

# **Recruiting an All-Volunteer Force:**

The Need for Sustained  
Investment in Recruiting  
Resources—An Update

**Barbara A. Bicksler and Lisa G. Nolan**



**Barbara A. Bicksler**

A senior analyst at Strategic Analysis, Inc., Barbara Bicksler specializes in writing and research on military manpower and personnel issues. She also manages the Defense Science Board program at Strategic Analysis.

**Lisa G. Nolan**

A former aide to Senate Majority Leader George Mitchell, Lisa Nolan is a private consultant who has worked on a wide range of public policy concerns, including federal fiscal policy and workforce policy.

# Preface

.....

Successful recruiting is essential to sustaining an all-volunteer force. If the military services do not attract the number and quality of recruits needed, other force management activities will be of little consequence. Yet, recruiting can be a challenging endeavor shaped by a confluence of factors—some favorable, some unfavorable, some within the control of the Department of Defense, and others that are not. Today, military recruiters face unstable economic conditions spawned from widespread recession, sustained conflicts in Afghanistan and Iraq, a large segment of the youth population pursuing college or ineligible for military service, and fewer role models encouraging young people to join the military.

To counter these impacts, the department invests in an array of recruiting resources, including recruiters, advertising, enlistment bonuses, and educational benefits. It is important to understand how these and other factors affect the military's ability to enlist high-quality youth—the subject addressed in this paper, an update of an earlier effort published in 2006. While some of the factors that affect the recruiting environment have changed since 2006—most notably the economic downturn that began in 2008—our conclusions remain the same. Stable and sizeable investments in recruiting resources, over the long term, are necessary to maintain recruiting success in the future and, in turn, the viability of the all-volunteer force.

The authors are extremely grateful to the many people whose important contributions made both the original paper and this update possible, including the numerous economists and researchers whose work on recruiting issues forms the basis of this paper.

The project was undertaken for the Directorate of Accession Policy of the Under Secretary of Defense for Personnel and Readiness in the Department of Defense. The authors wish to thank Dr. Curtis Gilroy for sponsoring this project, and for his invaluable guidance and direction throughout the process. We greatly appreciate the contributions of Christopher P. Arendt, Robert E. Clark, Dennis J. Drogo, John H. Jessup, and Dr. Jane Arabian—all of the accession policy directorate—as well as Matt Boehmer of the Joint Advertising, Market Research and Studies program, for their assistance with research and data collection, and for their help in developing the paper's many figures and tables.

The authors also thank Dr. Beth J. Asch, RAND, and Dr. John T. Warner, Clemson University, for their review of this manuscript. Their advice and insights were indispensable, and greatly improved the quality, relevance, and timeliness of the paper. Thanks also go to Greg Byerly, Strategic Analysis, Inc., for his outstanding work on the design and publication of the document, and Kevin Leonard, The Leonard Group, for his meticulous editing.







# Introduction

Since abolishing the draft in 1973, the United States has relied on an all-volunteer force to sustain its military. During the early years of the volunteer force, some feared that the military would be unable to attract enough enlistees, and that the quality of volunteer recruits would be much lower than the quality of a conscripted force. Those fears were not realized. For more than 35 years, the United States has maintained a highly skilled, well-trained, and professional volunteer military. The force has excelled in a wide range of combat, peacekeeping, and multinational missions. It is the standard for military superiority in the 21st century.

Effective recruiting is essential in sustaining the all-volunteer force. Each year the U.S. military recruits about 180,000 new enlistees to maintain an active duty enlisted force of approximately 1.16 million men and women. The fiscal year 2009 recruiting target was 163,896 enlistments, with service goals of 65,000 for the Army; 35,500 for the Navy; 31,413 for the Marine Corps; and 31,983 for the Air Force.<sup>1</sup> In an all-volunteer force, the military services compete with colleges and private sector firms for recruits. Thus, changes in the private sector employment market, as well as the draw of a college education, can have significant effects on recruiting. Current military operations, such as the ongoing campaigns in Iraq and Afghanistan, impact recruiting as well.

