets quality standards for the aptitude and educational credentials of recruits. The AFQT, a nationally normed aptitude test of math and verbal skills, is used to predict

training success and on-the-job performance. DOD requires that 60 percent of accessions score at the 50th percentile or higher on the AFQT. In FY13, 75 percent of accessions did so.

In addition, DOD requires that at least 90 percent of recruits be classified as Tier 1. Tier 1 recruits are primarily high school *diploma* graduates, but they also include people with educational backgrounds beyond high school, as well as those who have earned adult education diplomas, those with one semester of college, and those who have attended virtual or distance learning and adult or alternative schools. Other educational backgrounds include Tier 2 recruits (those with alternative high school credentials, primarily the General Educational Development (GED) certificate) and Tier 3 recruits (no secondary school credentials). Tier 1 recruits are sought after by the services because high school diploma graduates have been shown to be more likely to complete their first terms of service than recruits with other credentials.

In figure 6, we show the percentage of FY13 applicants and enlisted accessions who scored at or above the 50th percentile on the AFQT. In every service, a higher percentage of accessions than applicants scored above the 50th percentile. And both applicants and accessions scored considerably higher on the AFQT than did the 18- to 23-year-old civilian population (represented by the horizontal line in figure 6).

Figure 6. Percentage of AC NPS enlisted applicants and accessions scoring at or above the 50th percentile on the AFQT, by service, FY13



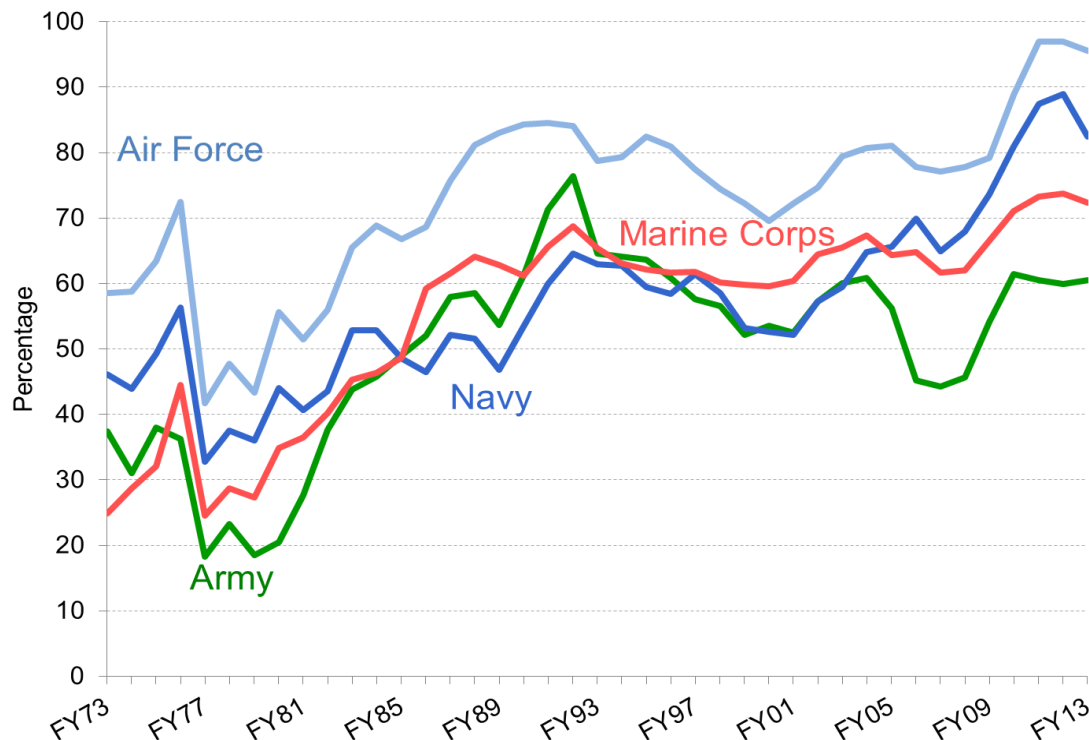
Note: Data are from appendix tables A-4 and B-4.

The Air Force had the highest percentage of applicants/accessions scoring at the 50th percentile or above (81/96 percent) on the AFQT, followed by the Navy (70/84 percent), the Marine Corps (66/74 percent), and the Army (52/62 percent). Overall, 75 percent of

FY13 accessions had AFQT scores at or above the 50th percentile; this is well above the 60-percent benchmark and the percentage observed in the comparable civilian population. Across the DOD services, a slightly higher proportion of male than female accessions scored in the AFQT's 50th percentile or above (see appendix table B-4).¹¹

All services try to access as many high-quality recruits as possible. A recruit is considered high quality if he or she has a Tier 1 education credential *and* scores in the 50th percentile or above on the AFQT. Since 99 percent of DOD NPS FY13 accessions had Tier 1 educational credentials, the main delineation for becoming a high-quality applicant or accession is the AFQT score. When comparing the percentage of high-quality accessions over time, we observe an interesting pattern since the beginning of the AVF (see figure 7).

Figure 7. Percentage of high-quality AC NPS enlisted accessions, by service, FY73–FY13



Note: Data are from appendix table D-9. Enlisted accessions include only NPS enlisted accessions.

We see a significant drop between FY77 and FY81, which was due primarily to a misnorming (scoring) of the ASVAB. The misnorming led to erroneous enlistment of many low-scoring recruits. After correcting the misnorming and increasing recruiting

¹¹ In the civilian population, 52 percent of men and 50 percent of women scored at or above the 50th percentile.

budgets, the percentage of high-quality recruits increased (between 20 and 30 percentage points in all services).

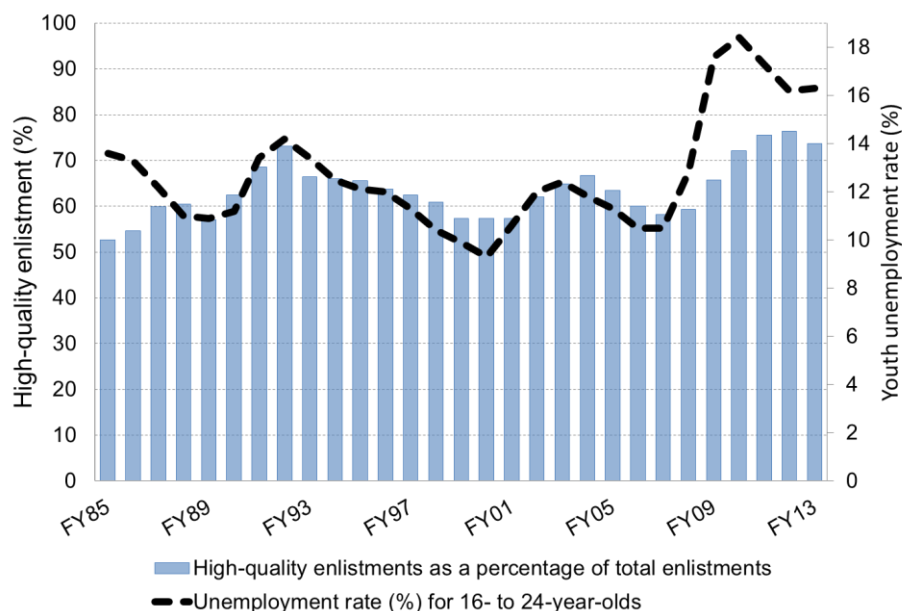
In the 1990s, we observe stability, and, despite unfortunate fluctuations in recruiting budgets resulting in short-term setbacks in recruit quality (particularly in the Army), the quality of accessions in all services has increased since the mid-2000s. The Air Force has had the highest percentage of high-quality recruits since FY73.

In FY13, the services had extraordinary success accessing high-quality personnel. The percentages of high-quality recruits were 96 percent in the Air Force, 82 percent in the Navy, 72 percent in the Marine Corps, and 61 percent in the Army.

Relationship between accessions and the civilian labor market

The importance of the state of the civilian economy, although beyond the services' control, cannot be overemphasized. Recruiting is more difficult when the economy is robust and civilian unemployment low; it is less challenging today when jobs are more difficult to find and the unemployment rate is relatively high. This is shown in figure 8, which illustrates the strong positive relationship between the unemployment rate and AC NPS recruit quality.

Figure 8. The unemployment rate and high-quality AC NPS recruits

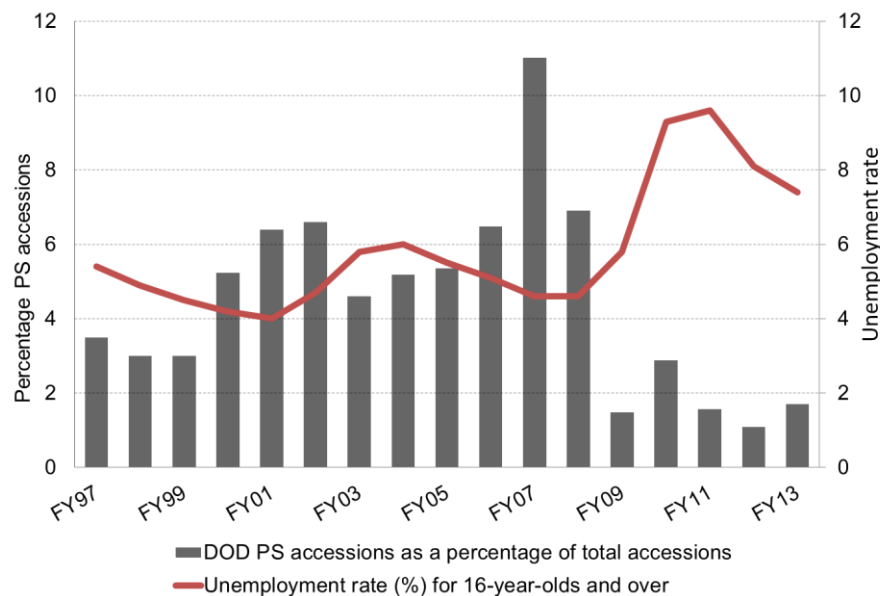


As the economy recovers and unemployment rates improve, recruiting will become more difficult, and we should expect NPS recruit quality to fall. The challenge for the services will be to ensure that recruiting budgets are sufficient to implement the various

policy levers available to them – enlistment bonuses, educational benefits, numbers of recruiters, funds for recruiting operations, and advertising – so that recruit quality does not fall below the minimum DOD benchmarks.

As noted, the overwhelming majority of AC accessions are NPS. For the past few years, however, with civilian unemployment rates high and recruiting less challenging, the number of PS AC enlisted accessions has been unusually low. In fact, there is a noticeable negative relationship between the unemployment rate and the percentage of AC PS accessions (see figure 9).

Figure 9. The unemployment rate and percentage of AC PS enlisted accessions, FY97–FY13



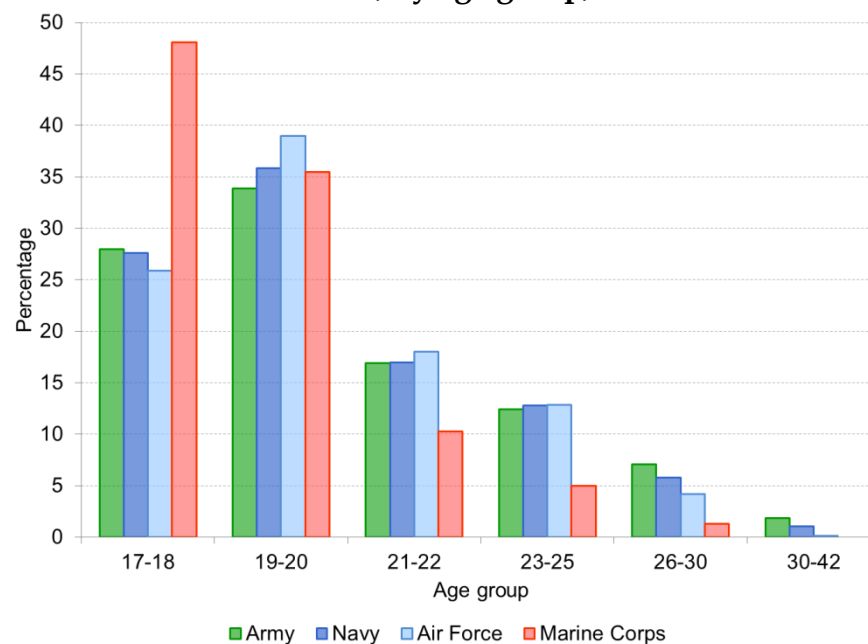
Because PS recruits enlist with more years of experience and at higher grades than NPS recruits, they are more expensive for manpower personnel accounts. However, they can fill more senior billets, and they are already trained. Lower personnel costs are probably why the number of PS recruits falls when the civilian unemployment rate is high and the services find it relatively easy and less expensive to obtain high-quality NPS recruits. In contrast, in periods of relatively low unemployment (such as FY00–FY02 and FY06–FY08) when recruiting was more difficult, the percentage of PS accessions was highest.¹²

¹² In FY07, the Army enlisted 17,119 PS AC accessions and the Marine Corps enlisted 1,566. In contrast, in FY13, the numbers were 2,349 for the Army and 102 for the Marine Corps.

