Population Representation in the Military Services
Fiscal Year 2009 Report

Summary

Introduction

This is the 37th annual Department of Defense (DoD) report on social representation in the U.S. military services and the Coast Guard. The FY 2009 technical appendixes (A–E) provide current data on the demographic, educational, and aptitude characteristics of applicants, new recruits, enlisted personnel, and officers of the active and reserve components (AC and RC), as well as time-series information on selected variables. Except where otherwise noted, data are provided by the Defense Manpower Data Center (DMDC). Due to slight differences in definitions among the services, the data provided here may not precisely match statistics reported by the Directorate for Information Operations and Reports, other DoD agencies, or the individual military services.

This summary provides an overview of recent personnel trends for DoD (AC and RC) and the U.S. Coast Guard. It references data from the tables in the technical appendixes. A special focus section discusses the 2009 economic recession and the recession's effect on DoD personnel trends.

Section I presents an overall summary; Sections II and III cover DoD's AC and RC, respectively. Section IV discusses the U.S. Coast Guard. Finally, the special focus section describes the relationship between labor market conditions and enlisted accession quality.

Section I: Summary statistics

FY 2009 saw a continuation of significant U.S. military activity in Iraq (Operation Iraqi Freedom) and Afghanistan (Operation Enduring Freedom) and modest supporting growth in both the AC and RC of the U.S. armed forces. During the year, troops were shifted from Iraq to Afghanistan as U.S. involvement in one theater of operations began to wind down and involvement in the other intensified.

After the November 2008 election, President George W. Bush approved the deployment of an additional Army Brigade Combat Team (BCT) of approximately 9,000 troops to Afghanistan. In February 2009, one month after taking office, President Barack Obama approved plans to boost Afghanistan force levels by another 21,000 troops. The Obama administration's comprehensive Afghanistan strategy review that summer and fall resulted in a decision to deploy 30,000 more troops.[1] By the end of the FY, troop levels in Afghanistan were approaching those in Iraq, where U.S. military presence was drawing down from a 2007 peak of 172,000 troops.[2] U.S. troop levels in the Afghanistan and Iraq theaters together averaged 186,000 soldiers, sailors, airmen, and marines over the course of the year. These troops were deployed from an FY 2009 endstrength base of 1.4 million active-duty troops and 850,000 reservists.

Table 1 provides an FY 2009 snapshot of the AC and RC. It displays the by-service totals for endstrength (those currently serving) and accessions (those who were added to the ranks) during the FY.

FY 2009 AC endstrength for the U.S. armed forces totaled 1.405 million soldiers, sailors, airmen, and marines. That represented a slight increase from DoD's AC total of 1.388 million reported in the *FY 2008 Population Representation in the Military Services* report.[3] In FY 2009, the Army, the largest of the military services, had an active-duty endstrength of 549,015. That endstrength level represents growth of just under 10,000 soldiers from the service's FY 2008 endstrength of 539,675, and it reflects continued expansion toward an authorized endstrength of 569,000.[4] The Marine Corps also grew from FY 2008 to FY 2009, while the Navy and Air Force decreased in size. The growth in the Army and Marine Corps slightly more than offset the reduction in the Navy and Air Force, resulting in DoD-wide growth of roughly 2,000 troops.

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[1] President Obama announced the decision in a speech at the U.S. Military Academy at West Point on December 1, 2009.
[2] Troop figures are from [1].
[3] The *FY 2008 Population Representation in the Military Services* report is available for download at: http://prhome.defense.gov/MPP/ACCESSION%20POLICY/PopRep2008/index.html.
[4] Secretary of Defense Robert Gates announced the decision to boost Army endstrength on July 20, 2009.

Table 1: Endstrength and accessions for AC and RC of the U.S. military and U.S. Coast Guard, FY 2009

Component	Enlisted personnel[1]		Officers		Warrant officers	
	End-strength	Acces-sions	End-strength	Acces-sions	End-strength	Acces-sions
Active duty						
Army	458,220	70,044	75,619	7,875	15,176	1,464
Navy	272,208	35,519	50,385	4,068	1,646	146
Marine Corps	182,366	31,407	18,733	1,678	1,976	265
Air Force	263,351	31,983	65,496	4,711	0	0
DoD total	**1,176,145**	**168,953**	**210,233**	**18,332**	**18,798**	**1,875**
Reserves[2]						
ARNG	317,725	57,997	33,140	4,310	7,526	1,088
USAR	169,317	36,673	33,010	3,828	2,970	413
USNR	51,999	12,100	14,387	1,896	122	19
USMCR	34,814	9,358	3,363	942	333	60
ANG	94,870	10,006	14,326	1,198	0	0
USAFR	53,233	9,027	14,753	1,619	0	0
DoD total	**721,958**	**135,161**	**112,979**	**13,793**	**10,951**	**1,580**
Coast Guard						
Active duty	34,062	3,861	6,722	530	1,642	228
Reserves	6,301	950	1,222	151	170	22

Notes:
1. Enlisted accessions for all components include non-prior-service (NPS) and prior-service (PS) accessions. The numbers reported here may differ slightly from numbers previously reported because they were compiled after the services had completed data reconciliation.
2. The RC consists of the Army National Guard (ARNG), Army Reserve (USAR), Navy Reserve (USNR), Marine Corps Reserve (USMCR), Air National Guard (ANG), and Air Force Reserve (USAFR).

The RC also grew from FY 2008 to FY 2009. RC endstrength in FY 2009 totaled 845,888 soldiers, sailors, airmen, and marines; the corresponding FY 2008 figure was 838,278. The Army National Guard (ARNG) was the largest reserve component. It decreased in size from FY 2008 to FY 2009, by approximately 2,000 soldiers. That reduction was more than offset by growth in the second-largest reserve component, the Army Reserve (USAR), which grew by roughly 8,000 troops. None of the other four elements of the reserve force changed in size by more than 2,000 troops between FY 2008 and FY 2009.

For the Coast Guard, FY 2009 saw slight growth in the AC and a slight decrease in the RC from FY 2008. The AC added 1,062 troops and the RC shed 277.

Section II: DoD active component

Enlisted accessions and force

In FY 2009, the DoD AC enlisted force stood at 1,176,145 soldiers, sailors, airmen, and marines. Enlisted accessions during the year totaled 168,953 personnel, which includes both non-prior-service (NPS) and prior-service (PS) accessions. NPS accessions accounted for the bulk of the total; the NPS/PS split was 161,588 and 7,365, respectively.

Figure 1: Enlisted endstrength and accessions, FY 1973-2009

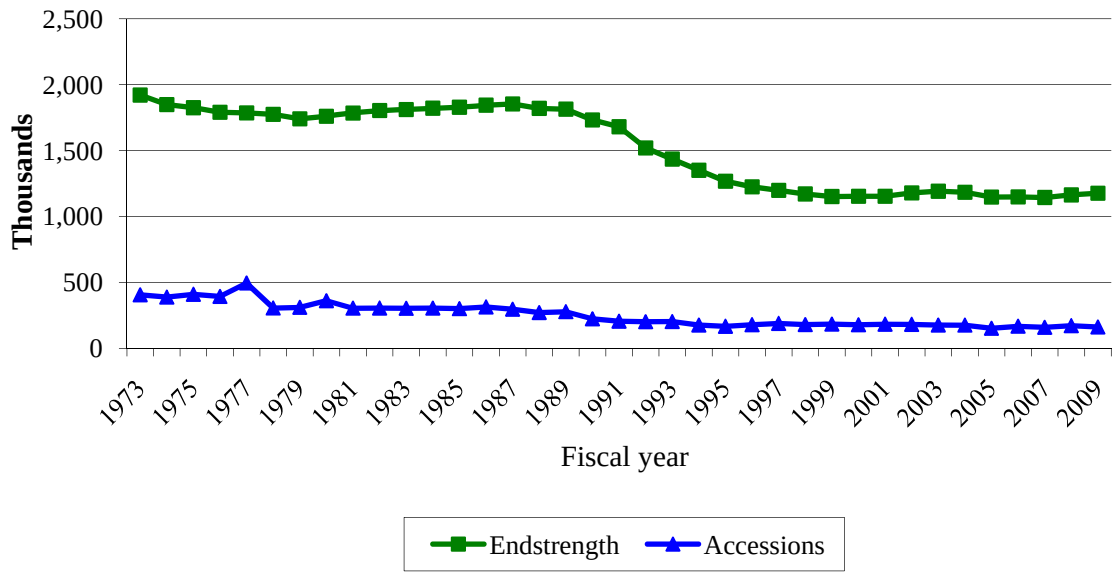


Figure 1 shows how enlisted endstrength and accessions have fluctuated since the institution of the all-volunteer force in 1973.[5] At that time, both accessions and endstrength were much larger than they are today. Accessions in FY 1973 were more than double their FY 2009 level, while endstrength was not quite double what it is today. The relatively greater decline in accessions has contributed to the enlisted force becoming more senior (more heavily weighted toward the senior paygrades). The FY 1977 blip in accessions is attributable to the extra quarter—the so-called "transition quarter"—that resulted from the redefinition of a fiscal year.[6] There was no such blip for endstrength because endstrength is a snapshot of a point in time and accessions are a flow over time. Of the services, the Army had the most NPS accessions in FY 2009—63,667 soldiers. Army accessions in FY 2009 were nearly twice that of the next service, the Navy, which accessed 35,216 sailors. The Army's higher number of accessions reflects the push to expand the active-duty Army to an endstrength of 569,000 soldiers. The FY 2009

[5] Figure 1 displays only NPS accessions.
[6] For FY 1976 and earlier, the FY ran from July 1 through June 30. Starting with FY 1977, the FY ran from October 1 through September 30.

accession totals were similar for the Air Force and Marine Corps—31,780 and 30,925, respectively.[7] The Marine Corps accessed nearly as many as the Air Force and Navy despite being a considerably smaller service because the Marine Corps is a more junior force (its structure is more heavily weighted toward the lower enlisted paygrades), and the Marine Corps is growing while the Navy and Air Force are both downsizing.

Enlisted accessions. Not everyone who applies to serve in the U.S. military is permitted to serve or ends up serving. There can be a number of reasons why an applicant may not join the military: a low score on the Armed Services Vocational Aptitude Battery (ASVAB), failure to meet rigorous physical/psychological standards, a history of prior drug use or criminal activity, or simply a change of heart about serving in the military. Of interest to military planners is the quality of enlisted accessions.

The quality of enlisted accessions. The Department uses two metrics to measure recruit quality: aptitude and educational attainment. The prospective recruit's Armed Forces Qualification Test (AFQT) score, which measures math and verbal skills, is a subset of the ASVAB. All recruits must take the ASVAB, which is a series of tests that indicate aptitude for military service and potential occupational placement within the military. AFQT scores are sorted into six categories, which correspond to the following percentile ranges:

- Category I: 93rd to 99th percentile
- Category II: 65th to 92nd percentile
- Category IIIA: 50th to 64th percentile
- Category IIIB: 31st to 49th percentile
- Category IV: 10th to 30th percentile
- Category V: Below the 10th percentile.

Recruits who score in categories I through IIIA—the 50th percentile and above—are considered to be the best candidates for enlistment, as data show they are easier to train and perform better on the job. DoD's goal is that at least 60 percent of NPS accessions be drawn from these categories.

As table 2 shows, the military is selective about those accepted for service. The pool of those accessed into the military is more heavily weighted toward the higher AFQT score categories. Accessions in AFQT categories I, II, and IIIA represent the majority of the accesions (72.2 percent). Less than 1.0 percent of accessions came from category IV and none came from category V.

Table 2: AFQT of enlisted accessions, FY 2009

Measure	Accessions (percentage)
AFQT category	
I	6.67

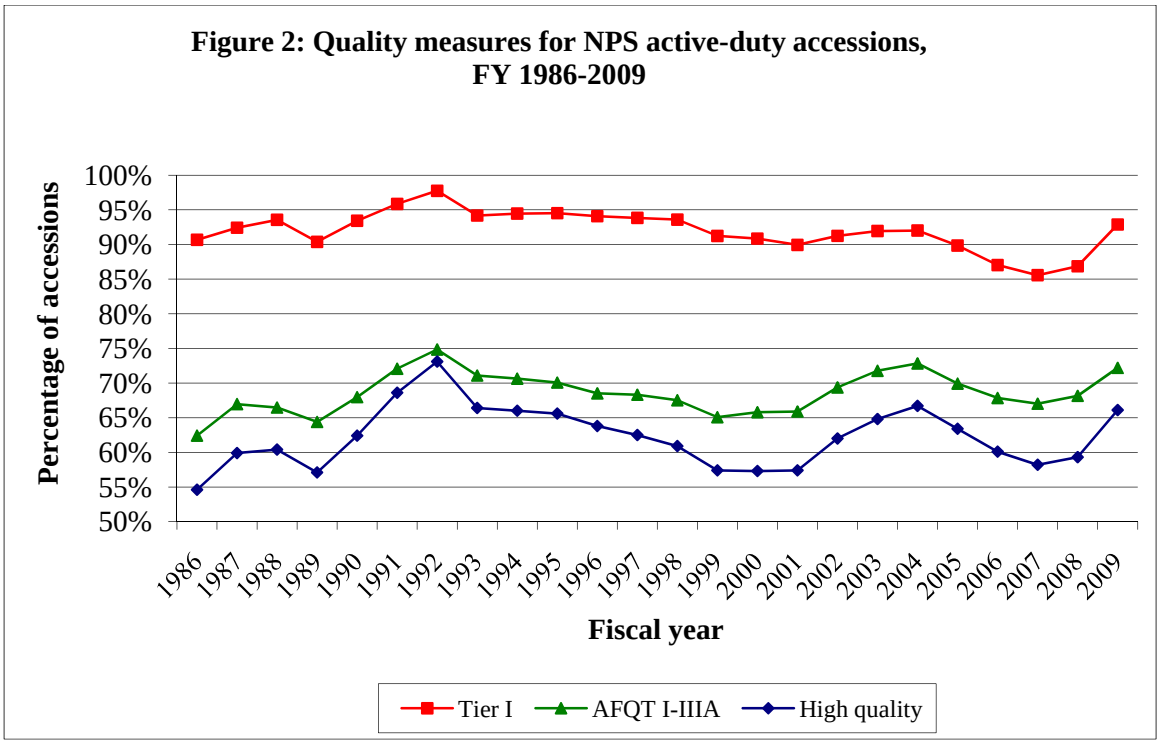
[7] These numbers differ from those in table 1 because table 1 included both NPS and PS accessions.