Age distribution of AC NPS enlisted accessions

Figure 10 presents the age distribution of NPS enlisted accessions for the four services. We observe significant differences across the services in these age distributions. Marine Corps accessions, in particular, are much younger than those in the other services. Nearly half are in the 17- to 18-year-old age group; virtually all of them are 18 years old.¹³ Eighty-three percent of Marine Corps NPS accessions are 20 or younger, while the percentage in that age group in the Army is 62, in the Navy 63, and in the Air Force 65. Other differences are smaller, although only the Army and Navy bring in NPS accessions in the oldest age group.

Figure 10. AC NPS enlisted accessions, by age group, FY13



Note: Data are from appendix table B-1.

Geographic distribution of AC NPS enlisted accessions

The Census Bureau divides the country into four regions:

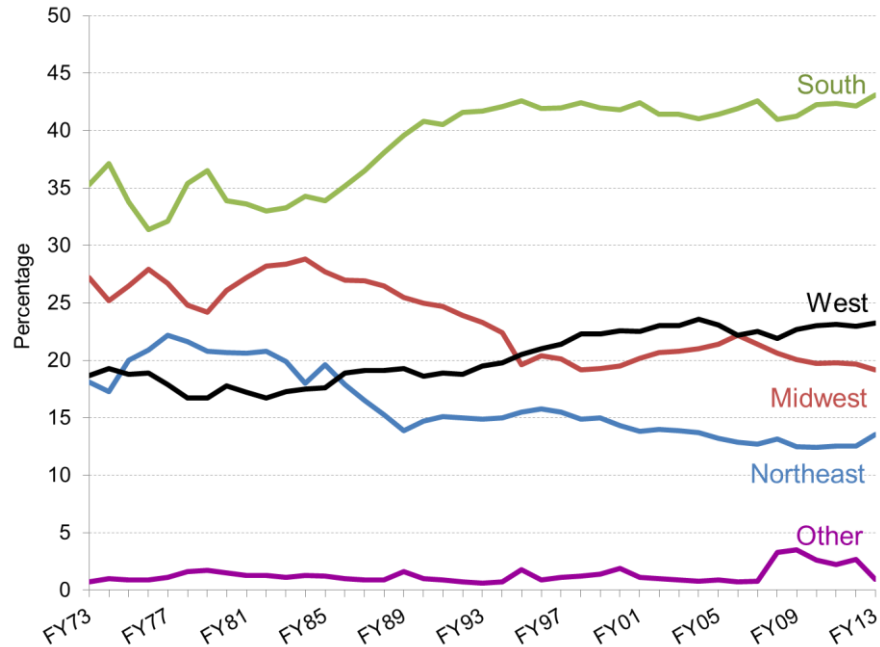
- Northeast – includes states in the New England and Middle Atlantic divisions
- Midwest – includes states in the East North Central and West North Central divisions
- South – includes states in the South Atlantic, East South Central, and West South Central divisions

¹³ Accessions cannot be younger than 17. Even then, a 17-year-old accession must have parental consent to enter military service. In appendix table B-1, we see that 2.1 percent of accessions were 17 years old. The maximum age is 42.

- West – includes states in the Mountain and Pacific divisions.¹⁴

Figure 11 shows the graphic distribution.¹⁵

Figure 11. Geographic distribution of AC NPS enlisted accessions, FY73–FY13



Note: Data are from appendix table D-10.

We observe differences in the regional distribution of AC NPS enlisted accessions before and after FY85 (see figure 11). From FY73 to FY85, roughly 35 percent of AC NPS enlisted accessions came from the South and 25 percent came from the Midwest, while the remaining 40 percent of accessions came from the West and the Northeast. After FY85, accessions were drawn more heavily from the South and the West and less so from the Northeast and Midwest regions. This partly reflects general population trends because the “Sunbelt” states in the South and West regions made up an increasingly larger share of the U.S. population in the 1980s and 1990s. As recruiting commands determine where to place recruiters across the country, they account for geographic shifts in the population, as well as the propensity to serve in each region.

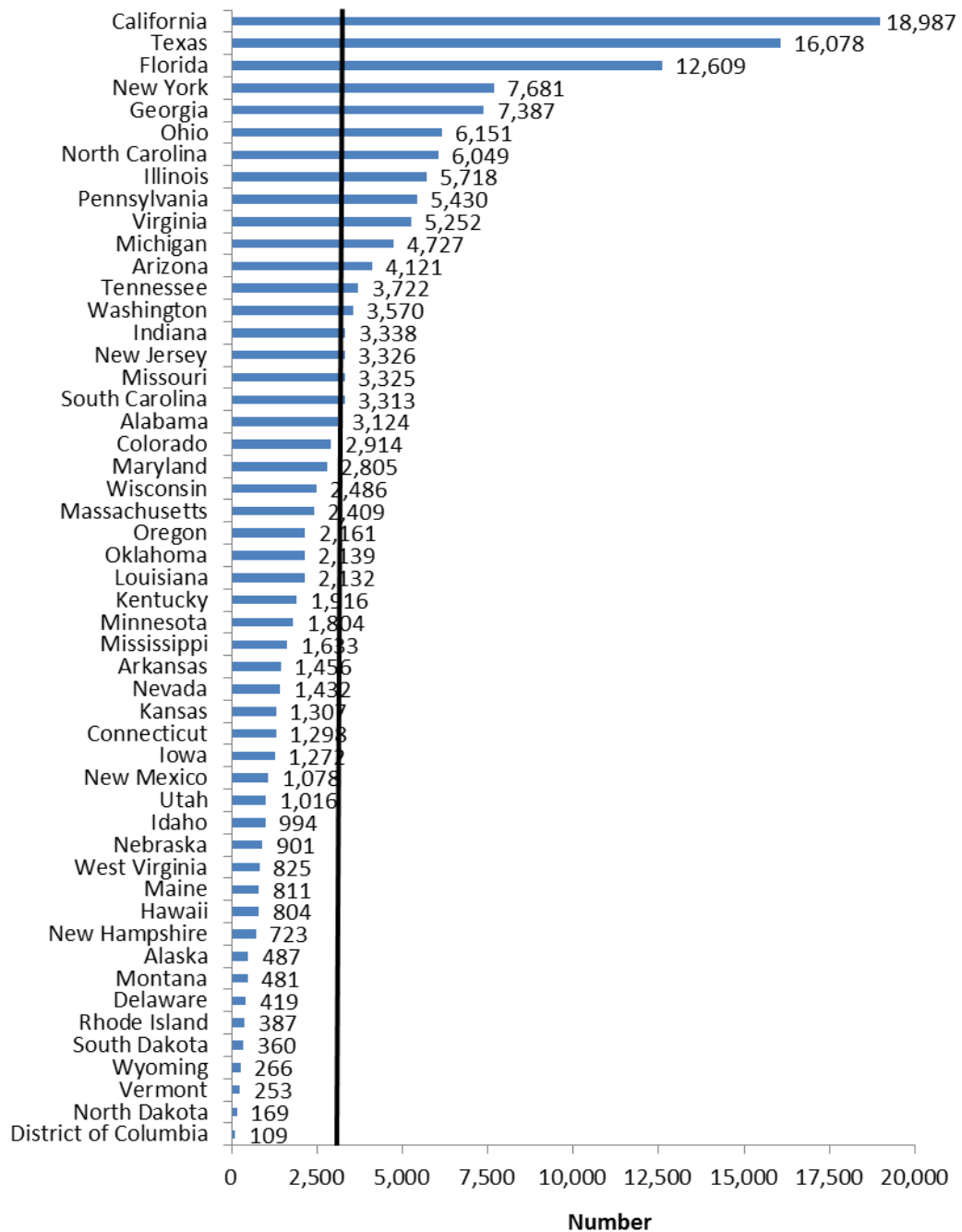
Figure 12 details the number of FY13 AC NPS enlisted accessions by state. The average number of accessions per state is 3,199, shown in the figure by the vertical line. While the largest number of NPS accessions is drawn from the big states of California and

¹⁴ For completeness, accessions from U.S. territories, possessions, or “unknown” regions are grouped together in the “other” category.

¹⁵ We do not include data on the geographic representation of officer gains. Officers are primarily recruited from colleges and universities; geographic location would reflect the location of these universities and not necessarily the region in which the officers grew up.

Texas, smaller states like Georgia, Florida, and North Carolina also bring in large numbers of NPS accessions. Clearly it is not just population, but propensity to join the military that also plays a role. To show propensity more clearly, we turn to figure 13.

Figure 12: AC NPS enlisted accessions, by state, FY13



Note: Data are from appendix table B-46.

Figure 13 offers a more interesting way of examining the geographic distribution of recruits. In it, we show the ratio of a state's accession share to the state's share of the U.S. 18- to 24-year-old population.

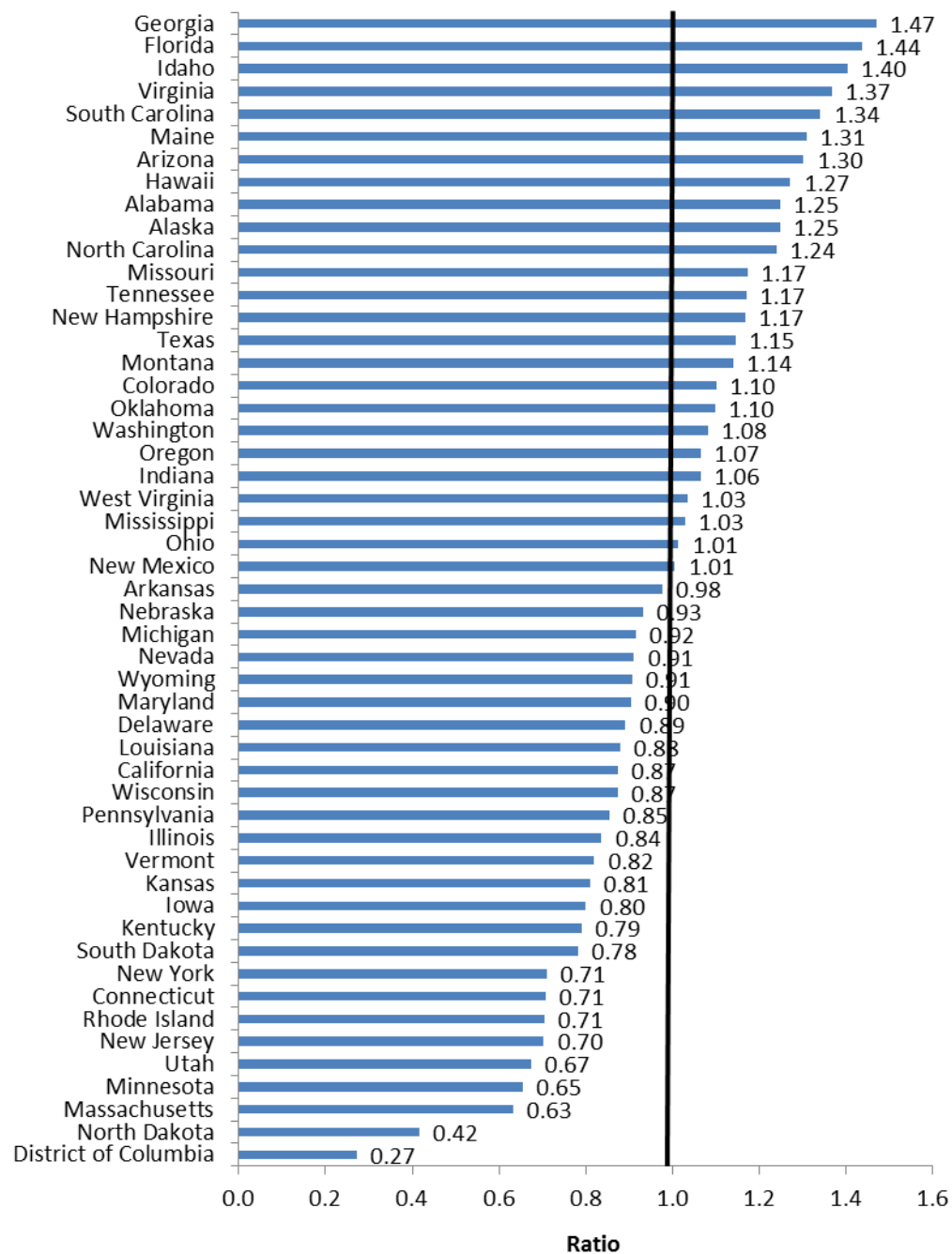
When reading the chart, these points should be kept in mind:

- A ratio of 1 implies that a state's share of DOD accessions was equal to its share of 18- to 24-year-olds.
- A ratio greater than 1 implies that, relative to its proportion of the 18- to 24-year-old population, the state had a larger percentage of accessions.
- A ratio of less than 1 implies a smaller percentage of accessions relative to a state's proportion of the 18- to 24-year-old population.

The FY13 ratios ranged from 0.27 to 1.47. Ohio, New Mexico, and Arkansas all had ratios close to 1 – meaning their share of AC NPS enlisted accessions almost matched their share of the 18- to 24-year-old population. Twenty-five states could be considered overrepresented in accessions (ratios greater than 1), and 25 states and the District of Columbia could be considered underrepresented (ratios less than 1). Georgia and Florida had the highest ratios, and the District of Columbia contributed the fewest accessions relative to its 18- to 24-year-old population. These ratios reflect differences in qualification rates, propensities, and recruiting resources.

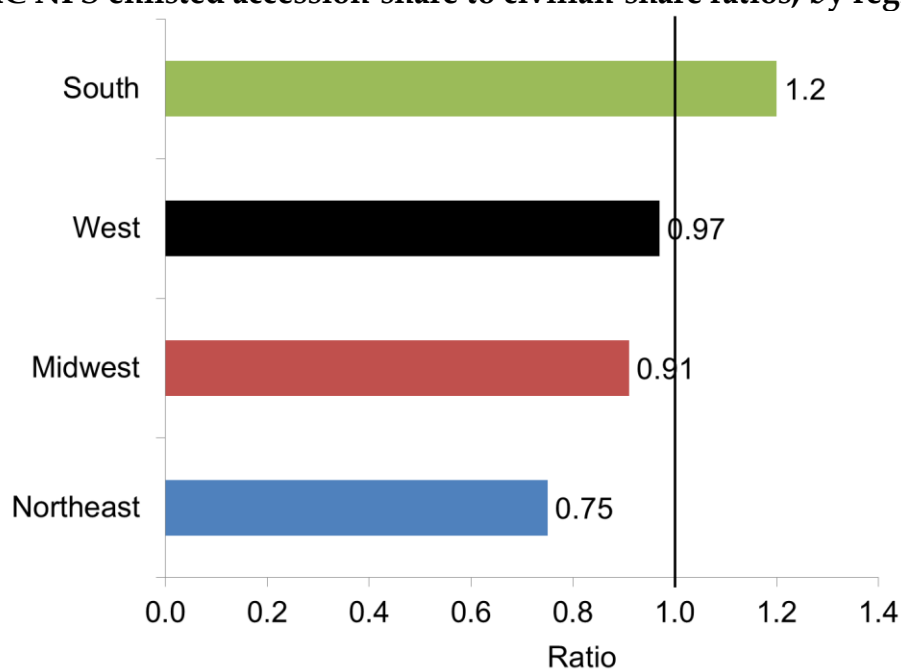
Figure 14 shows the ratio of each region's accession share to each region's share of the U.S. 18- to 24-year-old population. As is clear from the figure, relative to its population of 18- to 24-year-olds, the South is overrepresented in NPS accessions and the Northeast is underrepresented.

Figure 13: Enlisted NPS accession-share to civilian-share ratios, by state, FY13



Note: The representation ratio is calculated by dividing a given state's FY13 NPS accessions by the state's 18- to 24-year-old population, normalized to an average of one. Data are from appendix table B-46.

Figure 14: AC NPS enlisted accession-share to civilian-share ratios, by region, FY13



Note: The representation ratio is calculated by dividing each region's FY13 NPS accessions by the region's 18- to 24-year-old population, normalized to an average of one. Data are from appendix table B-46.

Neighborhood median income of AC NPS enlisted accessions

At the advent of the AVF, there was concern about the representation of the force, particularly socioeconomic representation. But researchers found that AVF accessions in the early years were, for the most part, representative of the U.S. population in terms of their socioeconomic backgrounds.¹⁶ More recent studies report similar findings on socioeconomic characteristics, such as neighborhood income, for the 1990s and early years of this century.¹⁷ Because household or family income is not collected from families or households from which recruits come, these studies must identify a proxy for household income of recruits.

For example, in a recent study, Lien, Lawler, and Shuford used the median income for recruits' census tracts as a proxy for recruit household income.¹⁸ In short, they measured "neighborhood affluence" or how well-off (well-to-do) recruits' neighborhoods were. Each neighborhood is synonymous with a census tract.

¹⁶ See, for example, Richard N. Cooper, *Military Manpower and the All-Volunteer Force*, RAND Publication, R-1450-ARPA, 1977.

¹⁷ See, for example, Shanea J. Watkins and James Sherk, *Who Serves in the U.S. Military? Demographic Characteristics of Enlisted Troops and Officers*, Heritage Foundation Center for Data Analysis Report CDA 08-05, Aug. 21, 2008.

¹⁸ Diana S. Lien, Kletus Lawler, and Robert Shuford, *An Investigation of FY10 and FY11 Enlisted Accessions' Socioeconomic Characteristics*, CNA Research Memorandum DRM-2012-U-001362-Final, Aug. 2012.

We updated the Lien, Lawler, and Shuford study for FY13 AC NPS accessions, mapping each accession to his or her home-of-record census tract and computing neighborhood affluence (median household income) for each tract. We then divided neighborhood affluence income measures into income quintiles.¹⁹

Figure 15 shows FY13 AC NPS enlisted accessions by the median income quintile of their home-of-record census tracts at accession.²⁰ The 20-percent line defines each income quintile based on census tract level median household income data. Relative to all households, FY13 NPS accessions are underrepresented in census tracts with the lowest and the highest median incomes, while those in the middle three quintiles are overrepresented. Lower representation in the lowest neighborhood median income quintile may be explained by the military's educational standards and aptitude scores. In FY13, for example, virtually all NPS accessions were high school diploma graduates, and high school dropout rates are higher in low-income neighborhoods. For the highest neighborhood median income quintile, the lower representation is probably due to higher college attendance rates among youth in these census tracts.²¹

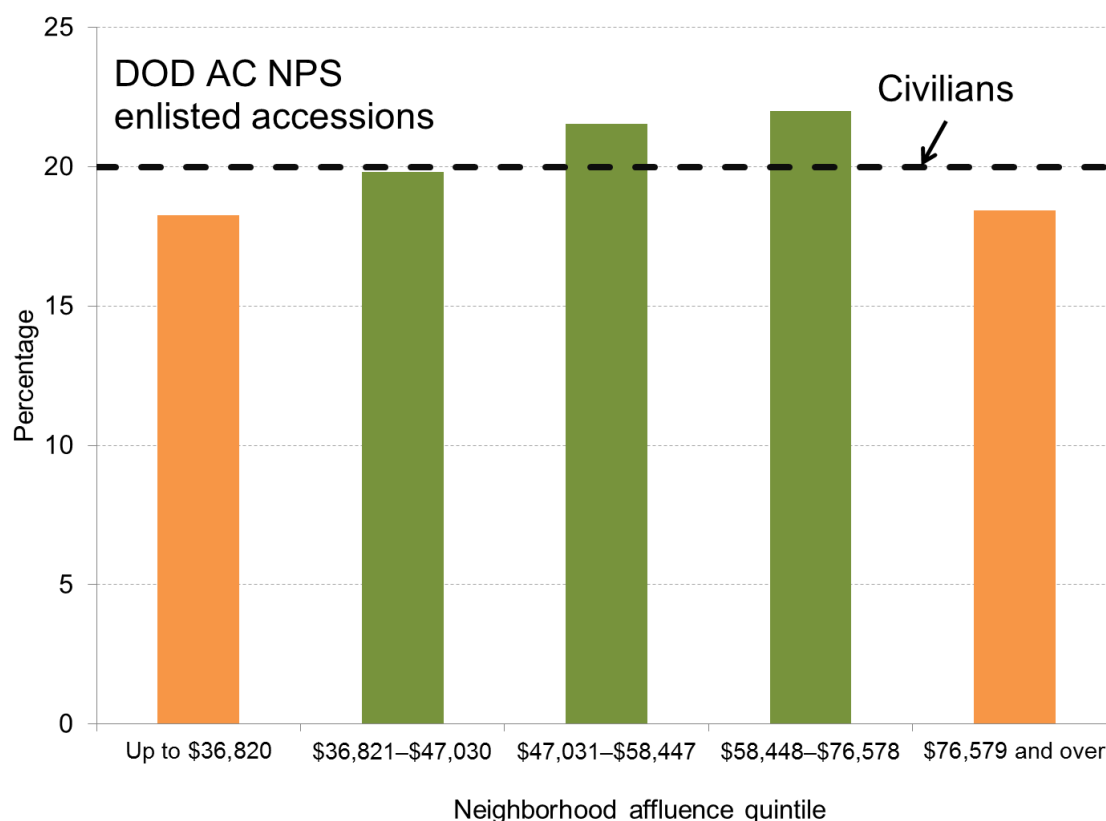
The findings depicted in figure 15 are important because they dispel the myth that the military obtains the majority of its recruits from the lower socioeconomic classes – those neighborhoods with the lowest income levels. Quite the opposite is true. The military actually gets the largest proportion of its recruits from the three middle quintiles.

¹⁹In comparison to quintiles constructed from household income, quintiles constructed for median census tract income or “neighborhood affluence” will be attenuated toward the mean (of household income).

²⁰ The quintile ranges are based on all households in census tracts with non-missing median household incomes. FY13 AC NPS enlisted accession data were provided by DMDC and linked by census tract to median household income data from the Census Bureau's 2008-2012 American Community Survey (ACS).

²¹ See http://www.huffingtonpost.com/2011/10/04/children-low-income-neighborhoods-high-school_n_994580.html and <http://nces.ed.gov/fastfacts/display.asp?id=51>.

Figure 15. Neighborhood affluence (median census tract household income) for FY13 AC NPS enlisted accessions



Note: Data are found in the first panel of table B-41. These quintiles were constructed using 2008-2012 American Communities Survey (ACS) data at the census tract level. FY13 NPS home-of-record accession data from DMDC were used to link NPS accessions with the census tract data.

Characteristics of the AC force

Marital status

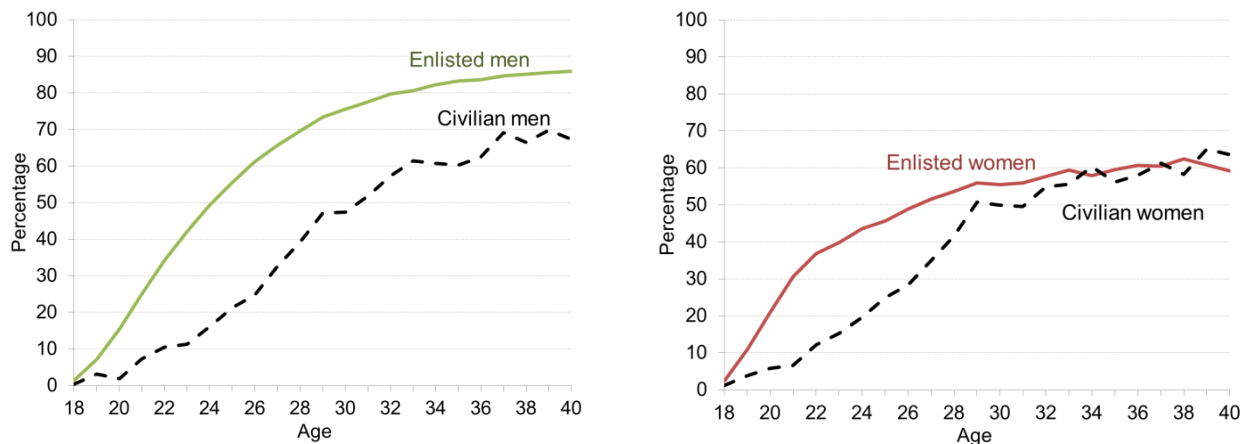
Enlisted

Men in the enlisted force are considerably more likely than their civilian counterparts to be married (see figure 16). Although we show data for FY13 only, these differences are long-standing. The differences in marriage rates occur while people are in the military, as male enlisted accessions closely approximate the age-specific marriage rates of their civilian counterparts (see appendix tables A-2 and B-2).

Enlisted women are more likely to be married than civilian women until about their mid-thirties. As with men, age-specific marriage rates for female applicants and accessions are similar to those of civilian women, so the differences in marriage rates occur after accession.

By their late thirties, about 70 percent of male civilians and 85 percent of male enlisted personnel are married. In contrast, both the female civilian benchmark rate and the rate for enlisted women level off at about 60 percent married. Enlisted women in their twenties, however, are considerably more likely to be married than the civilian comparison group.