II	38.72
IIIA	26.81
IIIB	27.05
IV	0.75
V	0.00
Other/unknown	0.00

Educational attainment, specifically the completion of a high school diploma, is the second key metric.[8] It is captured by a three-tier system: a Tier I recruit is typically one who graduated from high school and possesses a diploma, Tier II recruits typically possess a General Educational Development (GED) certificate in lieu of graduating with a diploma, and Tier III recruits failed to graduate or obtain a GED. Educational attainment is important because these prospective recruits with a high school diploma are more likely to complete their initial terms of Service and, thus, are a better investment.

AFQT scores and educational tiers are often combined into a third quality measure. By that measure, a "high-quality" recruit is one from both Tier I and AFQT category I, II, or IIIA. Figure 2 displays trends in these three quality measures for NPS accessions from FY 1986 to FY 2009.

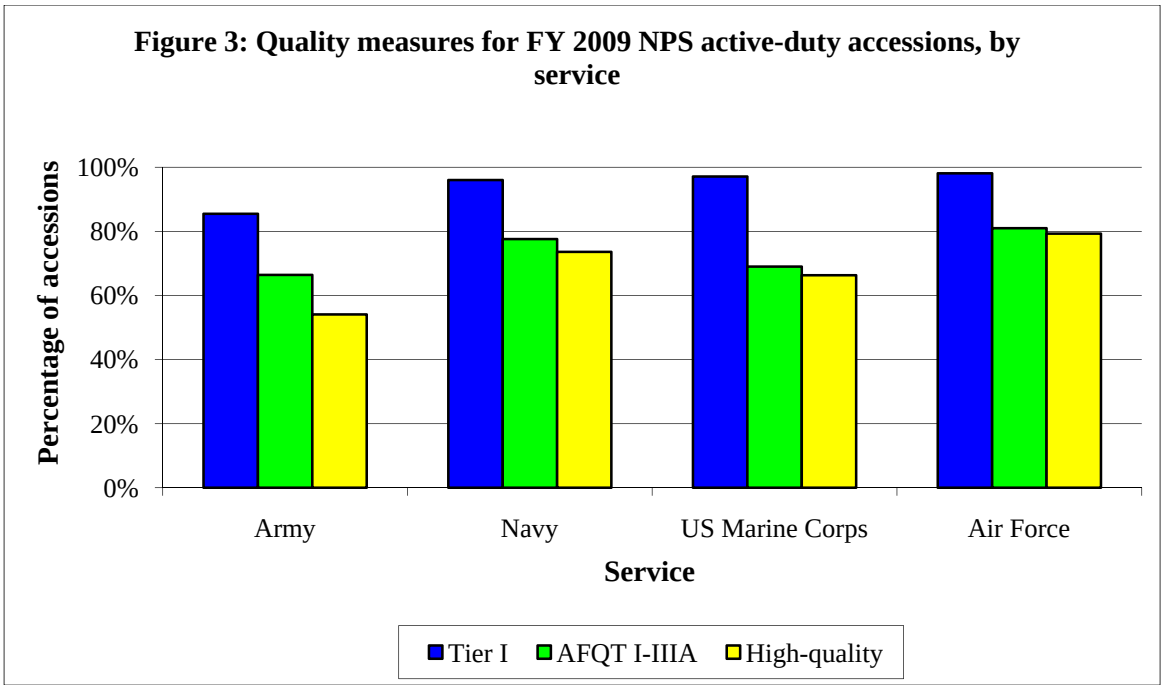
[8] Studies for the Navy and Marine Corps have found that recruits who finish high school are more likely to finish initial training and successfully complete their enlistments.



As figure 2 shows, recruit quality has improved since the mid-1980s. Most of the improvement occurred during the late 1980s and early 1990s, a period corresponding to the tail end of the Reagan administration defense buildup and the lead-up to Gulf War I. From 1992 (the year following the Gulf War I cease-fire) to 2009, there was little net change in quality.

All three recruit quality measures improved significantly in FY 2009. The percentage of Tier I accessions jumped 6 percentage points, to 92.9 percent. The percentage of AFQT I-IIIA accessions rose 4 points, to 72.2 percent. High-quality accessions—the most selective of the three quality measures—increased by 7 points, to 66.1 percent. The FY 2009 improvement in recruit quality coincided with the full force of the economic recession that began in late 2007. FY 2009 saw the nationwide unemployment rate rise from 6.6 percent at the start of the year (October 2008) to 9.8 percent at the end of the year (September 2009). The rate averaged 9.3 percent for that 12-month period—the highest rate in over a quarter-century. (More on the recession and its effect on DoD recruiting will be provided in the special focus section.)

FY 2009 recruit quality was not uniform across the four DoD services. Figure 3 presents the three quality metrics by service.

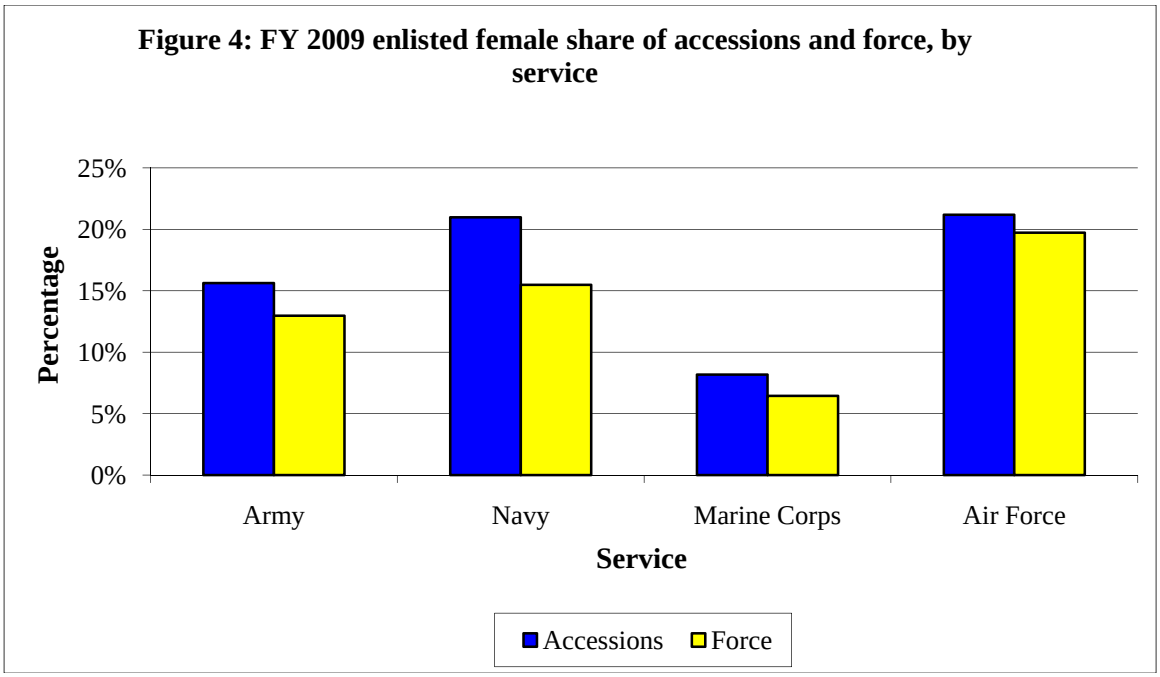


For all three recruit quality measures, the Army posted the lowest shares—85.5 percent in Tier I, 66.4 percent in AFQT categories I through IIIA, and 54.1 percent of high quality. The Air Force edged out the Navy and Marine Corps as the service with the highest percentages for the three quality measures—98.1, 81.0, and 79.3 percent, respectively. The Air Force, Navy, and Marine Corps were very close in their Tier I percentages; each was 95 percent or higher.[9] The difference between the Air Force and the other services was greater for AFQT categories I through IIIA and greater still for high-quality recruits. The lower recruit quality percentages for the Army (and, to a lesser extent, for the Marine Corps) reflect the push to expand each service and the more challenging recruiting environment that the ground-based services face with the continuing need to rotate forces to Iraq and Afghanistan.

A representative force

Women in the active-duty enlisted force. As the military services have opened up more opportunities for women to serve, women have made up an increasing share of accessions and the force. Figure 4 displays the female share of enlisted NPS accessions and the enlisted force in FY 2009, by service.

[9] The DoD standard for the services is at least 90 percent Tier I recruits; however, any service can petition for a waiver.



Women made up 16.5 percent of enlisted NPS accessions and 14.1 percent of the enlisted force for the four services in FY 2009. The 2.4-percentage-point difference between the two meant that the female share of FY 2009 accessions contributed to a rise in the female share of the FY 2009 force. That was the case DoD-wide; it also was true at the service level. In each service, women accounted for a larger share of FY 2009 NPS accessions than their share of the FY 2009 force. The Air Force had the largest female percentage—21.2 percent of accessions and 19.7 percent of the force. The Marine Corps had the smallest percentages, at 8.2 percent and 6.5 percent, respectively. All four services are continuing to make headway in their efforts to increase the female share of the enlisted force.

Racial and ethnic groups in the active-duty enlisted force. The military services also have been intensifying their efforts to recruit and retain a more diverse force. Figure 5 provides a racial and ethnic breakdown of enlisted NPS accessions and the force in FY 2009.

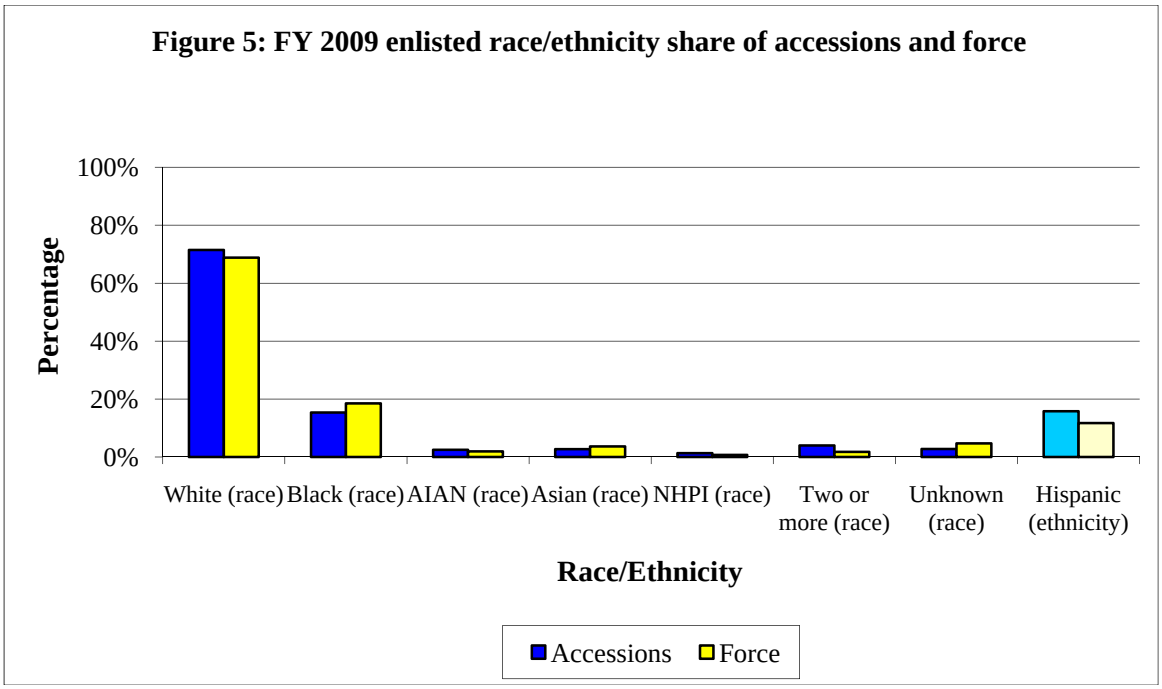


Figure 5 indicates that more than two-thirds of enlisted NPS accessions and the force in FY 2009 were white. Blacks were the next-largest category, with 15.4 percent of accessions and 18.5 percent of the force. The white share of the force was slightly smaller than the white share of accessions. For blacks, it was reversed. None of the other racial categories accounted for more than 5 percent of either accessions or the force. Aside from whites, the categories of Native Hawaiian/Pacific Islander (NHPI) and Two or more races saw their shares of gains exceed their shares of the force, meaning that their FY 2009 gains boosted their share of the force. The similarity of each racial group's share of accessions with its share of the force suggests that FY 2009 saw a leveling off of the services' advances in attracting a more racially diverse force.

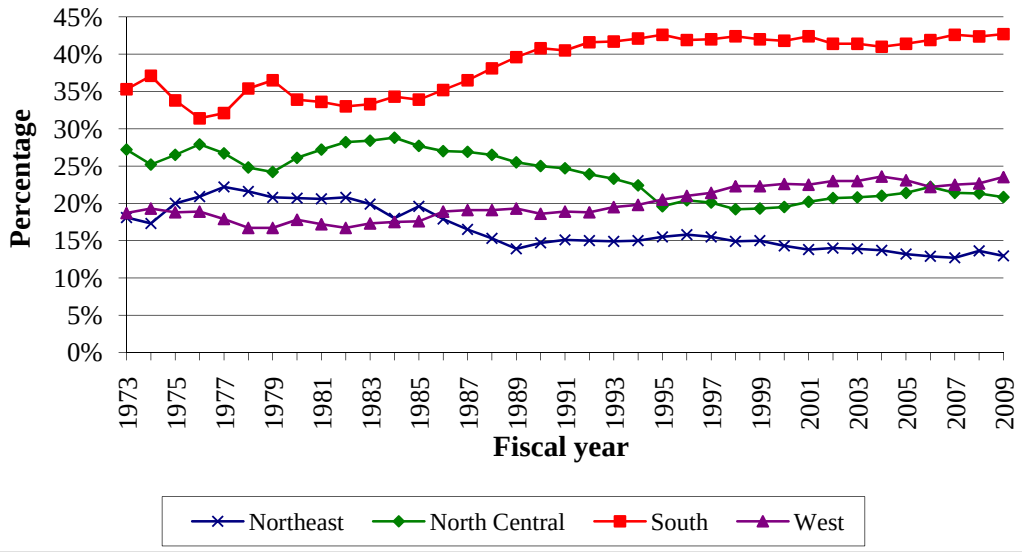
Hispanics are included not as a racial category, but as a separate ethnic category. They accounted for 15.8 percent of FY 2009 accessions and 11.7 percent of the FY 2009 force.