Figure 16. Male and female marriage rates of AC enlisted personnel and civilian comparison groups, by age, FY13

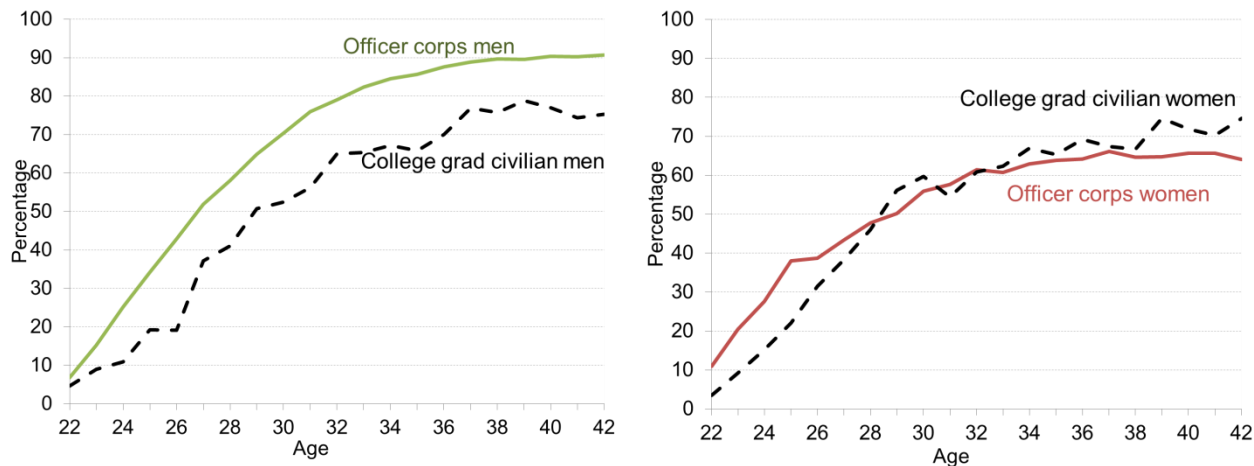


Note: Data are from appendix table B-16. The civilian comparison group is made up of members of the civilian labor force who are 17 years old and over, Sep. 2012.

Officers

Figure 17 shows marriage rates for the AC commissioned officer corps. Some of the patterns that we observed for enlisted personnel are even stronger for commissioned officers. For commissioned officers, the benchmark comparison group is the college-educated civilian labor force. Although male commissioned officers are considerably more likely to be married than their college-educated civilian comparison group, female commissioned officer marriage rates are roughly similar to those for female civilians. For both civilian and military personnel, male marriage rates are higher than female marriage rates. For 25-year-old men, 55 percent of those who are officers in the military are married, while 21 percent of those in the comparable civilian labor force are.

Figure 17. Male and female marriage rates of AC commissioned officers and civilian comparison groups, by age, FY13



Note: Data are from appendix table B-24. The civilian comparison group is college graduates in the civilian labor force (21- to 49-year-olds), September 2012.

There are some interesting differences in marriage rates by age for enlisted personnel versus commissioned officers, particularly for men. The reasons for these differences stem from the following:

- Both officers and enlisted personnel are predominately single when they enter military service.
- Officers are generally older when they enter the military, since a college degree is required.
- Married percentages increase sharply with age.

Thus, if we compare marriage rates by age for 25-, 30-, and 35-year-old men, we find:

- 56, 76, and 83 percent of enlisted men are married.
- 34, 70, and 86 percent of male commissioned officers are married.

In short, until their mid-thirties, AC male enlisted personnel are more likely to be married than AC male commissioned officers. The findings are similar for women.

Race and ethnicity of AC personnel

Before FY03, self-identified race and ethnicity was reported in combined categories (e.g., non-Hispanic white or non-Hispanic black). Since FY03, race and ethnicity have been officially reported separately, and the ethnic category is either Hispanic or non-Hispanic. Although Hispanic accessions can be of any race, the vast majority identify themselves as white. In addition, DOD added a category for two or more races in FY03;

less than 4 percent of FY13 NPS AC accessions reported two or more races (see appendix table B-10).

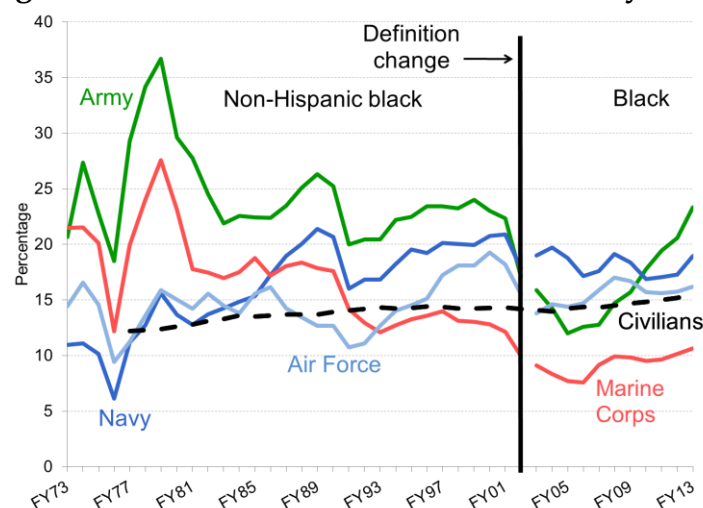
The Hispanic population has -grown rapidly in the years of the AVF. In FY78, Hispanics made up 6.1 percent of both AC NPS enlisted accessions and civilians of comparable ages; in FY13, they made up 15.5 percent of accessions and 21.1 percent of 18- to 24-year-old civilians.

Blacks

In the early years of the AVF and until the first Gulf War, the percentage of non-Hispanic blacks was considerably larger among DOD accessions than in the comparably aged civilian population. There was a decline in non-Hispanic black accessions after the first Gulf War in 1990 and again in the mid-2000s, but the percentage of black accessions has since increased. They now account for 18.7 percent of AC NPS enlisted accessions – a greater percentage than they account for in the 18- to 24-year-old civilian population (15.5 percent).

There are fairly substantial differences *by service* in the percentages of non-Hispanic black enlisted accessions; this was particularly true in the early years of the AVF (see figure 18). At the start of the AVF, percentages in the Army and the Marine Corps considerably exceeded civilian percentages; however, in the mid-1980s, percentages in the Navy began to rise, while they began to fall in the Marine Corps. In FY13, in all services except the Marine Corps the percentage of non-Hispanic black enlisted accessions exceeded the comparable civilian percentages, with the Army having the highest percentage and the Marine Corps the lowest.

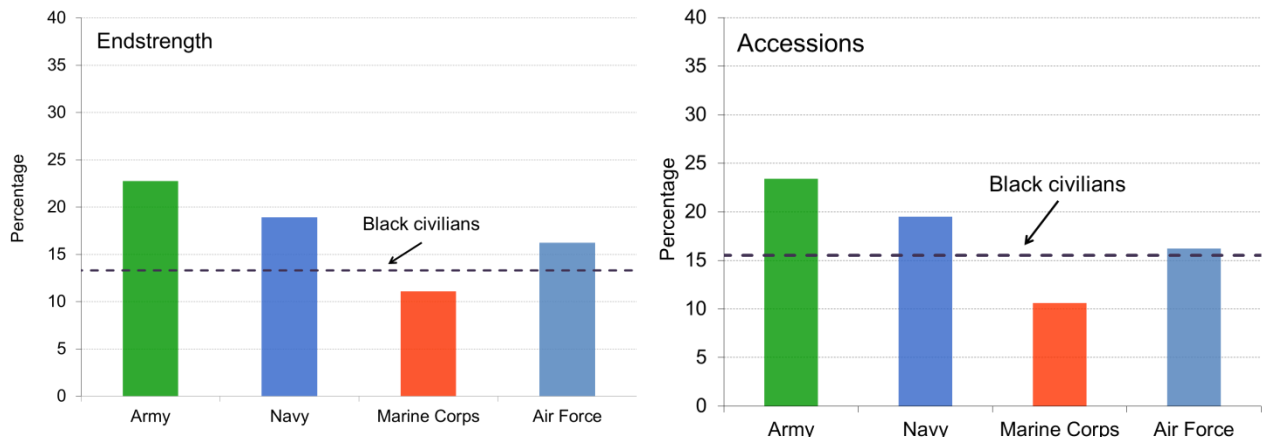
Figure 18. Percentage of black AC NPS enlisted accessions, by service, FY73–FY13



Note: Data for FY73 to FY02 for NPS non-Hispanic black accessions and 18- to 24-year-old non-Hispanic black civilians are from appendix table D-23. Data for FY03 to FY13 NPS black accessions and 18- to 24-year-old black civilians are from appendix table D-26.

We now present a series of four figures that compare racial and ethnic representation in the FY13 AC force with representation in the FY13 gains to that force for both enlisted and officers. We begin in figure 19 with a comparison of black AC enlisted endstrength and black NPS enlisted accessions.

Figure 19. Black representation in the AC enlisted force and in AC NPS enlisted accessions, by service, FY13



Note: Data are from appendix tables B-3 and B-17. The civilian comparison for enlisted endstrength is the 18- to 44-year-old civilian labor force; the civilian comparison for NPS enlisted accessions is the 18- to 24-year-old civilian population. About 4 percent of the observations for endstrength are missing race identifiers. Only 1 percent of the observations for accessions are missing race identifiers; almost 4 percent identified themselves as having two or more races.

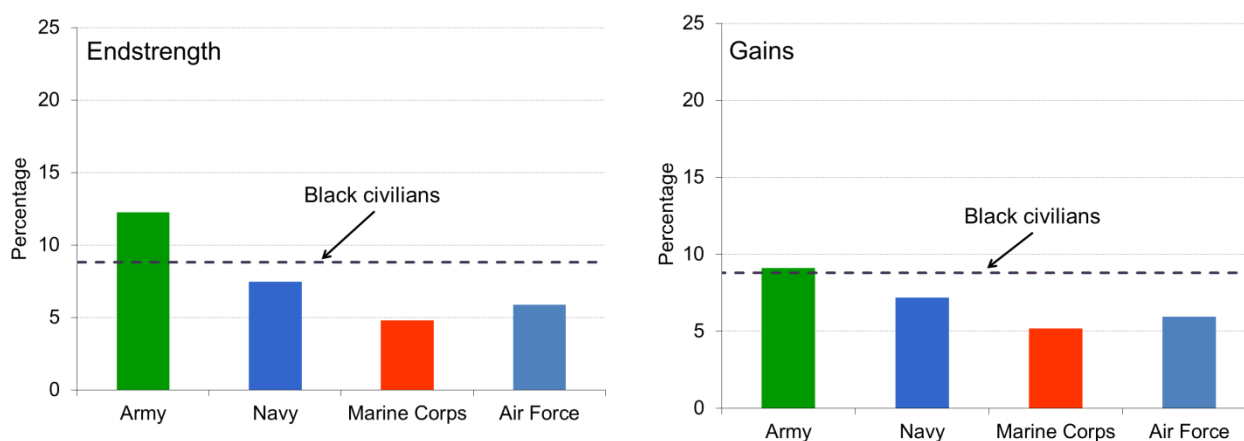
Both panels in the figure have horizontal lines that show the civilian benchmark representation (13.3 percent for the endstrength benchmark of the 18- to 44-year-old civilian labor force and 15.5 percent for the accession benchmark of the 18- to 24-year-old population). Except for the Marine Corps, black servicemembers are more heavily represented in the enlisted force than in the civilian population. Since NPS black Marine Corps accessions are considerably below population percentages, underrepresentation of blacks in the enlisted Marine Corps can be expected to persist.

Figure 20 shows black representation in the AC commissioned officer corps. Since a college degree is required for commissioned officers, the civilian comparisons are restricted to those with college degrees. The civilian college graduate population is less diverse in terms of race and ethnicity than the broader civilian labor force. (For example, while the civilian benchmark comparison group for enlisted personnel is 13.3 percent black, the benchmark group for commissioned officers is 9.0 percent black.)

Compared with the civilian benchmark, blacks are underrepresented in the commissioned officer corps of the Navy, Marine Corps, and Air Force, but they are overrepresented in the Army (12.3 percent of commissioned officer vice 9 percent of the

benchmark population). Blacks are underrepresented in FY13 commissioned officer gains in all services except the Army. Also, the percentages for black gains in each service are generally a little lower than the percentages for the force.

Figure 20. Black representation in the AC commissioned officer corps and in officer gains, by service, FY13



Note: Data are from appendix table B-25. The civilian comparison for the commissioned officer corps is the 21- to 49-year-old college graduate labor force; the civilian comparison for AC commissioned officer gains is the 21- to 35- year-old civilian college graduate population.

With similar retention patterns, force diversity decreases when the percentage of minority accessions (gains for the officer corps) is smaller than the group's percentage of endstrength. Thus, the underrepresentation of blacks in the AC commissioned officer corps will continue unless black commissioned officer retention greatly exceeds overall commissioned officer retention.