Nonwhites constituted a larger percentage of the Navy enlisted force, 40.1 percent, than they did for the enlisted force of any other DoD service in FY 2009. For the other services, the nonwhite shares of the FY 2009 enlisted force were 31.0 percent in the Army, 28.5 percent in the Air Force, and 22.1 percent in the Marine Corps. The FY 2009 accessions in the Navy increased its nonwhite share of the force. It was the only service to do so. The Navy indicated that 13.4 percent of its FY 2009 enlisted NPS accessions fell into the Two or more races category; none of the other services reported that category's share as more than 3.0 percent. It is unclear why the Navy might be attracting more recruits who self-identify as being of multiple races. The magnitude of the difference between the Navy and the other services suggests that it may be a case of service-level reporting differences. A clear-cut case of service-level reporting differences is that neither the NHPI nor the Two or more races field was included in the Army's

reporting for its enlisted force.[10] The exclusion of those two fields skews service-level comparisons that include the Army.[11]

From where do active-duty enlisted accessions come? The services recruit throughout the country; however, their recruiting missions can be more challenging in some parts of the country than in others. Figure 6 shows the regional distribution of enlisted NPS accessions from FY 1973 through FY 2009.

Figure 6: Geographic distribution of NPS enlisted accessions, FYs 1973-2009



We see the growing relative importance of the South and the West in providing recruits over time. Together, those two regions provided 63.9 percent of enlisted NPS accessions in FY 2009. Their percentage in FY 1973 was 54.0 percent. In FY 2009, the South provided the largest percentage of accessions (41.2 percent), followed by the West (22.7 percent), the North (20.1 percent), and the Northeast (12.5 percent).

At the same time that the South and the West have provided an increasing share of recruits, they also have accounted for a growing share of the U.S. population. Much of the recent U.S. population growth has been concentrated in the "Sunbelt" states of the South and the West.[12] Between 1972 and 2002, the states of Arizona, California,

[10] These fields were included in the Army's reporting for its enlisted accessions.
[11] These fields were missing from the Army's reporting of enlisted accessions in the *FY 2008 Population Representation in the Military Services* report as well. DMDC and the Army are working to improve the fidelity of the Army's reporting so that these fields will be included in the future.
[12] However, Sunbelt growth has slowed due to the recent recession, according to updated U.S. Census Bureau population estimates for 2009 available here: http://www.census.gov/popest/states/states.html.

Colorado, Florida, Georgia, Nevada, New Mexico, North Carolina, Oregon, Tennessee, Texas, Utah, Virginia, and Washington gained seats in the U.S. House of Representatives (and Electoral College votes) due to population gains.[13] Atop the list were California and Florida, which both registered ten-seat gains. States that lost U.S. House seats (and Electoral College votes) over the same period were Connecticut, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Massachusetts, Michigan, Mississippi, Missouri, Montana, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, South Dakota, West Virginia, and Wisconsin. New York posted a double-digit loss of ten seats. The shifting U.S. population means that the regional shifts in recruiting highlighted in figure 6 may reflect different propensities to enlist or may simply be a function of a shifting population base. Figure 6 does not control for population. Figures 7 and 8 do, at the individual state level.

A new feature in the *FY 2009 Population Representation in the Military Services* report is table B-46 in appendix B, which provides state-level recruit shares and recruit quality measures. The table also includes each state's share of the age 18-24 civilian population (from which most recruits are drawn). Dividing each state's percentage of recruits by its percentage of the civilian population yields a ratio that indicates whether that state is contributing more or less than its "fair" share. A ratio of one means that a state is contributing recruits in exact proportion to its share of the population. States that contribute more recruits relative to their population will be marked by higher ratios; states providing fewer recruits will have lower ratios. Figure 7 provides an ordering of the states by ratio, from highest to lowest, for FY 2009 enlisted NPS accessions.

Figure 7 shows considerable variation among states in their contributions to the FY 2009 enlisted NPS accession pool. The median state, with a ratio of 1.00, was Louisiana. That state's share of enlisted NPS accessions matched its share of the 18- to 24-year-old civilian population. Montana contributed the most recruits relative to its population. It accounted for 0.30 percent of the population, but contributed 0.47 percent of accessions, for a ratio of 1.57. The last of the 50 states was Massachusetts, which contributed 1.34 percent of accessions against 2.26 percent of the civilian population, for a ratio of 0.59. After Massachusetts was the District of Columbia, with a ratio of 0.32.

[13] According to the U.S. Electoral College website: http://www.archives.gov/federal-register/electoral-college/.

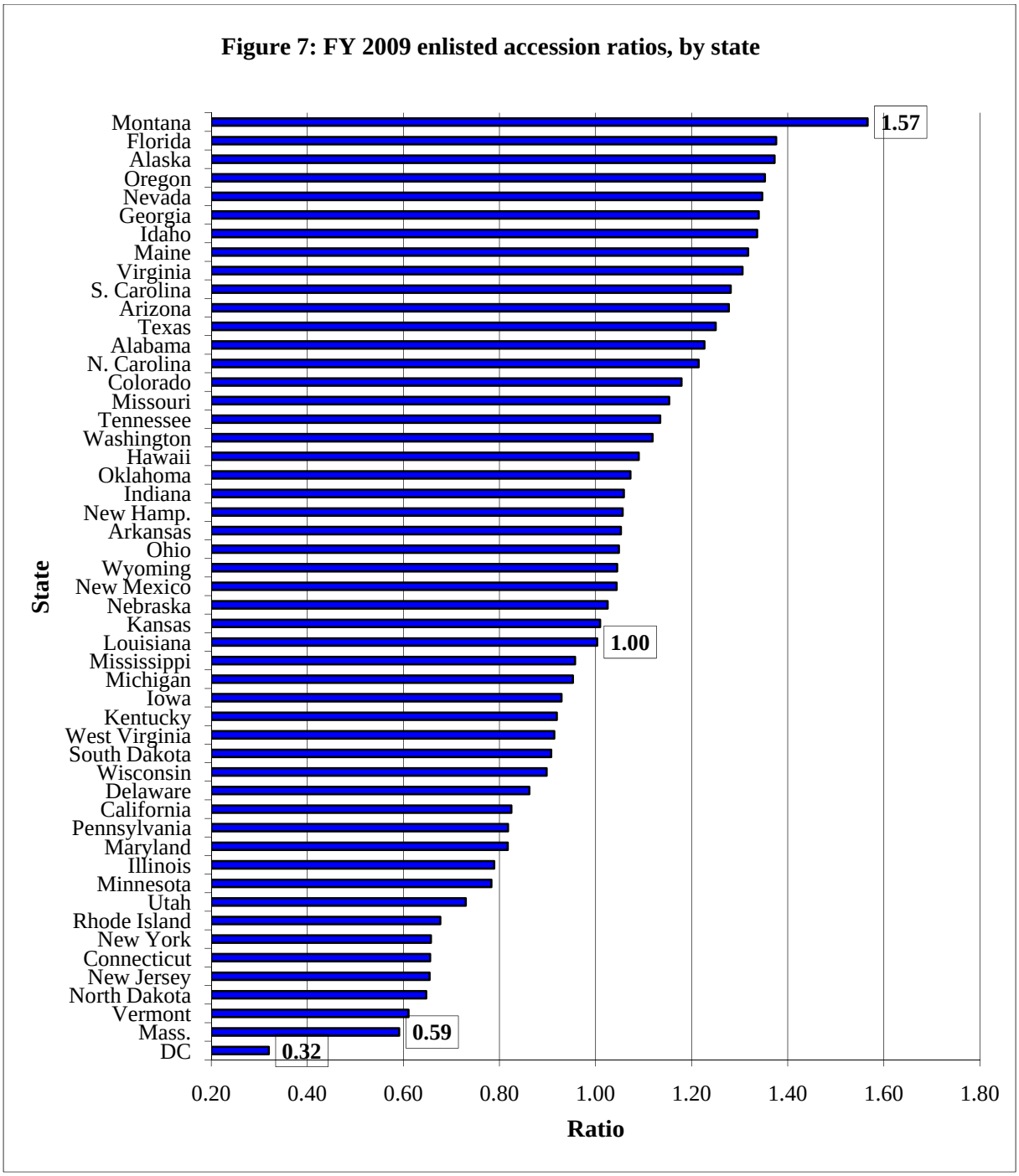
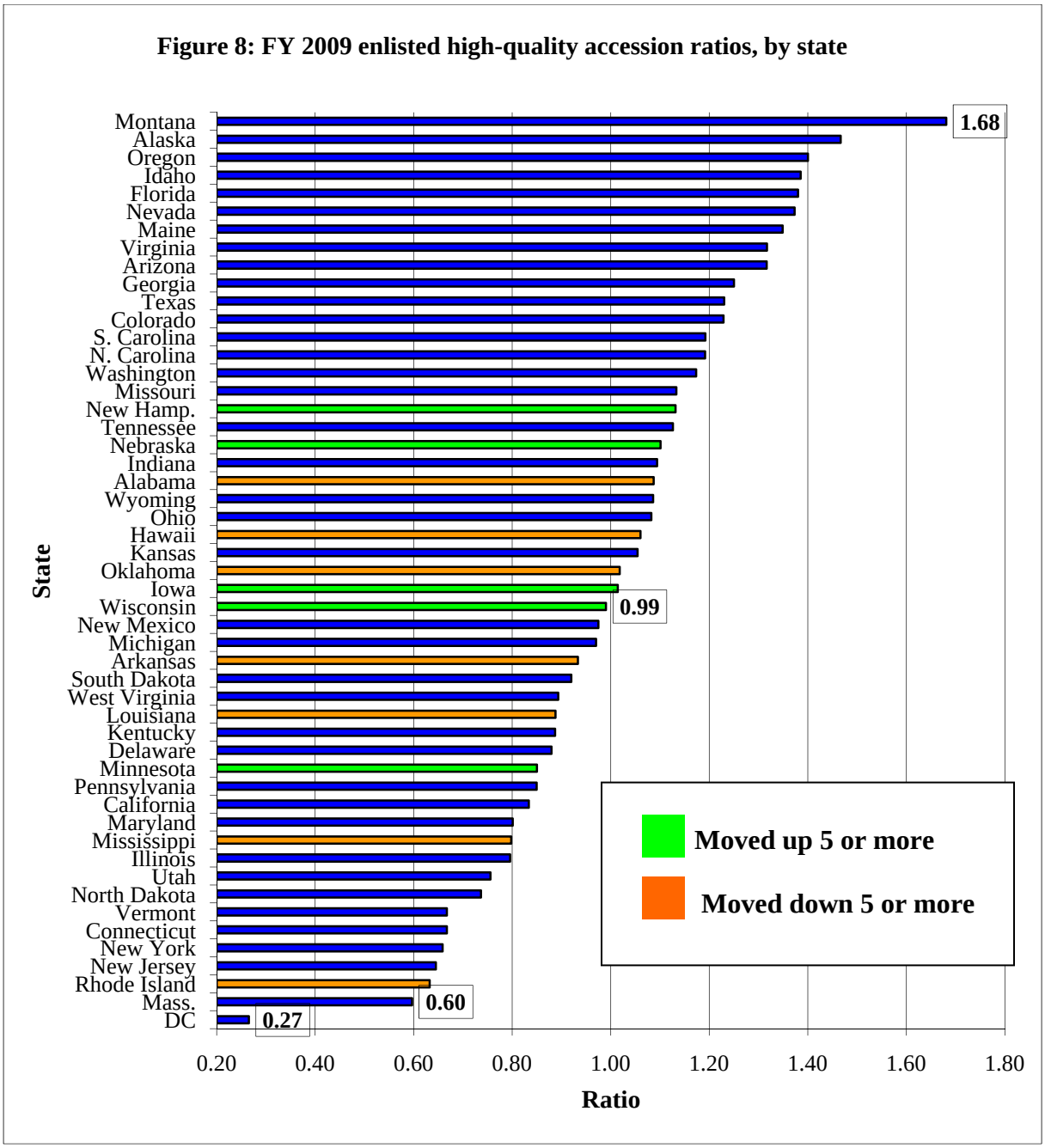


Figure 8 ranks the subset of FY 2009 accessions that met the stricter criteria of being high quality—that is, possessing a high school diploma and an AFQT score in categories I through IIIA.



Montana again tops the list, with its ratio in figure 8 rising slightly from that in figure 7, to 1.68. The state provided 0.50 percent of high-quality accessions, against its 0.30 percent share of the civilian population. For the rest of the states, there was some movement up and down in the rankings. The median states were Iowa and Wisconsin, with ratios of 1.01 and 0.99, respectively. Each provided a share of high-quality accessions that was nearly equal to its share of the population. Massachusetts, with a ratio of 0.60, was still the last state, followed by the District of Columbia with 0.27.

Few states (fewer than ten) did not move at all in the rankings. Upward movement in the rankings means that a state's accessions are weighted toward meeting the high-quality

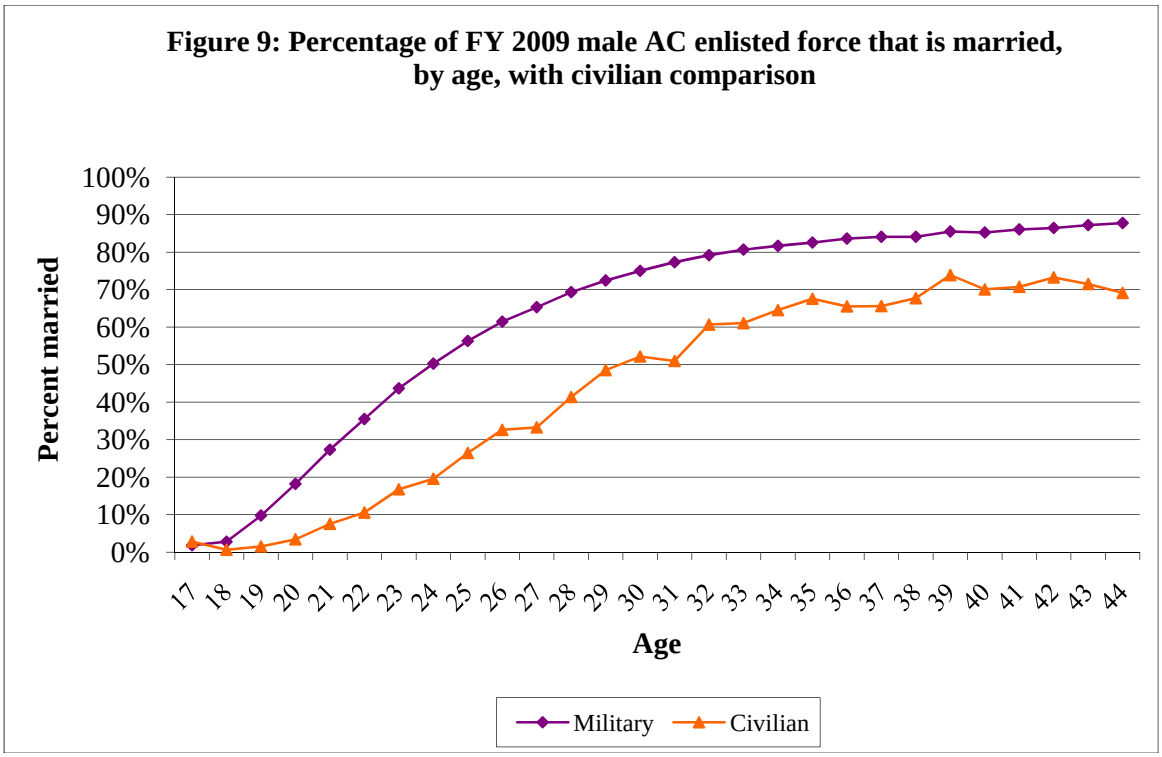
criteria; downward movement means that a state's accessions are less likely to satisfy the criteria. Color codes in figure 8 identify states that displayed the most movement. Those that rose by five or more places (colored green) were New Hampshire, Nebraska, Iowa, Wisconsin, and Minnesota. Those that fell by five or more places (colored orange) were Alabama, Hawaii, Oklahoma, Arkansas, Louisiana, Mississippi, and Rhode Island. Mississippi moved the most of any state, dropping by 11 in the rankings from 30th to 41st. Four of the five states that rose the most were from the Midwest, while four of the seven states that fell the most were from the South. High school graduation rates tend to be higher in the Midwest than in the South, so, all else being equal, accessions from the Midwest will be more likely to meet DoD's high-quality criteria than those from the South.

Marital status of active-duty enlisted personnel. With the advent of the all-volunteer force (AVF), the services have adopted family-friendly policies to lessen the perception of a tradeoff between serving in the military and raising a family. Figures 9 and 10 present some evidence of the services' success in becoming more family-friendly. Figure 9 compares the marital status of the FY 2009 male AC enlisted force with that of its civilian counterparts 17 through 44 years of age.[14] Figure 10 provides the same comparison for women.

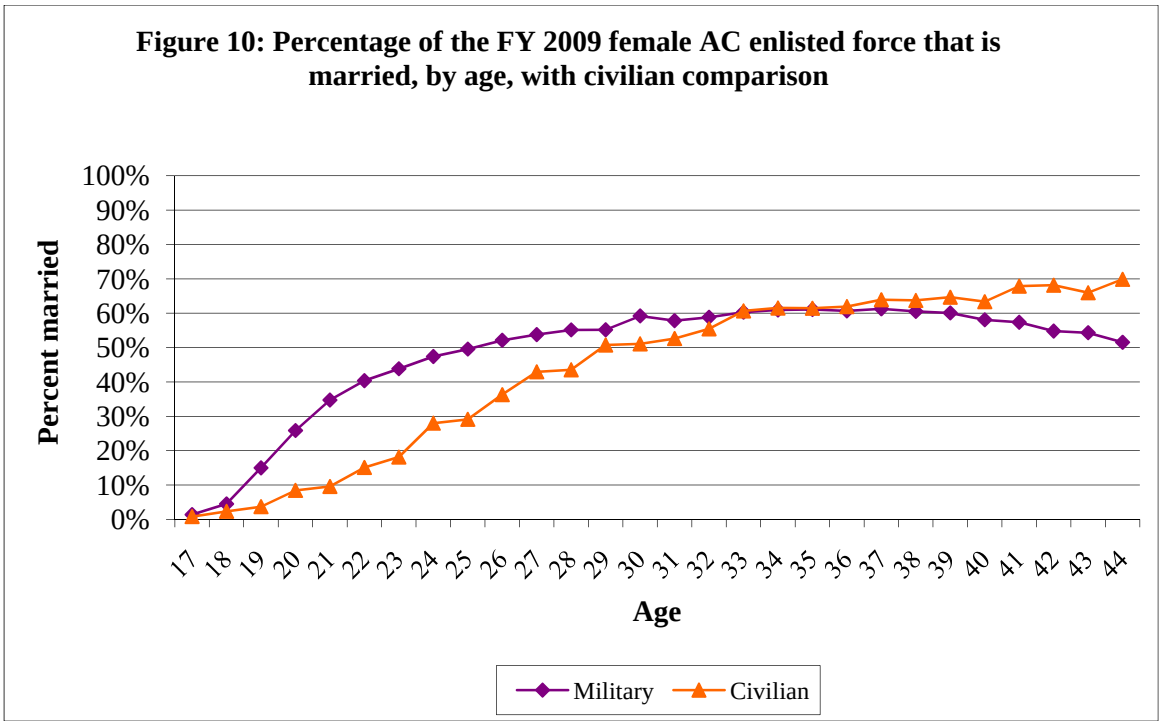
A comparison of the two curves reveals that enlisted men on active duty in FY 2009 were more likely to be married than their civilian counterparts. Only at age 17 were enlisted men less likely than civilians to be married. For 17-year-old men, 2.8 percent of civilians were married, compared with 1.8 percent of those who were enlisted on active duty.[15] Starting at age 18, men in the military were more likely to be married. Both curves display an upward slope, showing that the likelihood of marriage increases with age. The difference between the two curves was greatest at age 27, when 65.3 percent of enlisted AC males were married compared with 33.3 percent of male civilians—a 32.0-percentage-point gap. After that, the gap shrank as the military curve flattened out. By age 44, the gap had narrowed to 19.7 percentage points—the difference between the 87.8 percent of enlisted AC men who were married and the 69.1 percent of civilian men who were married.

For enlisted men, then, the FY 2009 data show that active-duty service is not incompatible with marriage. In fact, the data suggest that, for enlisted AC men, military service may be more compatible with marriage than a civilian job. The link is suggestive rather than conclusive: an alternative explanation is that men who are drawn to military service may possess traits that make them more likely to marry.

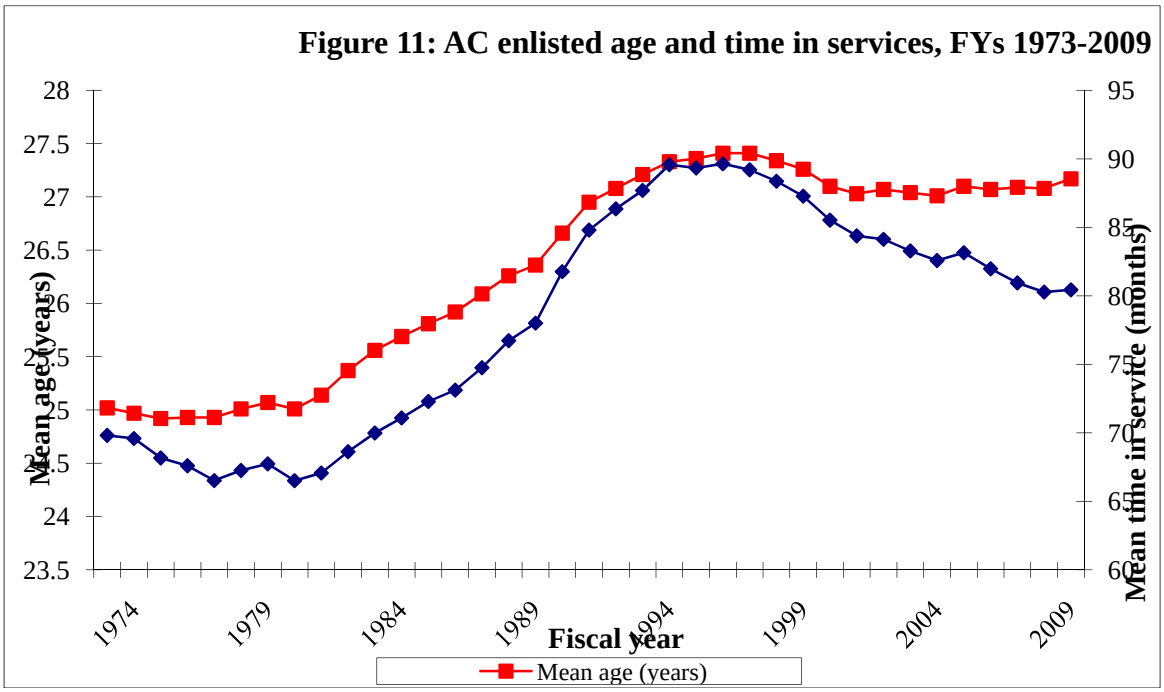
[14] We cut off figures 9 and 10 at age 45 because less than 2 percent of the 1.2 million members of the AC enlisted force in FY 2009 were age 45 or older.
[15] Male 17-year-olds were a tiny fraction of the enlisted AC force, accounting for less than one-tenth of 1 percent of the force in FY 2009.



It was a somewhat different story for enlisted AC women, as figure 10 shows. Once again, both the military and civilian curves trend generally upward, indicating a higher likelihood of marriage with age. From age 17 through their twenties, enlisted AC women are more likely to be married than their civilian counterparts. There is a crossover point where the curves intersect, at age 33. From age 33 on, enlisted AC women are less likely to be married than female civilians. The military curve levels off for the rest of the thirties and registers a slight decline in the early forties. By age 44, 69.9 percent of civilians were married versus 51.5 percent of enlisted AC women. The FY 2009 data suggest that the services may still have some work to do to make active-duty service fully compatible with marriage for female enlisted.



Seniority of the active-duty enlisted force. Today's enlisted force is a more senior force than in the past. Recruits are more likely to have spent time attending college after graduating from high school. After joining the military, they tend to serve longer, as a result of the services' intensified focus on retention. Figure 11 tracks the mean age and time in service for the AC enlisted force from FY 1973 through FY 2009.



The average AC enlisted member in FY 2009 was 27.2 years old and had served 80.4 months on active duty. Both metrics have moved together since FY 1973 (see figure 11),

although the movement in service time has been more pronounced than the movement in age (because the numbers are larger). They both rose during the Reagan-era defense buildup, peaked during the mid-1990s, and declined with the post-Cold War drawdown.

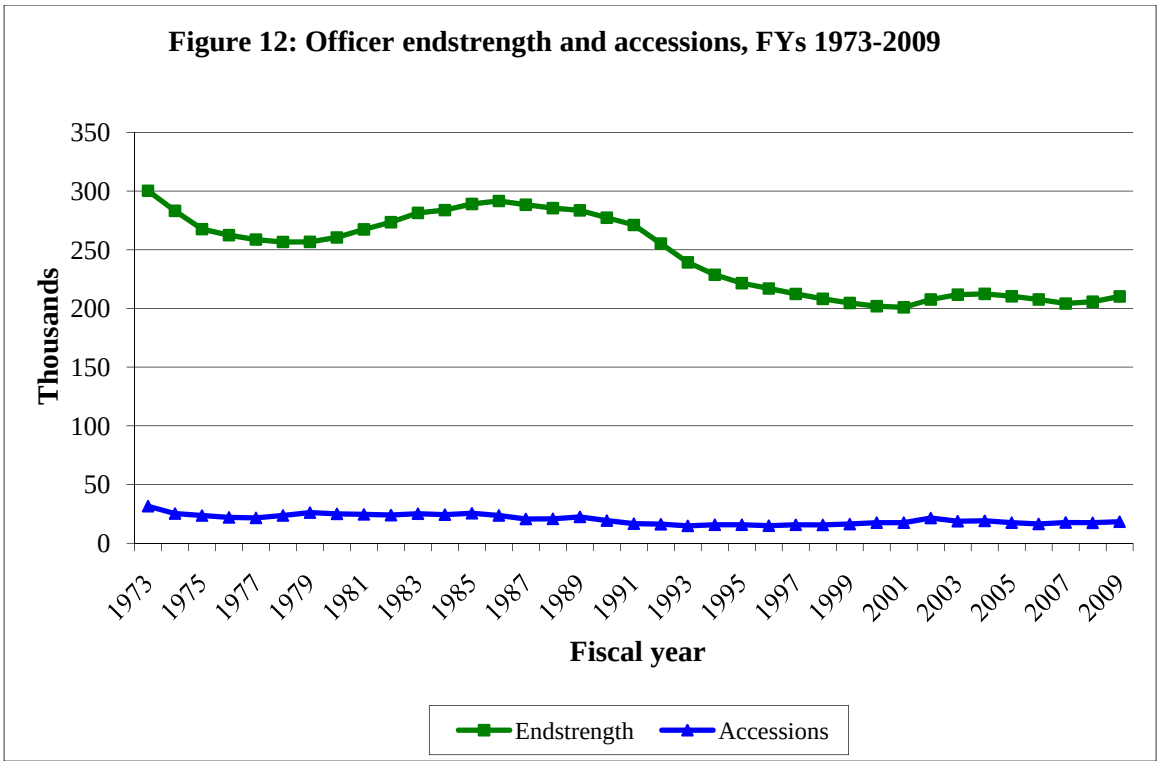
The Marine Corps was the youngest of the DoD services in terms of the age of its AC enlisted force: 66.6 percent of Marines were under age 25 in FY 2009. The corresponding under-25 age percentages of the other services were 42.0 percent in the Army, 43.0 percent in the Navy, and 38.9 percent in the Air Force. The Marine Corps also was the most junior DoD service in FY 2009, as the three most junior enlisted paygrades (E1, E2, and E3) accounted for 46.8 percent of its AC enlisted force. The Army, Navy, and Air Force were clustered together, with the bottom three paygrades accounting for 25 to 26 percent of their AC enlisted forces in FY 2009. The Marine Corps is younger and more junior than the other services because of its force structure and the expectation of higher turnover in its junior enlisted ranks. As such, a larger share of the Marine Corps is brand-new (or recent) accessions who are younger and occupy the lowest enlisted paygrades.

Seniority measures such as these are of interest because research has shown that the so-called hollow force of the late 1970s and early 1980s was linked to declines in seniority in terms of time in service and time in grade.[16, 17] Those seniority declines forced the services to rely more heavily on more junior personnel who lacked necessary skills. The relative seniority of today's force portends against a return to the hollow-force days.

Officer accessions and force

In FY 2009, the AC officer corps stood at an endstrength of 210,233. During the year, 18,332 officers were added to the active-duty rolls.[18] Of the services, the Army had the most officers, 75,619, and added the most officers, 7,875. The Army's 43.0-percent share of officer accessions exceeded its 36.0-percent share of the officer corps, which reflects the Army's recent growth relative to the other services. Figure 12 shows historic officer endstrength and accessions since the 1973 institution of the AVF.