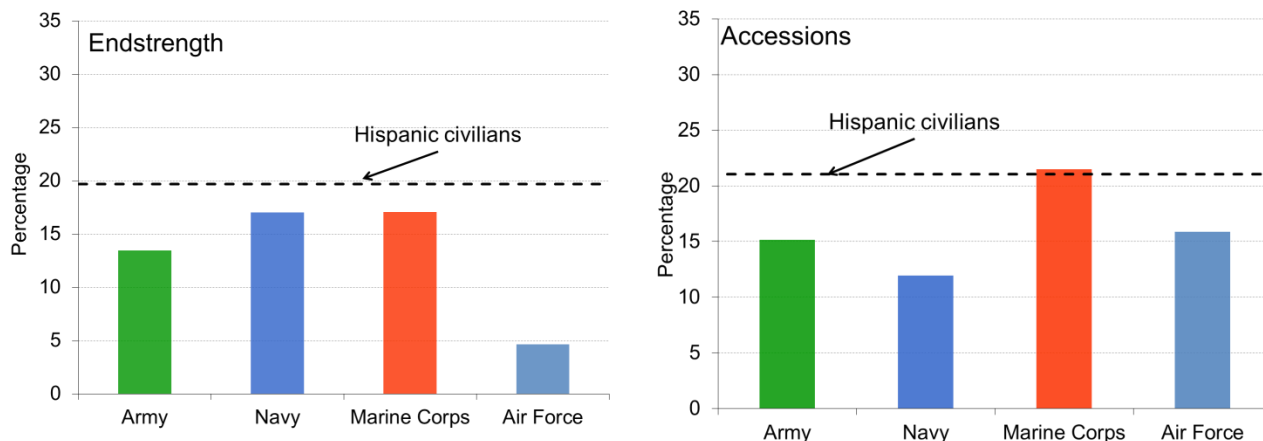
Hispanics

Figure 21 examines Hispanic representation for AC enlisted, and figure 22 examines Hispanic representation for commissioned officers. Again, the enlisted civilian benchmark for endstrength is the 18- to 44-year-old labor force, while the benchmark for NPS accessions is the 18- to 24-year-old population.

The Hispanic population has grown rapidly, and representation has not kept pace with that growth in the enlisted force or the officer corps. Hispanics are underrepresented in all services in the AC enlisted force, and Hispanic FY13 NPS enlisted accessions (while at higher proportions than endstrength) are also underrepresented for all services except the Marine Corps. At less than 5 percent of the Air Force's AC enlisted strength, Hispanic representation in the enlisted force is lowest in that service.

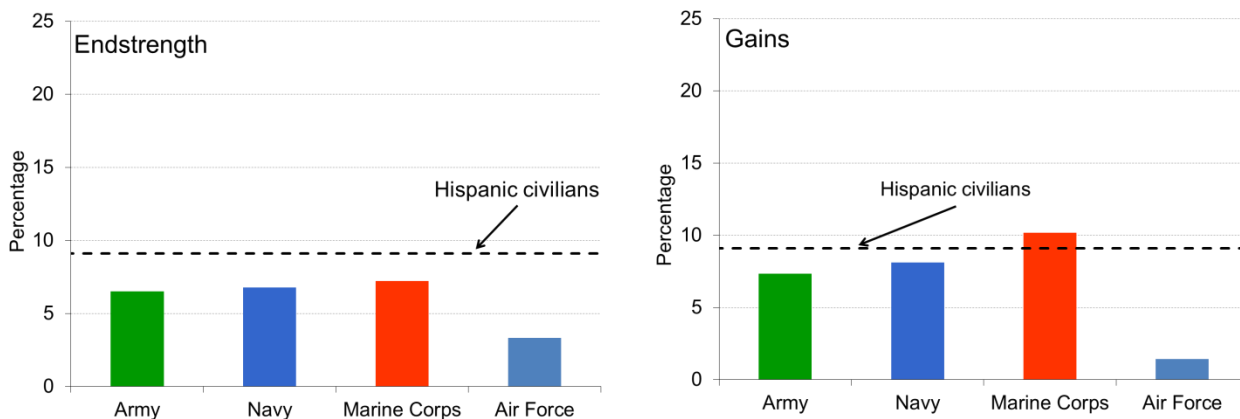
Relative to the civilian college graduate population, AC Hispanic commissioned officers are underrepresented in all services. Moreover, Hispanic representation in FY13 gains does not suggest increasing representation. This is a particular problem in the Air Force, where only 1.4 percent of FY13 commissioned officer gains were Hispanic.

Figure 21. Hispanic representation in the AC enlisted force and NPS enlisted accessions, by service, FY13



Note: Data are from appendix tables B-3 and B-17. The civilian comparison for enlisted endstrength is the 18- to 44-year-old civilian labor force; the civilian comparison for AC NPS enlisted accessions is the 18- to 24-year-old civilian population.

Figure 22. Hispanic representation in the AC commissioned officer corps and in officer gains, by service, FY13



Note: Data are from appendix table B-25. The civilian comparison for the commissioned officer corps is the 21- to 49-year-old college graduate labor force; the civilian comparison for AC commissioned officer gains is the 21- to 35-year-old civilian college graduate population.

Asians

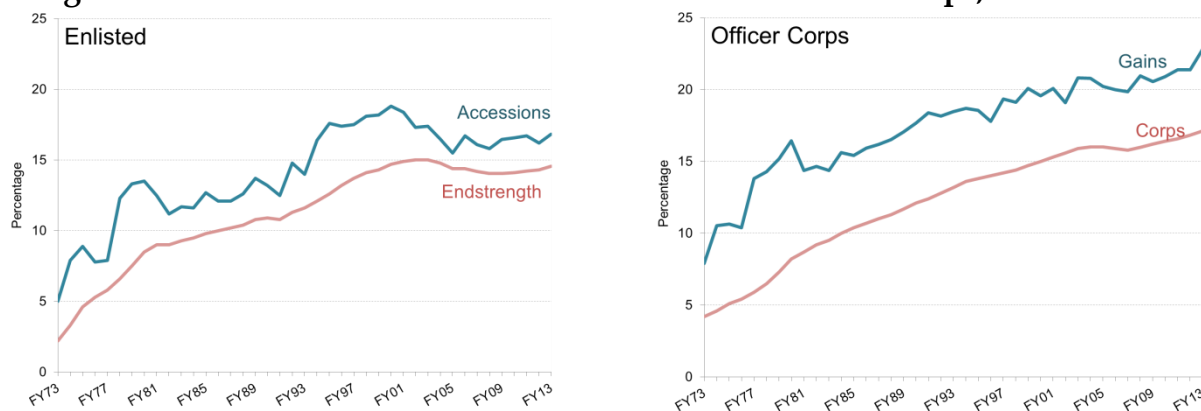
Contrary to perceptions, Asians are the fastest growing racial or ethnic group in the U.S. population. In FY13, 5.4 percent of the 18- to 24-year-old population was Asian, while NPS AC accessions were only 3.8 percent Asian. Similarly, for enlisted strength, Asians

represented 6.0 percent of the civilian labor force in the appropriate age groups, but only 3.7 percent of enlisted personnel. Because of their high rate of college attendance, however, Asians are most seriously underrepresented in the commissioned officer ranks. Officer gains in FY13 were 5.4 percent Asian, while civilian college graduates in the appropriate age groups were 11.9 percent Asian. Similarly, Asians, at 4.6 percent, are underrepresented in the officer corps relative to their percentage – 10.7 percent – in the college-educated civilian labor market.

Female shares of AC personnel

Figure 23 displays the increases in the percentage of female enlisted NPS accessions and commissioned officer gains across DOD, as well as their respective endstrengths over the last 40 years. At the onset of the AVF, women represented 5 percent of NPS enlisted accessions and just over 2 percent of enlisted endstrength. Female enlisted strength grew steadily through FY03, peaking at 15.0 percent of the enlisted force. However, even though the percentage of female NPS accessions has consistently been greater than strength, it is interesting to note that the percentage of women in the enlisted force has been decreasing slightly over the past decade, falling to 14.5 percent in FY13. Clearly, female retention rates are lower than male retention rates.

Figure 23. Female share of AC NPS enlisted and the officer corps, FY73–FY13



Note: Data are from appendix tables D-5, D-13, and D-19; enlisted accession data include only AC NPS accessions.

In FY13, female representation among enlisted accessions/commissioned officer gains were as follows:

- Army – 16.0 percent enlisted and 21.2 percent officer
- Navy – 23.3 percent enlisted and 23.8 percent officer
- Marine Corps – 8.7 percent enlisted and 11.7 percent officer
- Air Force – 19.1 percent enlisted and 27.0 percent officer

Female representation in the commissioned officer corps has increased steadily since FY73, reaching 17.1 percent in FY13. The Air Force leads the other services in both female officer and enlisted representation, but the Army and Navy are not far behind.

In FY13, female representation in the force was as follows:

- Army – 13.0 percent enlisted and 17.7 percent commissioned officer
- Navy – 17.7 percent enlisted and 17.0 percent commissioned officer
- Marine Corps – 7.3 percent enlisted and 6.6 percent commissioned officer
- Air Force – 18.8 percent enlisted and 19.6 percent commissioned officer

The Marine Corps has the smallest percentages of women in both the enlisted force and the commissioned officer corps. In the Navy, the percentage of commissioned female officers (17 percent) is similar to the percentage of enlisted women (17.7 percent). The same is true in the Marine Corps and Air Force. In the Army, however, the percentage of female commissioned officers (17.7 percent) is considerably higher than the percentage of female enlisted (13 percent).²²

As in the civilian sector, male and female military personnel are not distributed equally across occupational groups. For enlisted personnel, combat occupations are the largest occupational grouping in the Army and Marine Corps. In the past, women have not been permitted to serve in most of these occupations, but now all occupations are expected to be opened. This will provide more opportunities for women, but it remains to be seen whether this will appreciably increase women's representation in the military. Except in the Navy, the dominant female occupational area is "Administrators" (27.1 percent of enlisted women). Enlisted women also are overrepresented in the "Medical" area, particularly in the Air Force.²³ In the Navy, the dominant occupational area, "Electrical," is the same for enlisted men and women. This occupational group encompasses 28.7 percent of men and 23.3 percent of women (see appendix table B-20).

Over 40 percent of female commissioned officers in the Army, Navy, and Air Force are in "Health Care" occupations. The dominant commissioned officer occupational area is "Tactical Operations." Although these occupations are still predominately male, women in the Navy, Marine Corps, and Air Force have made some headway in the last decade.

²² This difference has widened in the last decade. In FY02, women made up 15.5 percent of the enlisted force and 16.0 percent of the officer corps. While female representation in the Army's commissioned officer corps has increased slowly, female representation in the Army's enlisted force has fallen.

²³ The Marine Corps has no medical personnel because it uses Navy medical personnel.

Table 3. Percentage of male and female commissioned officers in Tactical Occupations, by service, FY03 and FY13

	Percentage in Tactical Occupations				
	Men			Women	
Service	FY03	FY13		FY03	FY13
Army	40.5	36.2		6.8	4.6
Navy	42.7	43.3		15.0	20.1
Marine Corps	53.7	50.8		17.5	19.3
Air Force	36.4	43.1		10.1	15.0

Source: Appendix table B-28.

Paygrade distributions of women and minorities

Figure 24 shows the relative differences between the paygrade distributions of women and men. For example, 18.1 percent of enlisted women and 17.2 percent of enlisted men in FY13 were E3s. This is shown in the figure as 0.9 percent (18.1–17.2). Positive numbers indicate that women are overrepresented (relative to men) in that paygrade, while negative numbers indicate that women are underrepresented (relative to men).

The figure shows both AC enlisted members and commissioned officers. In general, women are overrepresented in the junior grades and underrepresented in the more senior grades. The differences are largest in the more senior grades.²⁴ The differences are usually larger for commissioned officers than for enlisted personnel.

²⁴ The relative representation differences are large (0.2 percent for women and 0.5 percent for men) but the absolute difference (.3) is small in O7–10 because the percentages of either men or women in this grade is small.

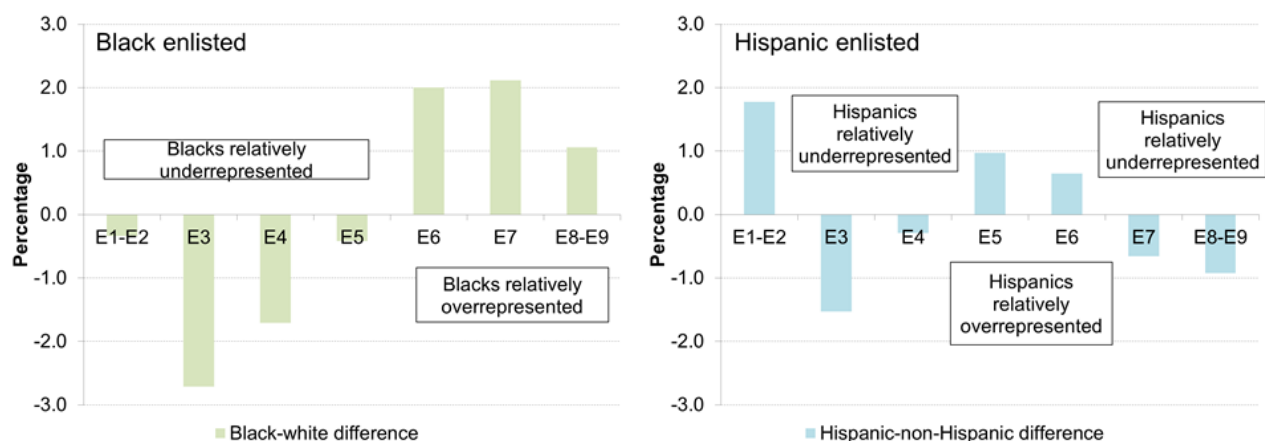
Figure 24. AC enlisted and commissioned officer endstrength relative representation, by paygrade and gender, FY13



Note: The female-male difference is the difference between the share of women in a paygrade minus the share of men in a paygrade. For example, across DOD, 26.7 percent of all enlisted women are E4s and 24.1 percent of all enlisted men are E4s. The female-male difference for E4s of 2.6 percentage points is presented in the figures. Data are from appendix tables B-36 and B-38.