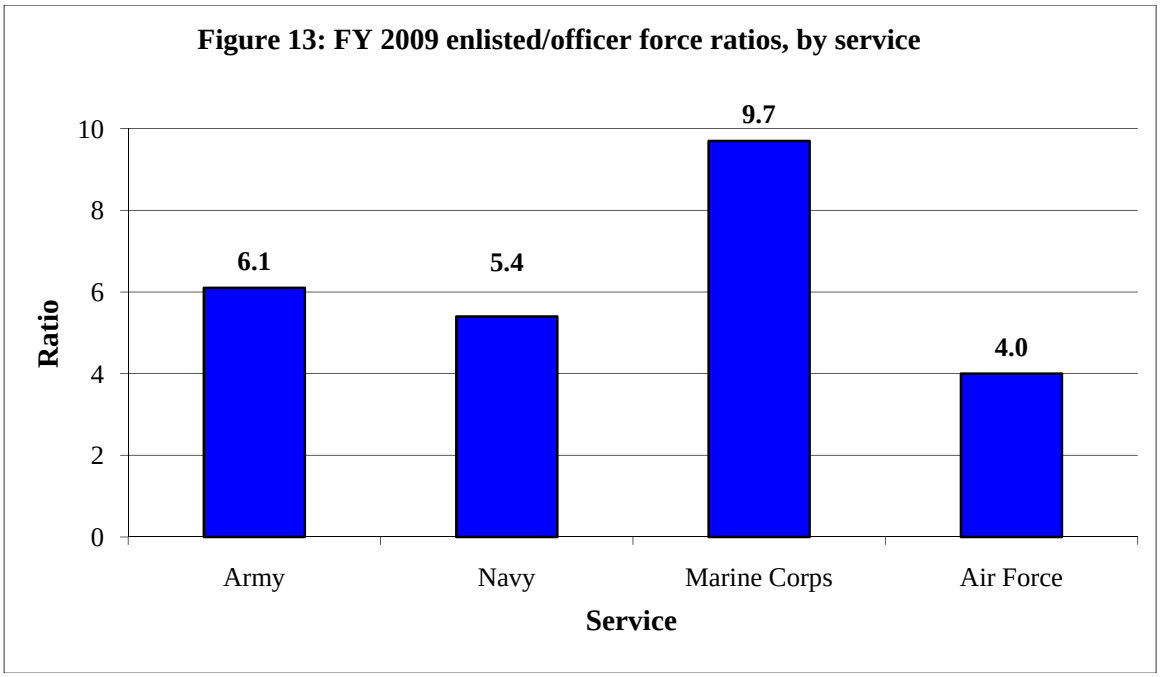
[16] The term "hollow force" dates to 1980 congressional testimony by General Edward "Shy" Meyer, who was at the time the U.S. Army Chief of Staff. A hollow force is one that lacks the trained personnel and equipment needed to perform its assigned missions.
[17] One such study was [2].
[18] The officer endstrength and accession figures in this section do not include warrant officers serving in the Army, Navy, or Marine Corps. No warrant officer program exists for the Air Force.



As figure 12 shows, officer endstrength and accessions have registered net declines since the early 1970s. The declines have not been steady, though. Steep declines in the late 1970s and early 1990s reflected the drawdowns from the Vietnam War and the Cold War. Increases from the Reagan administration buildup of the mid-1980s and the George W. Bush administration's response to the 9/11 attacks interrupted the overall downward trend. Neither increase fully offset the decline that had preceded it, so the overall downward trend in the size of the officer corps continued.

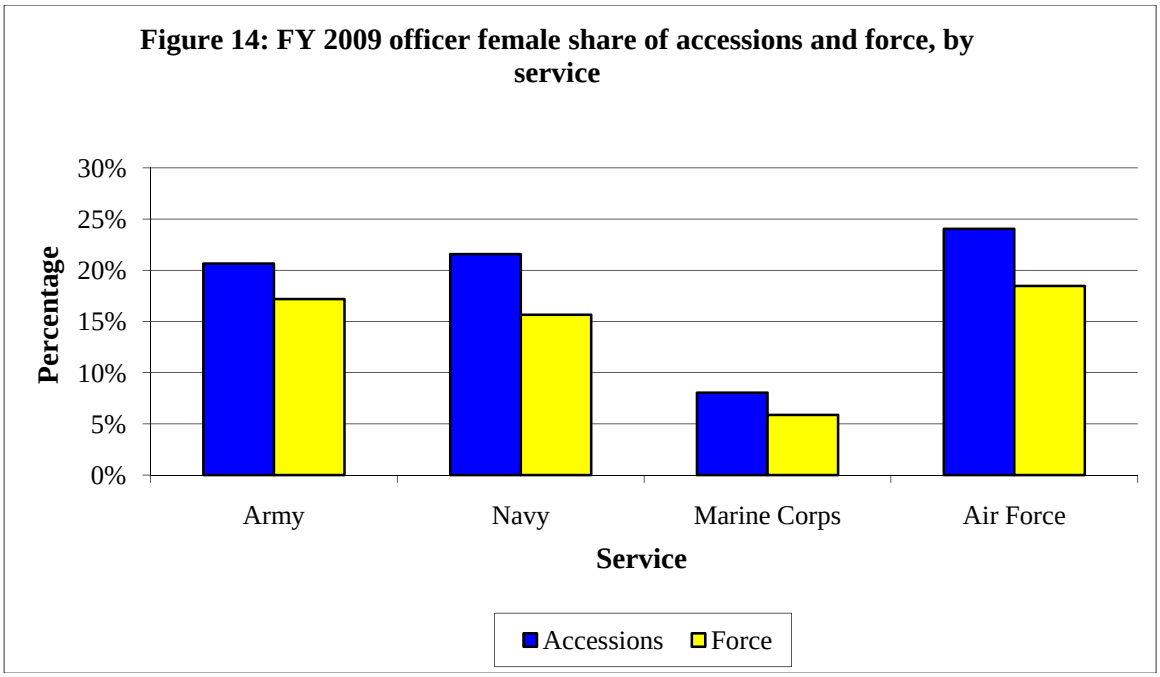
As noted earlier, the Army's officer corps was the largest of the services, accounting for more than one-third of all officers across the four services in FY 2009. The Army also had the most officer *accessions* in FY 2009, accounting for more than 40 percent of all officer accessions. The Army's larger share of accessions reflects its recent push to expand. For the other services, the Marine Corps held steady at just under 10.0 percent of the officer corps in FY 2009, while the Navy and Air Force saw their shares decline.

Each service has far fewer officers than enlisted personnel in its active-duty ranks. The ratios of enlisted personnel to officers reflect the services' different roles and missions. Figure 13 displays the FY 2009 active-duty enlisted/officer force ratios for the services.



In FY 2009, the Air Force was the most officer-heavy of the services, with the lowest ratio of enlisted personnel to officers (4.0). The Marine Corps was the least officer-heavy service, with the highest enlisted/officer ratio (9.7). The enlisted/officer ratios for the Army and Navy were close together (6.1 and 5.4, respectively). The relatively officer-heavy nature of the Air Force reflects that service's special responsibility for satellites and space systems. The Marine Corps is the least officer-heavy of the services because of its planned higher turnover in the most junior enlisted ranks. This means that relatively more new enlisted personnel must be brought in each year, which elevates the Corps' enlisted/officer ratio compared with those of other services.

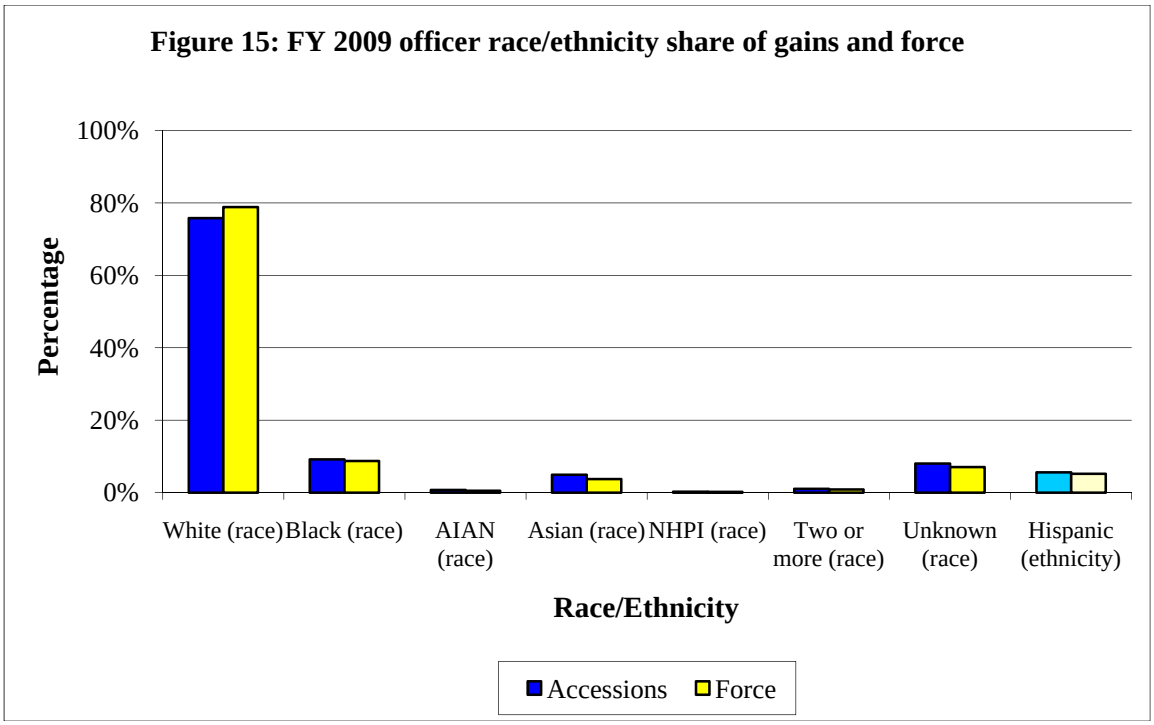
Women in the active-duty officer corps. For all the services, women make up an increasing share of the enlisted force; they also make up an increasing share of the officer corps. Figure 14 shows the female share of AC officer gains and the force in FY 2009, by service.



Overall, women made up 20.6 percent of AC officer gains and 16.2 percent of the AC officer corps in FY 2009. The 4.4-percent gap between the two indicated that the female share of FY 2009 accessions boosted the female share of the force. FY 2009 saw all four services make progress in their efforts to increase the female share of the officer corps. The Air Force was the service with the largest female shares of the gains and the force—24.1 percent of gains and 18.5 percent of the force. The Marine Corps had the smallest female percentages—8.1 percent of gains and 5.9 percent of the force.

Racial and ethnic groups in the active-duty officer corps. Looking to attract a more diverse officer corps, the military services have strengthened their recruitment efforts at historically black colleges and universities and those with large Hispanic student bodies. Figure 15 provides a racial and ethnic breakdown of AC officer gains and the force in FY 2009.

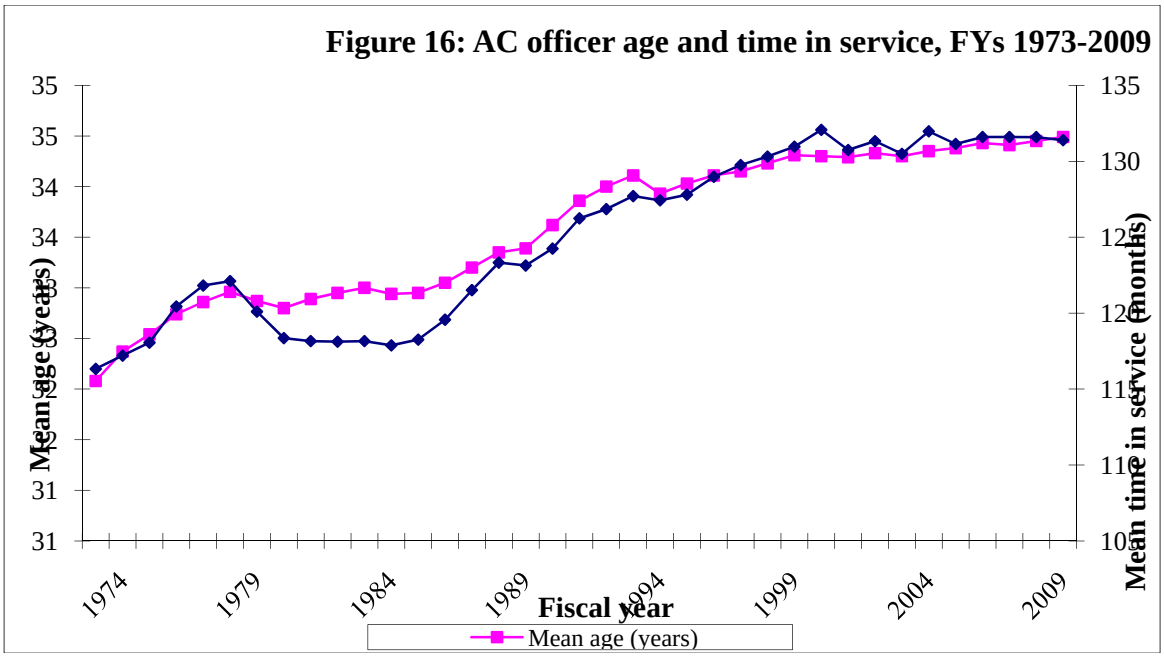
Whites composed 78.9 percent of the officer corps in FY 2009; the corresponding figure for the enlisted force was 68.8 percent (see figure 5). The 10-percentage-point difference was mirrored by a 10-percentage-point difference in the share of blacks: blacks accounted for 8.7 percent of the officer corps and 18.5 percent of the enlisted force. Unknowns represented 7.1 percent of the officer corps, while none of the other racial categories represented more than 5 percent. With regard to ethnicity, Hispanics accounted for 5.2 percent of the officer corps—less than their 11.7-percent share of the enlisted force. Hispanics made up 5.6 percent of officer accessions in FY 2009, a figure which slightly exceeded their share of the force. Excluding whites, each racial and ethnic group had a share of gains that approximated its share of the force (within 1 percentage point), which suggests that the services' advances in attracting a more diverse officer corps may have slowed.



Of the services, the Army had the highest nonwhite share of the officer corps in FY 2009—25.6 percent. The other services were clustered closely together in terms of their nonwhite force shares, with the Air Force at 19.3 percent, the Navy at 18.2 percent, and the Marine Corps at 17.4 percent. The Army, Navy, and Air Force all saw their FY 2009 accessions increase their nonwhite force shares. The increase in the nonwhite share of the force was marginal for the Army—a 0.5-percentage-point difference between the nonwhite share of gains and the nonwhite share of the force. It was greater for the Navy (a difference of 2.8 percentage points) and Air Force (6.9 percentage points). For the Marine Corps, the nonwhite share of FY 2009 officer gains was no different from the nonwhite share of the force. Because the Army accounted for the largest share (43.0 percent) of FY 2009 officer gains, it had the greatest effect in slowing the overall growth rate of the AC officer corps' nonwhite share.[19]

Seniority of the active-duty officer corps. Today's AC officer corps is the most senior since the advent of the AVF. Figure 16 displays two seniority measures for the AC officer corps, age and time in service, back to FY 1973.