Figure 25 shows similar information for AC black and Hispanic enlisted members.

Figure 25. AC black and Hispanic enlisted endstrength relative representation, by paygrade, FY13



Note: The black-white and the Hispanic-non-Hispanic differences are similar to the female-male difference described in figure 24. For example, the black-white difference is the difference between the share of blacks in a paygrade minus the share of whites in a paygrade. For example, across DOD, 15.7 percent of all enlisted blacks are E6s and 13.7 percent of all enlisted whites are E6s. The black-white difference for E6s of 2.0 percentage points is presented in the figures. Data are from appendix table B-37.

Contrary to what one might expect, black servicemembers are underrepresented in the junior enlisted paygrades (relative to whites) but overrepresented in the senior paygrades. This is particularly true for the top enlisted leadership positions (E8 and E9). It reflects both strong black accession percentages in the 1990s and black servicemembers' high continuation rates and competitiveness in the promotion process.

The right side of figure 25 shows representation of AC Hispanic enlisted personnel relative to non-Hispanics. Here the picture is more mixed. Relative to non-Hispanics, Hispanics are overrepresented in grades E1, E2, E5, and E6, but they are underrepresented in all other grades.

We do not show relative commissioned officer representation for blacks and Hispanics, but the data show overrepresentation in the junior ranks (relative to whites or non-Hispanics) and underrepresentation in the more senior ranks.

Enlisted separation and continuation rate patterns, by service

Enlisted separation and continuation rates in the first 10 years of service vary across the services for several reasons. Separation rates are highest when contractual obligations end, and first-term enlistment contract lengths vary (see figure 26). For example, the Air Force uses only 4- or 6-year enlistment contracts. The figure shows a spike in separations at 4 and 6 years of service, but a reduction in separations at 5 years. In contrast, the Navy, Marine Corps, and Army use 4-, 5-, and 6-year contracts and, thus, do not show a reduction in separations at 5 years of service.²⁵

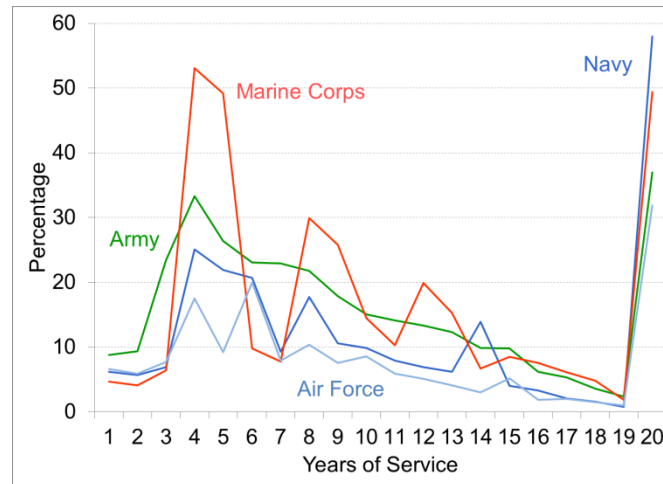
After the first contract ends, continuing servicemembers are either on an extension or another contract.²⁶ Military retirement eligibility starts at 20 years of service; those who leave before 20 years of service have no retirement provisions.²⁷ The phenomenon of "cliff vesting" at 20 years of service is shown clearly in the figure: as soon as members are vested and gain retirement eligibility, separation rates rise sharply.

²⁵ The Army also offers a small number of 2- and 3-year contracts.

²⁶ Note the spike in separation for the Marine Corps as first-enlistment contracts end. By design, the Marine Corps has chosen to have a small enlisted career force.

²⁷ This is not true if they separate under periodic early-retirement provisions or with a disability retirement.

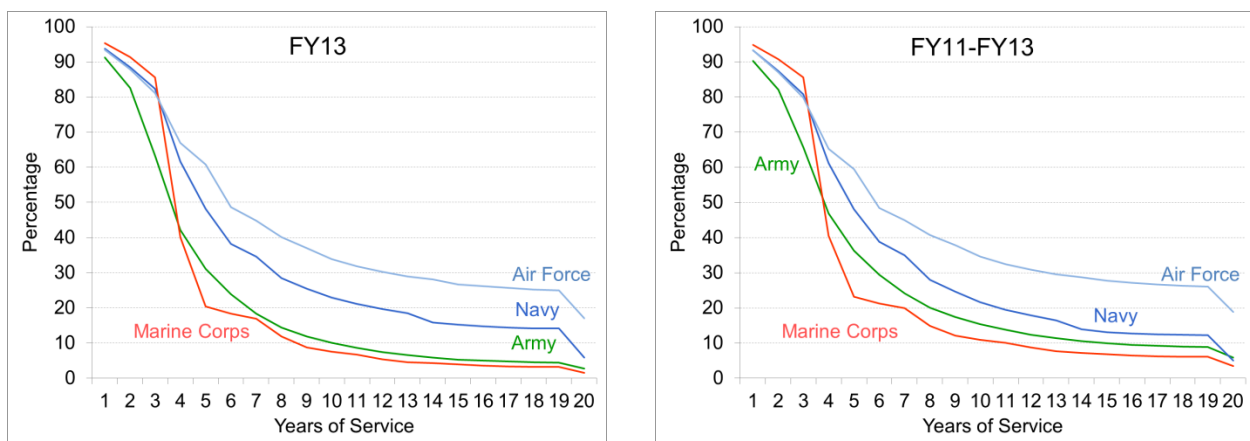
Figure 26. Average AC enlisted separation rates, FY13



Note: Data are from appendix table B-40. Note that FY13 separation rates were affected by various force shaping actions, including selected early retirement boards.

Figure 27 shows AC enlisted continuation-rate profiles by service. We show the FY13 profile, as well as the average for the last three years. (The Army and Marine Corps engaged in significant force-shaping efforts in FY13, rendering their continuation rate profiles somewhat unrepresentative of normal practice). As is clear from the figure, continuation rate profiles differ by service.

Figure 27. Continuation rate profiles, FY13 and FY11-FY13



Note: Data are from appendix table B-40.

From these continuation profiles for AC enlisted personnel, we can infer current retirement probabilities for FY13 (and the average for FY11 to FY13). The percentages remaining through their 20th year of service are:

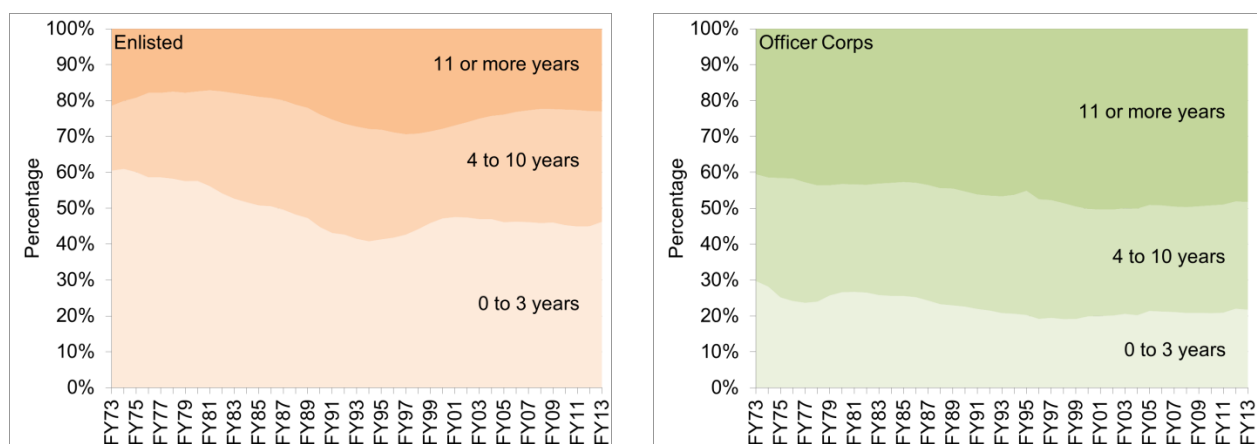
- 5 percent (9 percent) for the Army
- 14 percent (12 percent) for the Navy
- 3 percent (6 percent) for the Marine Corps
- 25 percent (26 percent) for the Air Force

Among enlisted personnel, Airmen have the highest retirement probabilities, as 1 in 4 Airmen continue to 20 years of service. Marines have the lowest retirement probability, as between 1 in 33 (1 in 16) continue to 20 years of service.

Trends in years of completed service

At the onset of the AVF, over 60 percent of the enlisted force had less than four completed years of service. Although draft calls had fallen to 50,000 by 1972, there were still substantial numbers of draftees in the early years of service. In the Army and Marine Corps – the services that most depended on draftees – the percentages of enlisted personnel with less than four years of completed service were slightly higher. Forty years later, in FY13, the percentage had fallen from over 60 percent to about 45 percent, as junior personnel were replaced by personnel with four or more years of completed service (see figure 28).

Figure 28. Years of completed service for AC enlisted personnel and officers, FY73–FY13



Note: The officer corps includes both commissioned and warrant officers.

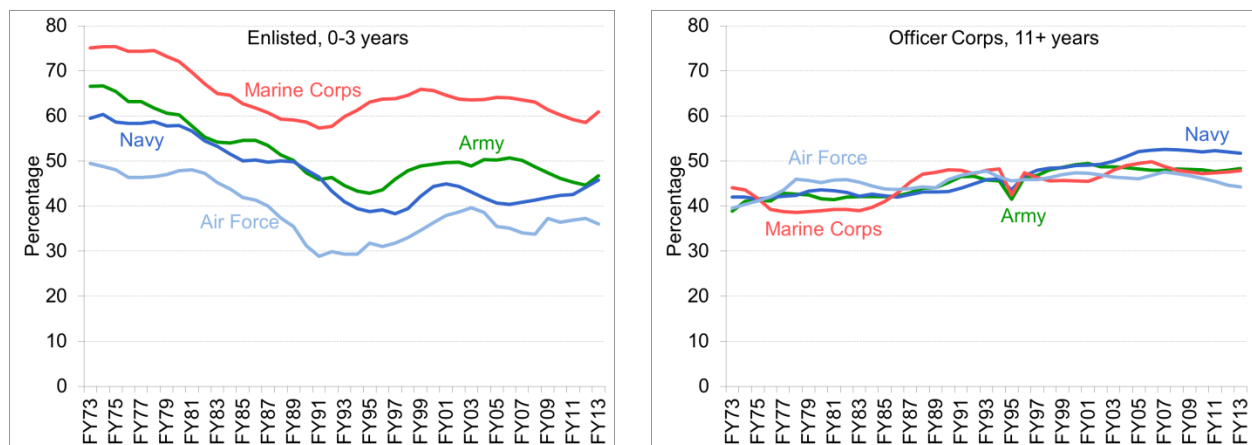
The distribution of years of completed service for officers differs in at least two important ways from that for enlisted personnel. First, since officers were never drafted,

those with less than four years of completed service were never the dominant group. In 1973, they made up about 30 percent of the officer corps and are currently about 22 percent. The dominant group for officers consists of those with 11 or more years of completed service – about 40 percent of officers in 1973 and about 50 percent of officers in recent years. Second, there has been less change in the distribution of completed years of service for officers than there has been for enlisted personnel.

It is interesting to see how these years of service (less than four for enlisted personnel and 11 or more for officers) differ by service and how they have changed over time. Figure 29 shows large differences by service in the proportion of the AC enlisted force that has completed less than four years of service. The differences among the services have been remarkably stable over time: the Marine Corps has the largest percentage of young enlisted personnel, followed by the Army, the Navy, and the Air Force.

As seen in figure 28, the dominant year-of-service group for the officer corps is those who have completed 11 or more years of service. Surprisingly, and unlike the patterns found for the enlisted force, for officers there are few differences by service in the proportion of AC officers in the modal year of service proportion (see figure 29). The percentage grows somewhat over the years, from about 40 percent to about 50 percent. In recent years, the Navy has become somewhat more senior in its officer corps than the other services.

Figure 29. Percentage of AC officers and enlisted personnel in their respective dominant years of completed years-of-service category, by service, FY73-FY13



Note: The officer corps includes both commissioned and warrant officers.