[19] The Army's FY 2009 reporting for both officer gains and the force was missing the NHPI and Two or more races fields. Any service-level comparisons involving the Army are skewed by this exclusion.



Both seniority measures have risen slowly but steadily since the mid-1970s. In FY 2009, the average officer was 34.5 years old. Time in service averaged 131.4 months. The FY 1973 averages for both metrics were 32.1 years and 116.3 months, respectively. The greater seniority of today's AC officer corps in figure 16 mirrors the greater seniority of today's AC enlisted force in figure 11. Together, they suggest that a return to the hollow force is unlikely in the near future.

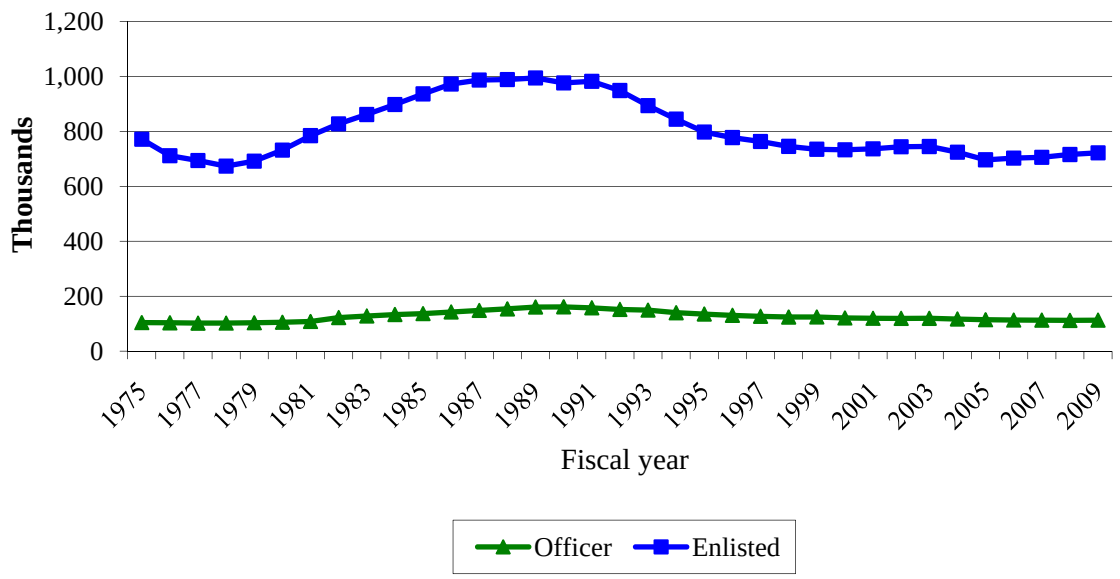
It was shown earlier that the Marine Corps is the youngest and most junior of DoD's services in terms of its AC enlisted force in FY 2009. The Marine Corps also is the youngest and most junior service in terms of its FY 2009 AC officer corps. The other DoD services were clustered together in terms of their officers' age and seniority. In fact, 41.3 percent of the Marine Corps' AC officer force was under 30 in FY 2009. The under-30 shares for the other services ranged between 31 percent and 34 percent. By paygrade, 65.9 percent of Marine Corps officers were in the three most junior officer paygrades. The other services' shares in these paygrades ranged between 57 percent and 60 percent. The Marine Corps' planned higher turnover in the lower paygrades drives these age and seniority differences.

Section III: The DoD reserve component[20]

Endstrength

The DoD RC consists of six elements: the Army National Guard (ARNG), the Army Reserve (USAR), the Navy Reserve (USNR), the Marine Corps Reserve (USMCR), the Air National Guard (ANG), and the Air Force Reserve (USAFR). Historically, the ARNG and USAR have together accounted for the bulk of the reserve. In FY 2009, 845,888 officers and enlisted personnel made up the RC. Figure 17 tracks RC officer and enlisted endstrength for the 35 years since FY 1975.

Figure 17: RC endstrength, FY 1975-2009

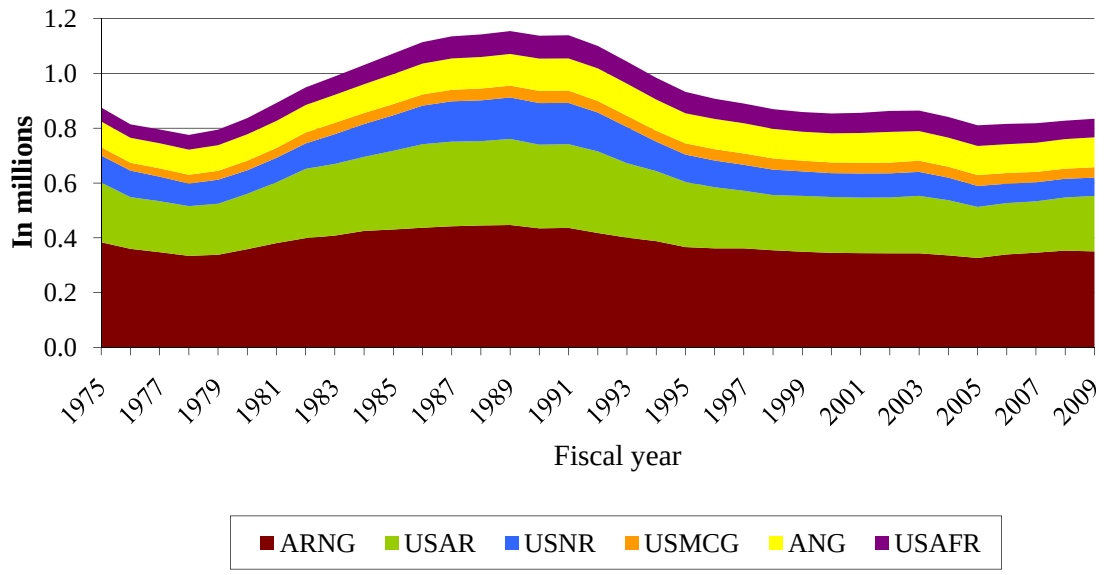


RC endstrength, both officer and enlisted, has been relatively stable over the last decade. The preceding quarter-century witnessed some sizable swings. During the late 1970s, there was a decline in reserve endstrength that corresponded with the post-Vietnam War drawdown. That was followed by a larger increase under the Reagan-era buildup, and then another decline with the post-Cold War drawdown. Because the enlisted numbers in figure 17 are so much larger than the officer numbers, the variation in enlisted endstrength is more apparent than the variation in officer endstrength. In proportionate terms, though, both enlisted and officer reserve endstrength have moved in tandem. Both rose sharply during the 1980s, peaked in FY 1990, and by FY 2009 were well off their peak levels. RC endstrength in FY 2009 stood at 112,979 officers and 721,958 enlisted

[20] In this section, we focus on the Selected Reserve (SELRES), which is that part of the Ready Reserve consisting of reserve units, as designated by the Secretary concerned, and of individual reservists, in pay status, required to participate in Inactive Duty for Training periods and annual training. The SELRES also includes Active Guard and Reserve and Individual Mobilization Augmentees. (See Section 10143 of 10 U.S.C. (reference (c)).)

personnel.[21] Figure 18 shows how that RC endstrength was distributed among the six RC service elements from FY 1975 through FY 2009.

Figure 18: RC endstrength, by service element, FY 1975-2009

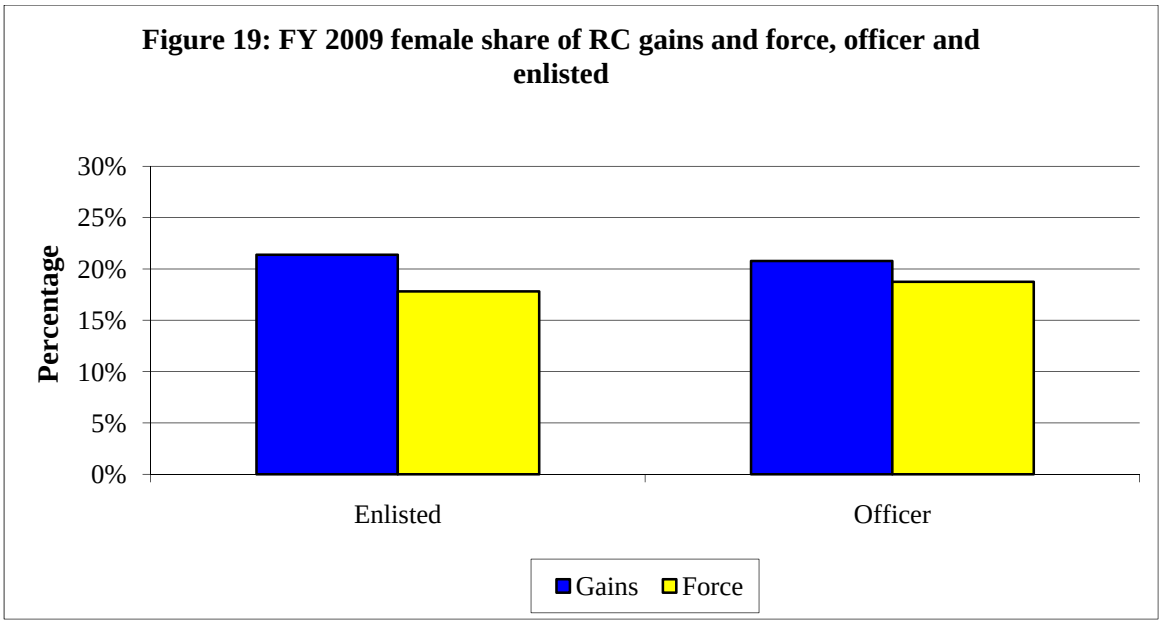


Of the six RC service elements, the Army National Guard has consistently been the largest. Its 350,865 citizen-soldiers in FY 2009 represented 42.0 percent of DoD's reserve force endstrength, followed by the Army Reserve (24.2 percent), Air National Guard (13.1 percent), Air Force Reserve (8.1 percent), Navy Reserve (8.0 percent), and Marine Corps Reserve (4.6 percent). Nearly two-thirds of the reserve force is associated with the Army: the Army National Guard and Army Reserve.[22] The two reserve elements of the Air Force, the Air National Guard and Air Force Reserve, are together more than twice as large as the Navy's reserve element, the Navy Reserve. The Marine Corps, the smallest of the DoD services, had the smallest reserve element in FY 2009.

Women and racial/ethnic groups in the reserve component

The RC, like the AC, has been striving to attract more women and minorities into its ranks. Figure 19 provides the female share of RC gains and the force in FY 2009.[23] Figures 20 and 21 do the same for racial and ethnic groups in the RC enlisted force and officer corps.

[21] Warrant officers have been excluded because historic reserve data dating back to FY 1975 do not include warrant officers.
[22] The Army's historically greater reliance on the Reserve dates back to the U.S. Constitution, which states in Article I that Congress shall have power "to raise and support Armies" and to "provide and maintain a Navy." The distinction between "raise and support" and "provide and maintain" was intended by the document's framers to discourage a standing Army but not a standing Navy.
[23] The RC gains, like the AC gains, only include NPS accessions.



The female shares of the RC's enlisted and officer forces were very similar in FY 2009, as figure 19 shows. Less than a single percentage point separated the female share of enlisted gains (21.4 percent) and the female share of officer gains (20.8 percent). One percentage point separated the female share of the enlisted force (17.8 percent) and the female share of the officer corps (18.8 percent). For RC enlisted and officers, the female share of gains exceeded the female share of the force, meaning that FY 2009 gains increased the female share of the force.

A comparison of the RC and the AC shows that women accounted for a larger share of the RC force than the AC force. A 3.7-percentage-point gap separated the 17.8-percent female share of the RC enlisted force from the 14.1-percent female share of the AC enlisted force (from figure 4). The difference between the 18.8-percent female share of the RC officer corps and the 16.2-percent female share of the AC officer corps (from figure 14) was 2.6 percentage points.

Women made up a larger share of the Air Force Reserve than any of the other reserve elements in FY 2009—24.9 percent of its enlisted force and 25.3 percent of its officer corps. The Air Force Reserve also had the highest share of FY 2009 female gains—33.7 percent of its enlisted gains and 29.3 percent of its officer gains were women. All but one of the six reserve elements saw their FY 2009 gains boost their female share of the enlisted force. The exception was the Marine Corps Reserve, for which women were 3.1 percent of enlisted gains against 4.7 percent of the enlisted force. All six service elements saw their FY 2009 female officer gains boost their female officer shares of the force.

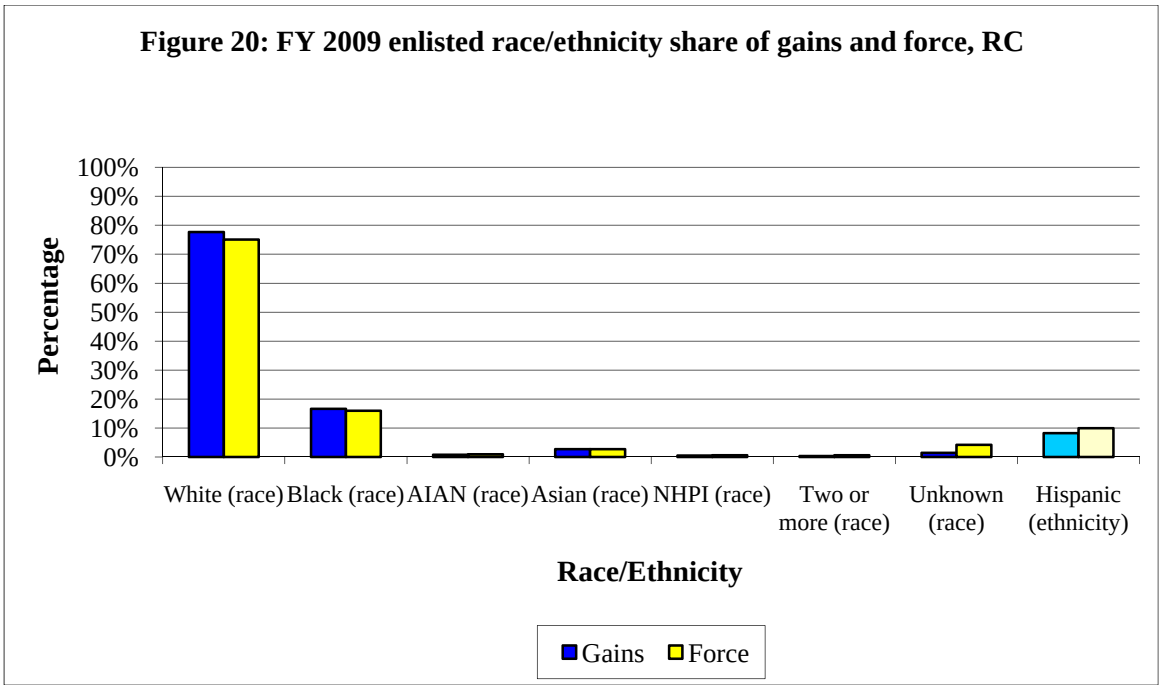


Figure 20 shows that whites accounted for roughly three-fourths of NPS enlisted RC gains and the RC force in FY 2009, followed by blacks at just under 20 percent of both gains and the force. None of the other racial categories accounted for more than 5 percent of either gains or the force. In terms of ethnicity, Hispanics made up 8.2 percent of gains and 9.8 percent of the force. Nonwhite RC gains in FY 2009 did not boost the nonwhite share of the RC force, nor did Hispanic RC gains boost the Hispanic share of the force.