Section III: DOD reserve component (RC)

The DOD RC consists of six elements: the Army National Guard (ARNG), the U.S. Army Reserve (USAR), the U.S. Navy Reserve (USNR), the U.S. Marine Corps Reserve (USMCR), the Air National Guard (ANG), and the U.S. Air Force Reserve (USAFR). In FY13, the RC was 61 percent the size of the AC. Total endstrength was 834,510, which can be divided as follows:

- 706,984 enlisted (84.7 percent of RC endstrength)
- 115,446 commissioned officers (13.8 percent of RC endstrength)
- 11,944 warrant officers (1.5 percent of RC endstrength)

Most RC warrant officers are in the ARNG, with a smaller percentage in the USAR. There are a few warrant officers in the USNR or USMCR, and none in either the ANG or the USAFR.

In FY13, the RC gained 114,313 enlisted personnel, 14,248 commissioned officers, and 1,089 warrant officers.²⁸ Although the AC has few prior-service (PS) accessions, many RC enlisted gains are PS personnel. In FY13, 41 percent of the gains in the enlisted RC were PS personnel (see table 2).

Overview and comparisons of the RC and the AC

The RC can be described in at least three ways:

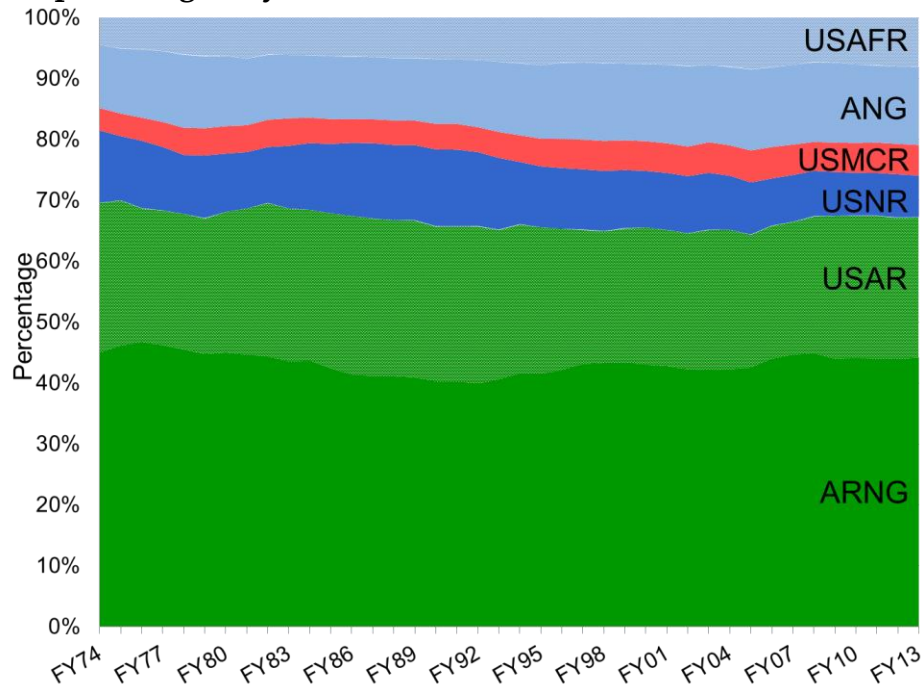
- By relative size
- By service
- By guard or selected RC

In terms of size, about two-thirds of RC endstrength is made up of Army units (ARNG and USAR), with the other service elements making up much smaller shares. About 55 percent of RC endstrength is in Army Guard or Air Force Guard units. The ARNG is by far the largest component, with almost 43 percent of RC personnel. The smallest RC is the USMCR, with less than 5 percent of all RC personnel. Figure 30 shows the historical distribution of RC endstrength (enlisted personnel plus commissioned officers) across the six service elements.

For most of the years since FY75 and consistently since FY93, the RC has had a higher enlisted- to commissioned-officer ratio than the AC (see figure 31).

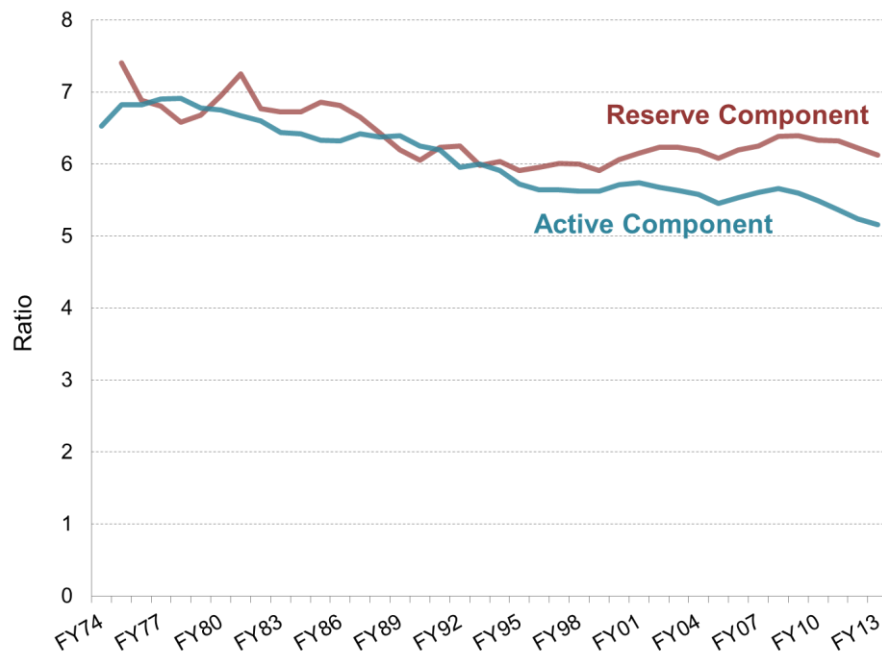
²⁸ RC data from DMDC are only available as gains. A gain is a transaction in the reserve database and reflects the addition of an SSN that was not in the previous file.

Figure 30. RC percentages, by service element, FY74-FY13



Note: Data are from appendix tables D-20 and D-21. These data omit warrant officers.

Figure 31. DOD AC and RC enlisted- to commissioned-officer ratios, FY75-FY13



Note: Data are from appendix tables D-11, D-17, D-20, and D-21. These ratios omit warrant officers.

In the AC, the enlisted- to commissioned-officer ratio varied by service, with the Marine Corps having the highest ratio and the Air Force the lowest. In FY13, the RC had 6.1

enlisted personnel for every commissioned officer (the comparable ratio in the AC was 5.2), but, as in the AC, these overall ratios mask large differences by service (see table 4).

Table 4. Enlisted- to officer ratios, by RC service element, FY13

Ratios	ARNG	USAR	USNR	USMCR	ANG	USAFR
Enlisted- to commissioned officers	8.5	5.1	3.4	9.3	4.0	6.1
Enlisted- to commissioned-plus-warrant officers	6.9	4.6	3.4	8.6	4.0	6.1

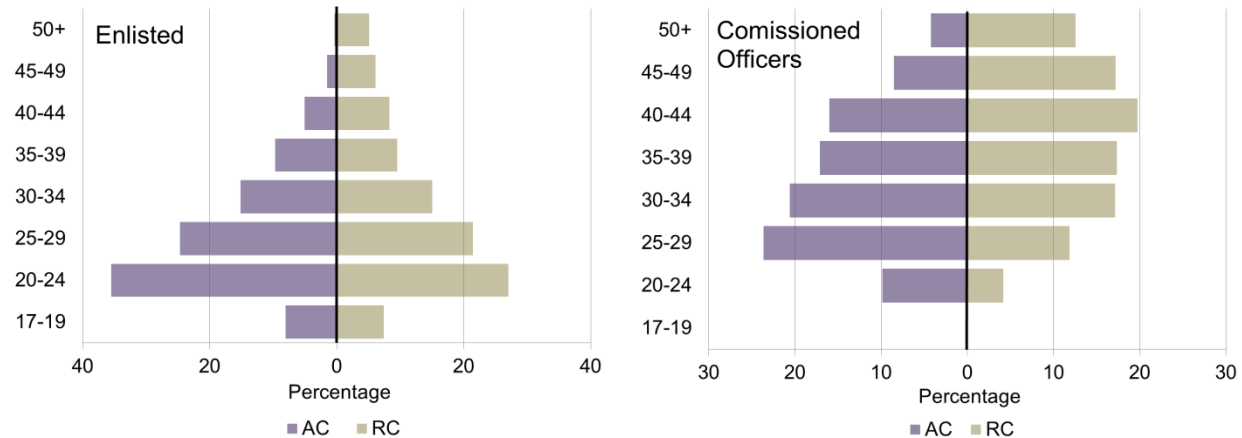
Note: See appendix tables D-20, D-21, and D-41.

In the RC, the enlisted- to commissioned-officer ratio varies from 3.4 in the USNR to 9.3 in the USMCR. Adding warrant officers does not appreciably narrow the range of these ratios. Both the Air Force and the Army have a higher enlisted- to officer ratio in their Guards than in their Reserves, effectively making the enlisted- to officer ratios in their Reserves closer to those in their active forces.

Age distributions

One stark difference between the AC and the RC is the age distribution of personnel. Figure 32 shows these distributions; the first panel is for enlisted personnel and the second is for commissioned officers. The right side of each panel illustrates the RC age distribution while the left side shows the AC distribution. Looking first at enlisted personnel, it is clear that the AC enlisted force is younger than the RC enlisted. About 11 percent of enlisted reservists are 45 or older, while the percentage for the AC enlisted force is strikingly smaller – less than 2 percent. The differences for officers are equally stark; while 30 percent of RC officers are 45 or older, the comparable percentage in the AC is only 13 percent. Thus, while the civilian labor force is considerably older than either the RC or the AC, both officers and enlisted personnel in the RC are older than those in the AC.

Figure 32. DOD AC and RC age distributions, FY13



Note: Data are from appendix tables B15, C11, B22, and C17.

Quality of RC NPS enlisted gains

As in the AC, RC recruits are mostly those with Tier 1 education credentials and AFQT scores at or above the 50th percentile. In FY13, the RC had a smaller proportion of Tier 1 enlisted gains than the AC; 89.2 percent of RC enlisted gains were Tier 1 (see appendix table C-6), compared with 98.6 percent of NPS AC enlisted accessions (see appendix table B-7). The USMCR and the USAFR had the highest percentages, and there were some fairly large differences by service (see table 5). It should be emphasized that all these percentages are considerably above the DOD goals of 90 percent Tier 1 and 60 percent AFQT categories I-III A (the 50th percentile or above).

Table 5. Quality of RC NPS gains, FY13

	ARNG	USAR	USNR	USMCR	ANG	USAFR	DOD
Tier 1	84.5	91.3	97.2	98.7	96.8	99.9	89.2
AFQT I-III A	62.6	60.5	88.6	73.7	76.0	77.6	66.0

Note: See appendix tables C-5 and C-6.

Almost 70 percent of all NPS RC enlisted gains had AFQT category I-III A scores in FY13, compared with slightly over 75 percent of NPS AC accessions (see appendix tables B-4 and C-4). For each service element, table 5 shows that over 60 percent of recruits scored at or above the 50th percentile on the AFQT. As in the AC, the educational credentials and aptitude test scores of NPS reservists significantly exceed those of the civilian population.

RC marriage rates, gender, and racial/ethnic representation

There are some notable differences in marriage rates between AC personnel and reservists. Overall, even though RC personnel are generally older than their AC

counterparts, RC personnel are less likely to be married than AC personnel, and their age-specific marriage rates are closer to those of civilians than to AC personnel (see table 6 where, within age and gender groups, we have bolded the category with the highest marriage rates).

Table 6. Percentage of married AC and RC enlisted personnel, with civilian comparisons, FY13

Age	Enlisted men			Enlisted women		
	AC	RC	Civilian	AC	RC	Civilian
20	14.7	2.8	1.9	20.3	5.0	5.7
25	54.6	28.9	21.4	46.2	29.0	24.9
30	75.8	55.9	47.5	56.7	44.2	49.9
35	83.3	70.1	60.2	58.2	49.6	56.2
40	86.6	75.6	67.3	59.9	51.0	63.6
45	88.2	77.8	69.7	54.0	50.4	61.0

Note: See appendix tables B-16 and C-12. The civilian data are for the civilian labor force age 17 years and older and are from the Bureau of Labor Statistics' Current Population Survey, September 2013.

The starkest differences are at younger ages: for example, at age 20, both AC men and AC women are between three and four times more likely to be married than reservists or civilians. Even at older ages, AC men are more likely to be married than RC men, and RC men are more likely to be married than comparable civilians.

Although the ordering of male age-specific marriage rates from highest to lowest are always AC, RC, and civilians, the same is not true for women. At age 20, AC women are much more likely to be married than RC or civilian women. However, that pattern changes after age 35, when civilian women are more likely to be married than either AC or RC women. From age 30 on, RC women are the least likely to be married.