Whites constitute slightly more of the RC than they do of the AC; the white share of the RC force is 75.0 percent, compared with 68.8 percent of the AC force. The 6-percentage-point difference is offset by smaller RC shares for the two racial categories of AIAN and Two or more races. A comparison of the RC and AC shows that Hispanics make up a smaller share of the RC (9.8 percent) than the AC (11.7 percent).

The Navy Reserve was the service element with the largest nonwhite share of its enlisted force—36.2 percent. The Air National Guard had the smallest nonwhite share—18.4 percent. The Navy Reserve reported that 6.7 percent of its gains and 4.0 percent of its force was of multiple races; none of the other services reported more than 2.0 percent of gains or of the force as being in the multirace category.[24] The Navy may be more active than the other services in targeting potential recruits with multirace backgrounds, or this may simply be the result of reporting differences. Nonwhite gains boosted the nonwhite share of the force for the Navy Reserve and the Air Force Reserve.

The Hispanic share of gains varied widely between the six service elements, from a high of 20.3 percent for the Navy Reserve to a low of 1.9 percent for the Air National Guard.

[24] The Navy is an outlier in terms of its multirace reporting for the AC as well.

There was less variation among the service elements' Hispanic force shares. As previously noted, service-level comparisons with the Army should be made with caution.

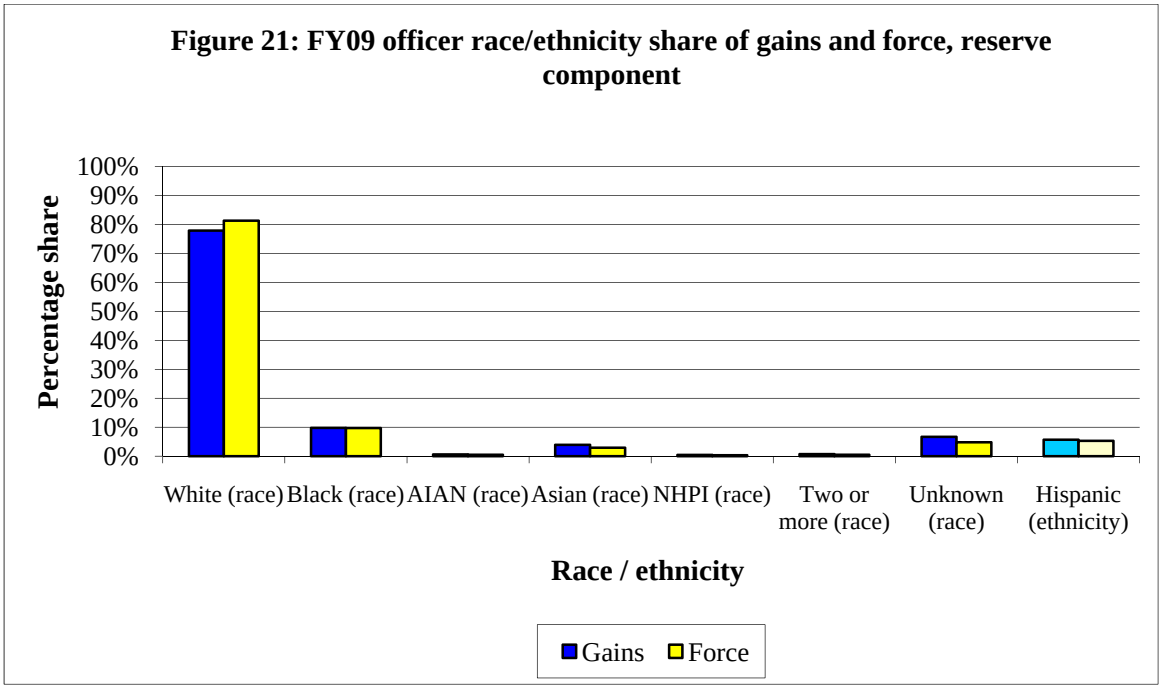


Figure 21 shows the racial/ethnic distribution of the RC officer gains and force. Nonwhite RC gains slightly boosted the nonwhite share of the RC force in FY 2009, with nonwhites composing 22.1 percent of gains compared with 18.7 percent of the force. By ethnicity, Hispanics made up 5.7 percent of FY 2009 gains compared with 5.3 percent of the FY 2009 force, which boosted their force share as well.

Comparing figure 21 (for the RC officer corps) with figure 15 (for the AC officer corps), we see that the racial/ethnic distributions are very similar. Whites make up 78.9 percent of the AC officer force—a percentage that was within 3 percentage points of their percentage of the RC officer corps. The Hispanic shares of the AC and RC officer corps were nearly identical.

The nonwhite shares of the services' RC officer corps ranged from a high of 26.7 percent for the Army Reserve to a low of 11.7 percent for the Air National Guard.[25] Nonwhite gains boosted the nonwhite share of the force for all six service elements. The one with the smallest nonwhite share of the force, the Air National Guard, saw its nonwhite gains increase its nonwhite share of the force by the most; 16.6 percent of its FY 2009 gains were nonwhite, compared with 11.7 percent of its FY 2009 force.

[25] Inclusion of the missing race fields in the Army reporting would increase the nonwhite shares of both the Army Reserve and the Army National Guard.

Section IV: The U.S. Coast Guard

The smallest of the five military services, the U.S. Coast Guard, operates under the Department of Homeland Security (DHS) in peacetime. In wartime, authority for the service may be transferred to DoD. Title 14 of the United States Code governs this transfer of authority.[26]

U.S. Coast Guard AC endstrength stood at 8,364 officers and 34,062 enlisted personnel in FY 2009. Its FY 2009 reserve endstrength was 1,392 officers and 6,301 enlisted personnel. During the FY, the AC added 758 officers and 3,861 enlisted personnel; the RC added 173 officers and 950 enlisted personnel.

Quality of enlisted applicants and accessions

Like the other military services, the Coast Guard administers the ASVAB to civilians who are considering joining its enlisted ranks. It also is selective in its acceptance of applicants. Strong preference is given to those whose ASVAB score translates into AFQT category I, II, or IIIA. Figure 22 compares the AFQT score distributions in FY 2009 for Coast Guard applicants and enlisted accessions.

Figure 22: FY 2009 AFQT score distribution for enlisted U.S. Coast Guard applicants and accessions

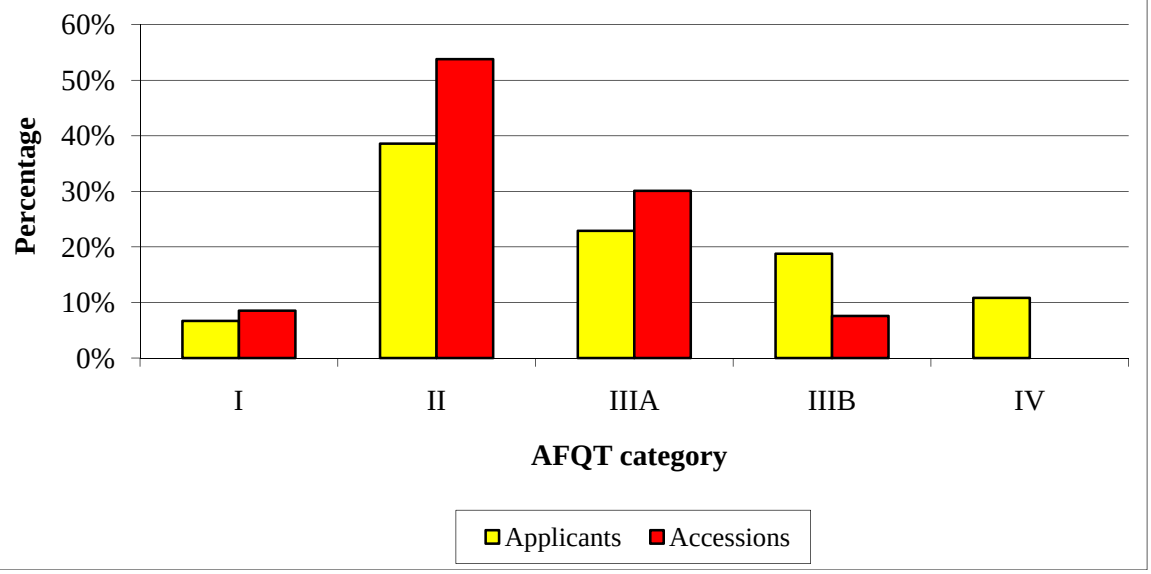


Figure 22 reveals the Coast Guard to be the most selective of the services, in terms of recruits' AFQT scores. In FY 2009, 92.4 percent of Coast Guard recruits registered

[26] Section 3 of Title 14 provides that, upon declaration of war and if Congress or the President so directs, the Coast Guard shall operate as a service in the Navy until the President transfers the service back to DHS.

ASVAB scores that placed them in AFQT categories I, II, and IIIA (8.5, 53.8, and 30.1 percent, respectively). The comparable category I-IIIA percentage for the Air Force, the DoD service with the highest share, was 81.0 percent. The average for the four DoD services was 72.2 percent. The Coast Guard's applicant pool was nearly as qualified as the other services' accession pool, in that 70.4 percent of those who applied to the Coast Guard scored in categories I-IIIA.

Other recruit quality measures are educational tier and the fraction of high-quality recruits. A Tier I recruit is typically one who possesses a high school diploma, and a high-quality recruit is one who falls into both Tier I and AFQT categories I-IIIA. By those measures, FY 2009 accessions into the Coast Guard were 98.8 percent Tier I and 91.2 percent high-quality. For the Air Force, the most selective of the DoD services in FY 2009, the corresponding Tier I and high-quality shares were 98.1 percent and 79.3 percent. The averages for the four DoD services were 92.9 percent and 66.1 percent, respectively.

For all three recruit quality measures, then, the Coast Guard, the smallest of the five services, was the most selective in FY 2009.

Women and racial/ethnic groups in the Coast Guard

The Coast Guard, like the other services, strives to build a more diverse force. Figures 23, 24, and 25 track the service's progress on a variety of diversity measures.[27]

Figure 23 shows that Coast Guard female gains in FY 2009 boosted the female share of the force at all levels: enlisted and officer, AC and RC. The female share of gains was at least 5 percentage points higher than the female share of the force for each of the four personnel categories. Women accounted for 13.3 percent of the Coast Guard's AC force of officers and enlisted personnel in FY 2009. For the Coast Guard's RC, the female share of the force in FY 2009—officers plus enlisted—was 15.7 percent.

In the Coast Guard AC, whites constituted slightly more than three-quarters of the enlisted gains and the enlisted force in FY 2009, as figure 24 indicates. The comparable shares of gains and the force for whites in the other military services were closer to 70 percent (see figure 5). The Coast Guard's AC enlisted force is slightly more white, in proportionate terms, than the AC enlisted force of the other services. Blacks made up 5.7 percent of the force and 4.7 percent of gains. Those who identified with two or more racial categories composed 10.3 percent of gains—twice their 5.0 percent of the force. The unknown category accounted for nearly 10 percent of the force. Hispanic gains were 14.6 percent compared with 11.9 percent of the force; the comparable Hispanic shares for the other military services were 15.8 percent of gains and 11.7 percent of the force.

[27] To maintain consistency with the discussion in Sections II and III, figures 23 through 25 do not include warrant officers and enlisted accessions only reflect NPS accessions.

Figure 23: FY 2009 U.S. Coast Guard female share of gains and force, officer and enlisted, active and reserve

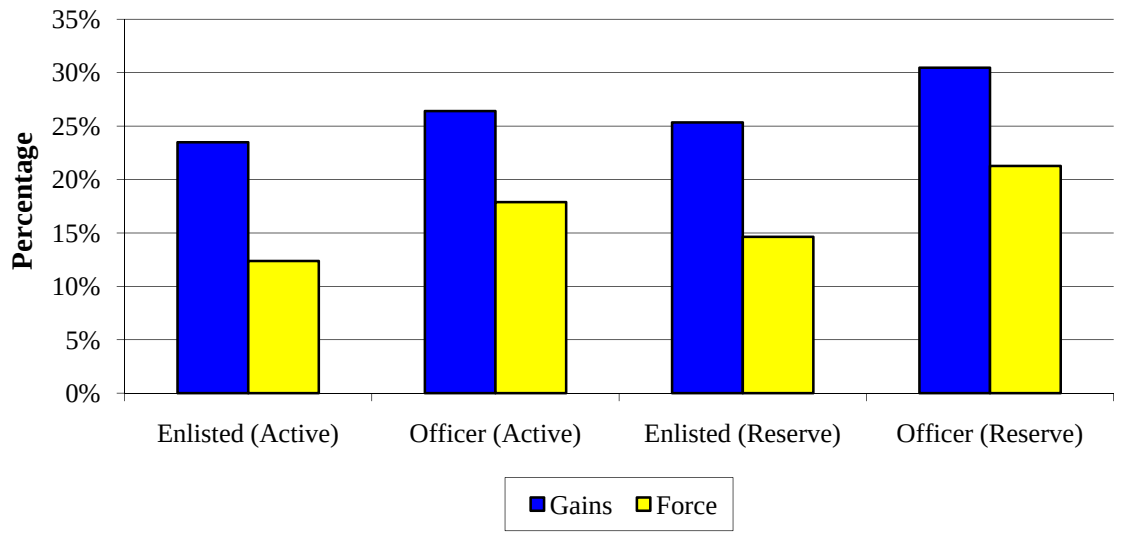
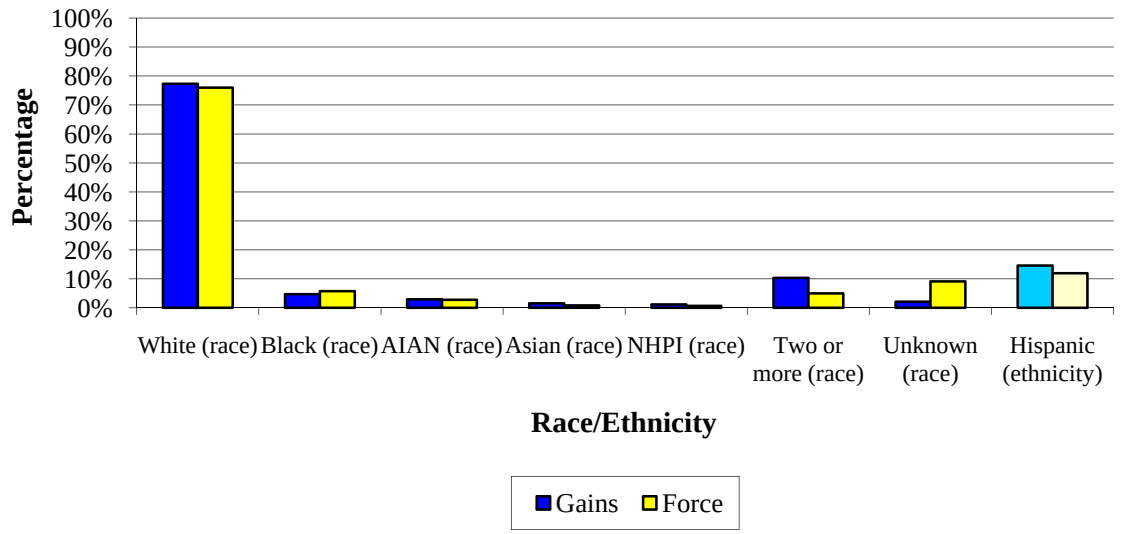