Thus, even though RC enlisted personnel are older than AC enlisted personnel, AC enlisted personnel are more likely to be married than RC enlisted personnel (52 percent vice 42 percent). In contrast, the marriage rates of AC and RC commissioned officers (not shown) are similar (68 and 69 percent, respectively).

Like the AC, the RC strives for a diverse force. In fact, both for enlisted personnel and officers, the RC has a higher percentage of female personnel than the AC. In FY13, while the RC enlisted force was 18.4 percent female, the AC enlisted force was 14.5 percent female. Within the RC's enlisted forces, the percentage of women varied from 25.9 percent for the USAFR to 3.9 percent for the USMCR. For commissioned officers, the AC was 17.1 percent female, whereas the RC was 19.5 percent female. The percentages varied from 26.6 percent in the USAFR to 7.3 percent in the USMCR.²⁹

²⁹ See appendix tables B-16 and C-11 for enlisted personnel and B-23 and C-18 for commissioned officers.

Although the RC is more diverse than the AC in terms of gender, it appears to be somewhat less diverse in terms of racial or ethnic background. This statement, however, must be made cautiously because both AC and RC data contain significant numbers of personnel of unknown race or ethnicity. Table 7 shows the data.

Table 7. AC and RC race and ethnicity percentage distributions for enlisted personnel and commissioned officers, FY13

	Enlisted personnel			Commissioned officers		
	AC	RC	Civilians	AC	RC	Civilians
Race						
White	67.6	74.0	77.2	78.6	79.7	77.7
Black	18.5	16.8	13.1	8.6	9.9	9.0
Asian	3.7	3.3	6.0	4.6	3.8	10.7
Other	6.3	2.6	3.7	2.3	1.6	2.6
Unknown	3.9	3.2	-	5.9	5.0	-
Ethnicity						
Hispanic	12.8	11.2	19.0	5.7	5.9	8.6
Unknown	1.4	0.9	-	5.1	1.5	-

Notes: The racial category “other” includes American Indian/Alaska Native (AIAN), Native Hawaiian/Pacific Islander, and two or more races. The civilian data are from (1) appendix tables C-13 for enlisted personnel and include the 18- to 49-year-old civilian labor force and (2) appendix table C-20 for commissioned officers and include 21- to 49-year-old civilian college graduates. Note that the civilian age comparison group for AC enlisted personnel in table B-17 is for a younger age group (18- to 44-year-olds) than the RC component comparison group that we use from table C-13. We believe the 18- to 49-year-old civilian labor force comparison is more appropriate. Civilian data do not include unknowns. Data are from appendix tables C-13, C-20, B-17, and B-25.

For the enlisted force, black servicemembers are overrepresented in the RC and AC relative to comparable civilians. Asians and Hispanics are underrepresented in both components. Since Hispanics are the fastest growing ethnic group, the services are all working to increase their Hispanic representation.

The civilian comparison group for commissioned officers includes only college graduates in which minority percentages, except for Asians, are smaller than those in the broader civilian population. Both RC and AC commissioned officer percentages for blacks are close to the civilian benchmark, but Asians are quite underrepresented. Both components lag in Hispanic officer representation.

Section IV: U.S. Coast Guard

The U.S. Coast Guard is the smallest of the five armed services. Part of the Department of Homeland Security (DHS) in peacetime, the Coast Guard may be called in wartime to join the Navy and, therefore, would fall under DOD jurisdiction.³⁰

In FY13, the Coast Guard's AC endstrength was 40,420, which was made up of

- 32,029 enlisted personnel;
- 6,708 commissioned officers; and
- 1,683 warrant officers.

The RC endstrength was 8,000, which was made up of

- 6,695 enlisted members;
- 1,160 commissioned officers; and
- 145 warrant officers.

The Coast Guard's AC has grown about 10 percent in the last decade, while the RC has stayed approximately the same size.

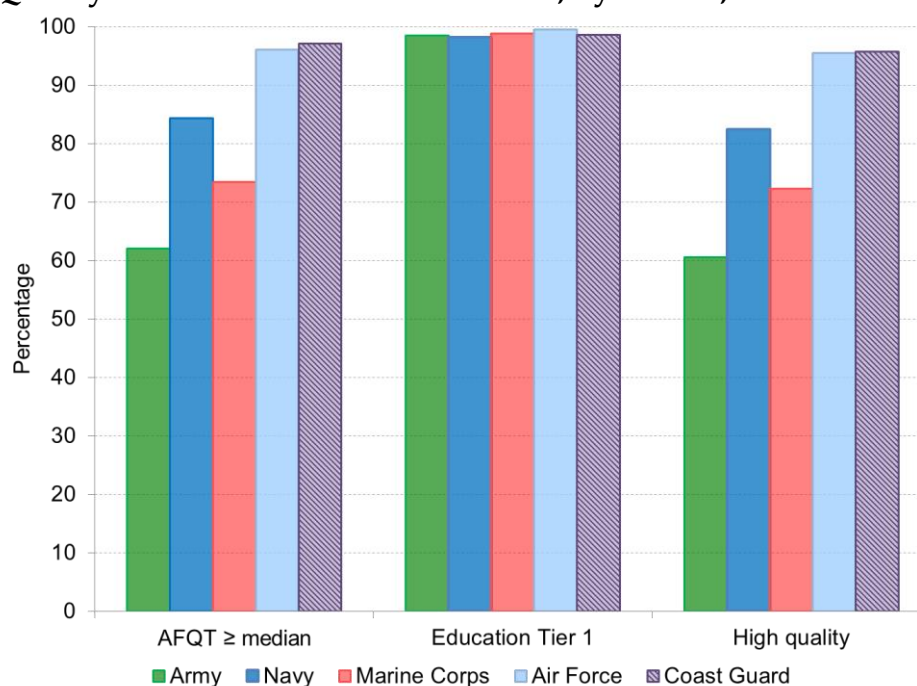
Quality of AC NPS enlisted accessions

In both FY12 and FY13, there were sharp decreases in the Coast Guard's NPS enlisted accessions (from 3,332 in FY11 to 2,368 in FY12 to 1,424 in FY13). More than the other services, the Coast Guard lets accessions fluctuate as budgetary concerns and retention dictate. The Coast Guard plans significant increases in NPS accessions in FY14 and FY15.

Like the DOD services, the Coast Guard seeks high-quality recruits – those with AFQT scores at or above the 50th percentile and Tier 1 educational credentials. And like the other services, the Coast Guard had a successful recruiting year. Figure 33 illustrates this, comparing Coast Guard recruiting achievement with the other services. Slightly over 97 percent of Coast Guard recruits scored in the top half of the AFQT distribution, and almost 99 percent had Tier 1 educational credentials. The Coast Guard and the Air Force have the highest percentages of high-quality recruits.

³⁰ Title 14 of the United States Code governs the process by which authority over the Coast Guard may be transferred to DOD in wartime.

Figure 33. Quality of AC NPS enlisted accessions, by service, FY13



Note: DOD NPS accession data are from appendix tables B-4, B-6, and B-8. U.S. Coast Guard NPS accession data are from appendix tables E-7, E-8, and E-9.

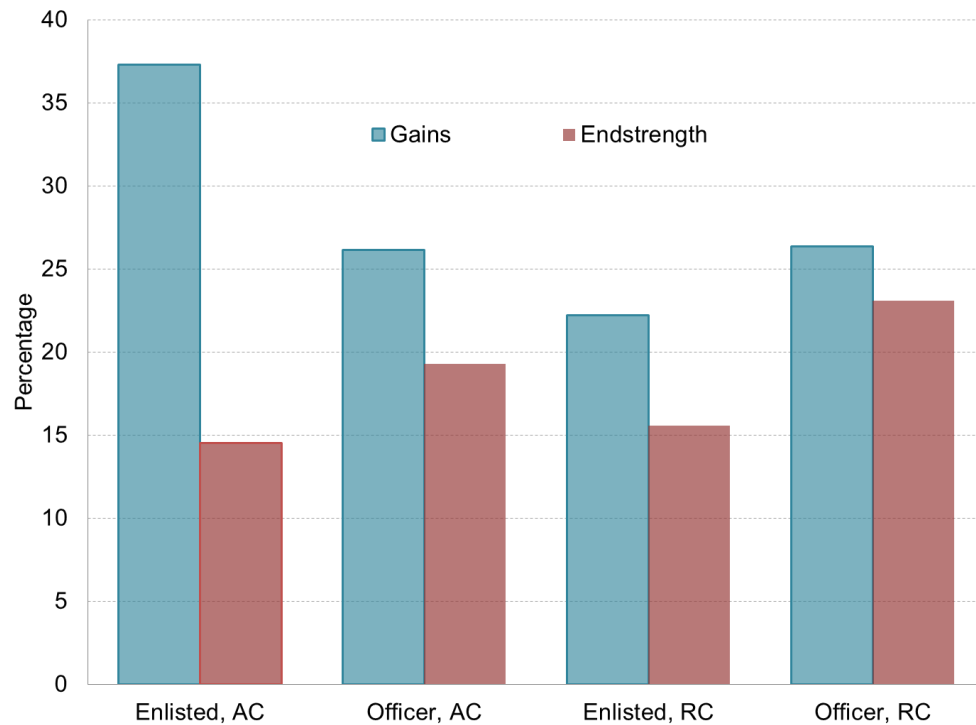
Gender, race, and ethnicity in the U.S. Coast Guard

Compared with the AC military services, the AC Coast Guard has the highest percentage of women in both the enlisted and officer corps. As figure 34 shows, female accession or gain percentages exceed endstrength percentages for both officers and enlisted personnel and in both the AC and RC. If the Coast Guard maintains this level of female gains, the Coast Guard AC female endstrength percentage should continue to grow.

The Coast Guard has historically had a much higher percentage of female AC officers than enlisted personnel. In FY13, however, the percentage of AC female NPS enlisted accessions increased sharply to 37.3 percent, while the percentage of female AC commissioned officer gains remained at historical levels.³¹

³¹ Enlisted accessions include both PS and NPS accessions.

Figure34. Female share of U.S. Coast Guard PS and NPS gains and endstrength for enlisted personnel and officers, FY13



Note: This figure includes PS and NPS for enlisted gains and commissioned officers. Data are from appendix tables E-5, E-12, E-16, E-20, E-24, and E-27.

In terms of race and ethnicity, the Coast Guard has both reduced the number of unknown race and ethnic classifications for its AC accessions and increased minority representation, particularly in FY13. However, there are still large numbers of unknowns, making race and ethnic diversity comparisons across years or with the other services or the U.S. population difficult, particularly in the Reserves.

In the next section, we recap the highlights of the FY13 *Population Representation in the Military Services*.

Concluding highlights

Since 1974, DOD has provided an annual report on the demographic and service-related characteristics of U.S. military personnel. Since 1997, these reports have been available electronically, making them easily accessible to policy-makers, the media, and the public.

The U.S. military has a high-quality enlisted force compared with the civilian population. Nearly all AC enlisted servicemembers in the AVF have high school diplomas. About 79 percent of them test in the top half of the ability distribution; compared with only 51 percent of the civilian population. The socioeconomic backgrounds (as measured by neighborhood affluence) of these men and women generally reflect the U.S. population's distributions, although enlisted recruits are somewhat underrepresented in neighborhoods in the lowest and highest household income quintiles. Black servicemembers are somewhat overrepresented in the enlisted force relative to the civilian labor force; Hispanic representation, while growing in the enlisted military, is somewhat behind overall Hispanic population growth. And, Asian representation is lagging.

Geographically, the military obtains its proportional share of recruits from the West and Midwest, but recruits from the South are overrepresented, and recruits from the Northeast are underrepresented. Women make up 14.5 percent of the AC enlisted force and 17.1 percent of the AC commissioned officer corps.

In terms of minority representation in the officer ranks, blacks are slightly underrepresented. Because commissioned officers must be college graduates, we compare the percentage of black officers to the percentage of blacks in the 21- to 49-year-old college graduate labor force. We find that 8.6 percent of officers are black, while 9.0 percent of college graduates are black. Hispanics are underrepresented—5.7 percent versus 8.6 percent for 21- to 49-year-old college graduates in the civilian labor force. Finally, given the civilian benchmark of comparably aged college graduates in the civilian workplace, we find that Asians are the most underrepresented group, making up almost 11 percent of college graduates and only 4.6 percent of commissioned officers.

In FY13, AC endstrength was 1.37 million; RC endstrength was 845,000. The AC has greater racial and ethnic diversity than the RC, but the RC had a larger percentage of women. RC personnel are older than AC personnel, but personnel in both components are considerably younger than the civilian labor force. By age, military personnel are more likely than civilians to be married, and, generally, AC male personnel are more likely to be married than female personnel.

Finally, FY13 was another banner year for recruiting. Not only did all DOD services and the Coast Guard achieve their numerical recruiting goals, but all continued to achieve high percentages of high-quality recruits and significantly exceeded DOD benchmarks.