Figure 24: FY 2009 U.S. Coast Guard enlisted race/ethnicity share of gains and force, active component

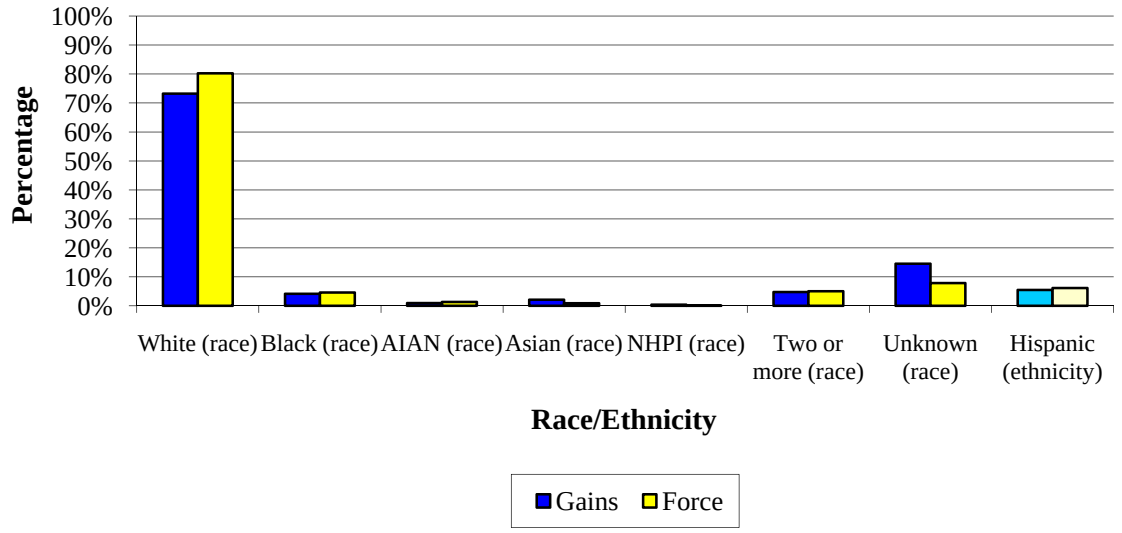


On balance, the Coast Guard enlisted force was similar to the enlisted forces of the other services in FY 2009. Each saw a leveling off of advances in terms of racial (nonwhite) diversity, but not in terms of ethnic (Hispanic) diversity.

The Coast Guard AC enlisted force had a slightly higher share of whites than the other military services; the Coast Guard AC officer corps did not, as figure 25 reveals. Whites accounted for 80.2 percent of the force and 73.2 percent of gains in FY 2009. The comparable shares for whites in the other military services were 75.8 percent and 78.9 percent, respectively (see figure 15). The second-largest race category for Coast Guard

AC officers was the Unknown race category. Its share was 14.5 percent of gains and 7.9 percent of the force. After that, it was the Two or more category with 5.0 percent of the force and blacks with 4.6 percent of the force. Hispanics were 6.1 percent of the force, against an average of 5.2 percent for the other military services.

Figure 25: FY 2009 U.S. Coast Guard officer race/ethnicity share of gains and force, AC

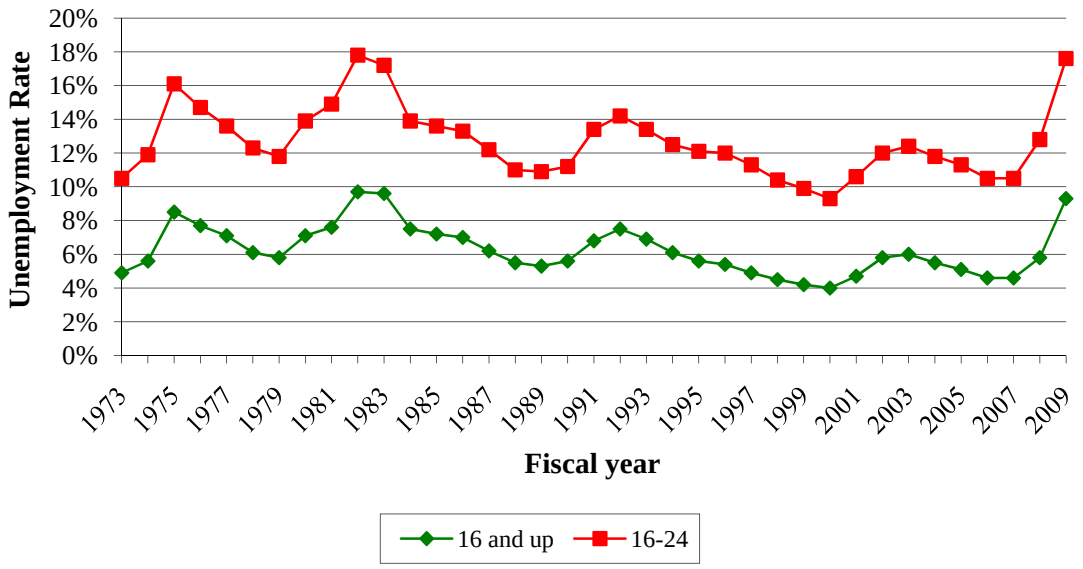


The data show that, in FY 2009, the Coast Guard officer corps advanced in racial (nonwhite) diversity, but those advances were almost entirely in the Unknown race category. To the extent that some of those newly commissioned officers of unknown race were white, nonwhite gains would be mitigated. Improved reporting fidelity may reduce the unknown race share of Coast Guard officer gains (and the officer corps). There also was a slowing of advances in ethnic (Hispanic) diversity for the Coast Guard officer corps—the 5.5-percent Hispanic share of FY 2009 officer gains was smaller than the 6.1-percent Hispanic share of the FY 2009 officer corps.

Special focus: Impact of labor market conditions on accession quality

The civilian economy from which recruits enter the military worsened dramatically in FY 2009. The economy had already slid into recession, but the unemployment rate rose steeply during the year.[28] At the start of the FY, in October 2008, the nationwide unemployment rate for those in the labor force age 16 and older stood at 6.6 percent. By the end of the FY, in September 2009, the rate had surged to 9.8 percent—its highest level in over 25 years. One month later, it topped 10 percent and remained above that level for another 2 months. Figure 26 plots two U.S. unemployment rate measures—the rate for those age 16 and over in the labor force and the rate for those age 16 to 24 in the labor force.[29]

Figure 26: Civilian U.S. unemployment rates, FY 1973-2009



The civilian job market deteriorated markedly in FY 2009. As figure 26 shows, the nationwide unemployment rate for the civilian labor force age 16 and over (the most commonly cited unemployment rate measure) averaged 9.3 percent for the year. For the age 16-24 subset of the labor force—from which the military disproportionately draws its recruits—the rate stood at 17.3 percent. Both rates were up steeply from the year before and stood at their highest levels since the recession of the early 1980s. That recession, in turn, saw the highest unemployment rates since the Great Depression.[30]

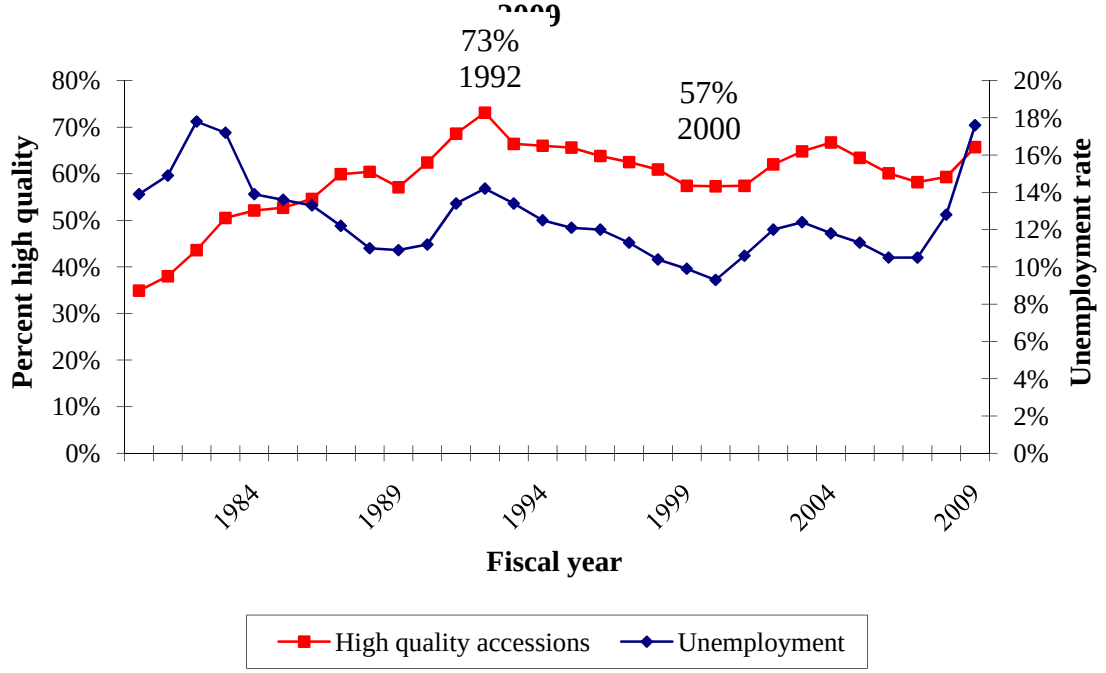
[28] According to the National Bureau of Economic Research (NBER), the recession began in December 2007.
[29] The U.S. Bureau of Labor Statistics (BLS) tracks and reports both measures.
[30] During that recession, the nationwide unemployment rate peaked at 10.8 percent in November and December 1982.

In this section, we use the data in appendix D of this report to investigate the relationship between labor market conditions and overall accession quality. We consider accessions across all of DoD and show the effect of labor market conditions on accession quality.

Our measure of labor market conditions is the unemployment rate for 16- to 24-year-olds reported in table D-2 of this report. To measure accession quality, we use the percentage of all accessions who are high quality.[31] A high-quality accession has an AFQT score in category I, II, or IIIA—the top 50 percent of the AFQT distribution—and also has a high school diploma (Tier I).

Figure 27 presents the two measures back to 1980. Since 1980, the United States has suffered through four recessionary periods. The first was in the early 1980s, when the unemployment rate for 16- to 24-year-olds peaked at 17.8 percent in 1982. The second was in the early 1990s, when the unemployment rate peaked at 14.2 percent. The third came less than a decade ago, when unemployment rose from 9.3 percent in 2000 to 12.4 percent in 2003. The latest recession resulted from the recent financial crisis, that caused unemployment among 16- to 24-year-olds to rise to 17.6 percent in 2009.

Figure 27: The share of high-quality accessions and the unemployment rate for 16- to 24-year-olds, FYs 1980 through 2009



During each of these periods of increasing unemployment, the percentage of accessions categorized as high quality also increased. From FY 1980 to FY 1982, the share rose from 35 percent to nearly 44 percent. From FY 1990 to FY 1992, the share rose from 62 to 73 percent. From FY 2000 to FY 2003, the share rose from 57 to 65 percent. Finally, during the latest recession, the share rose from 58 percent in FY 2007 to 66 percent in FY 2009.

[31] The data on high-quality accessions come from table D-9.

Since the early 1990s, decreases in unemployment have been associated with decreases in the share of accessions that are of high quality. For instance, between FYs 1992 and 2000, the share fell from 73 to 57 percent; between FYs 2003 and 2007, the share fell from 65 to 58 percent. This confirms a strong positive correlation between changes in labor market conditions and the proportion of high quality accessions.

List of acronyms

AC	Active Component
AFQT	Armed Forces Qualification Test
AIAN	American Indian/Alaskan Native
ANG	Air National Guard
ARNG	Army National Guard
ASVAB	Armed Services Vocational Aptitude Battery
AVF	All-Volunteer Force
BCT	Brigade Combat Team
BLS	Bureau of Labor Statistics
CNA	Center for Naval Analyses
CRS	Congressional Research Service
DMDC	Defense Manpower Data Center
DoD	Department of Defense
DHS	Department of Homeland Security
FY	Fiscal Year
GED	General Educational Development certificate
NBER	National Bureau of Economic Research
NHPI	Native Hawaiian/Pacific Islander
NPS	Non-Prior Service
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
PopRep	Population Representation Report
PS	Prior Service
RC	Reserve Component
SELRES	Selected Reserve
USAFR	U.S. Air Force Reserve
USAR	U.S. Army Reserve
USMCR	U.S. Marine Corps Reserve
USNR	U.S. Navy Reserve

Source data for tables and figures

Table 1	Tables B-1, B-12, B-15, B-30, B-34, C-1, C-8, C-11, C-16, C-17, C-28, E-5, E-10, E-12, E-18, E-19, E-20, E-22, E-24, E-28, E-29
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Table 2	Tables A-4, A-5, B-4, and B-5
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Figure 24	Tables E-6 and E-13
Figure 25	Table E-16
Figure 26	Table D-2
Figure 27	Tables D-2 and D-9

References

[1] Amy Belasco. *Troop Levels in the Afghan and Iraq Wars, FY2001-FY2010: Cost and Other Potential Issues*, 2009 (U.S. Congressional Research Service Report R40682)

[2] Laura Junor and James Jondrow. *A Measure of the Quality of Our Forces*, 1997 (CNA Annotated Briefing 97-31)