For much of the time since the inception of the all-volunteer force, the Department of Defense (DOD) has been remarkably successful in meeting its recruiting targets, particularly since the early 1980s. Since 1982, the department as a whole has missed its annual recruiting target only twice—in 1998, during a time of extremely low unemployment, and more recently in 2005, when a confluence of factors made the recruiting environment particularly difficult.<sup>2</sup> But, overall, it has been an era of recruiting achievement.

In addition to numerical recruiting targets, the department also has goals for the overall quality of new recruits. A substantial portion of each service's new enlistees must meet DOD's standards for high quality, which are measured in terms of both educational achievement and training aptitude. To ensure high quality in the force, the department's standards call for 90 percent of each

- 
1. These figures are enlistment goals rather than contract goals. The latter refer to contracts signed by potential recruits who intend to begin their enlistment period up to a year later. These individuals enter the Delayed Entry Program until they are ready to begin basic training. Enlistment goals refer to the actual number of recruits who are required to enter basic training during the fiscal year. The accession goals for 2009 are less than the fiscal year 2008 target of 184,186, as a result of higher retention and the fact that the Army and Marine Corps achieved their new, higher end-strength levels sooner than expected. Note that these and other statistics in this report are provided by the Office of the Secretary of Defense, unless otherwise noted.
  2. The department's overall recruiting target is the combined total of the four individual services' recruiting goals. Consistent with department-wide experience, the services have been quite successful at meeting their recruiting goals. With Army enlistees comprising over 40 percent of the department's overall recruiting goal each year, that service's recruiting experience tends to drive department-wide recruiting outcomes. In fact, the two times that the department missed its overall recruiting targets since 1982 coincided with years in which the Army missed its recruiting goal. The Army also missed its target in 1999, as did the Air Force; the Navy missed its target in 1998 and the Marine Corps in 1982.

service's new enlistees to have high school diplomas, and 60 percent to score at or above average on the Armed Forces Qualification Test (AFQT).<sup>3</sup>

Both of these quality benchmarks are important. High school graduates are much more likely than nongraduates to complete their initial terms of service (typically three or four years). In fact, over 75 percent of recruits with high school diplomas will complete at least two years of service, compared to just over 55 percent of their nongraduate peers (Armor and Sackett 2004).<sup>4</sup>

Aptitude is also critical. High-aptitude enlistees who score at or above average (the 50th percentile) on the AFQT are easier to train, perform better on the job, and typically have fewer disciplinary problems than their lower-scoring counterparts (Kearl, Horne, and Gilroy 1990).<sup>5</sup> Given the military's increased reliance on technologically advanced weaponry; the growing emphasis on smaller, more autonomous units and decentralized decision-making; and the complex and fast-paced nature of military missions in the post-Cold War environment, highly skilled and talented troops are essential (U.S. Department of Defense 2000a, 2002, and 2008a).

Since the mid-1980s, DOD has met or exceeded its quality benchmarks—though quality has fluctuated somewhat, declining during challenging recruiting years and improving in more robust periods (Figure 1). In fiscal year 2008, 92 percent of enlistees department-wide were high school graduates and 69 percent were high-aptitude recruits.<sup>6</sup> As the recruiting landscape improved in 2009, so too did the quality of enlistees. By the end of fiscal year 2009, 96 percent of recruits held a high school diploma and 73 percent were high aptitude—in what perhaps was the best recruiting year since the inception of the all-volunteer force, with all services, both active and reserve components, exceeding their recruiting goals in both numbers and quality.

Although the department has experienced long periods of recruiting success, there have been times when recruiting has been difficult, goals have been missed, and quality has declined. Between 2005 and 2008, for example, the recruiting environment was increasingly challenging, as the military fought its first protracted war with an all-volunteer force. The difficulties associated with wartime recruiting were exacerbated by a healthy economy that offered potential recruits attractive opportunities in the civilian sector. In 2005, the Army missed its enlistment goal by 6,627 recruits, or 8 percent, and although the Marine Corps met its goal, it required substantial effort on the part of recruiters and considerably more resources than planned.

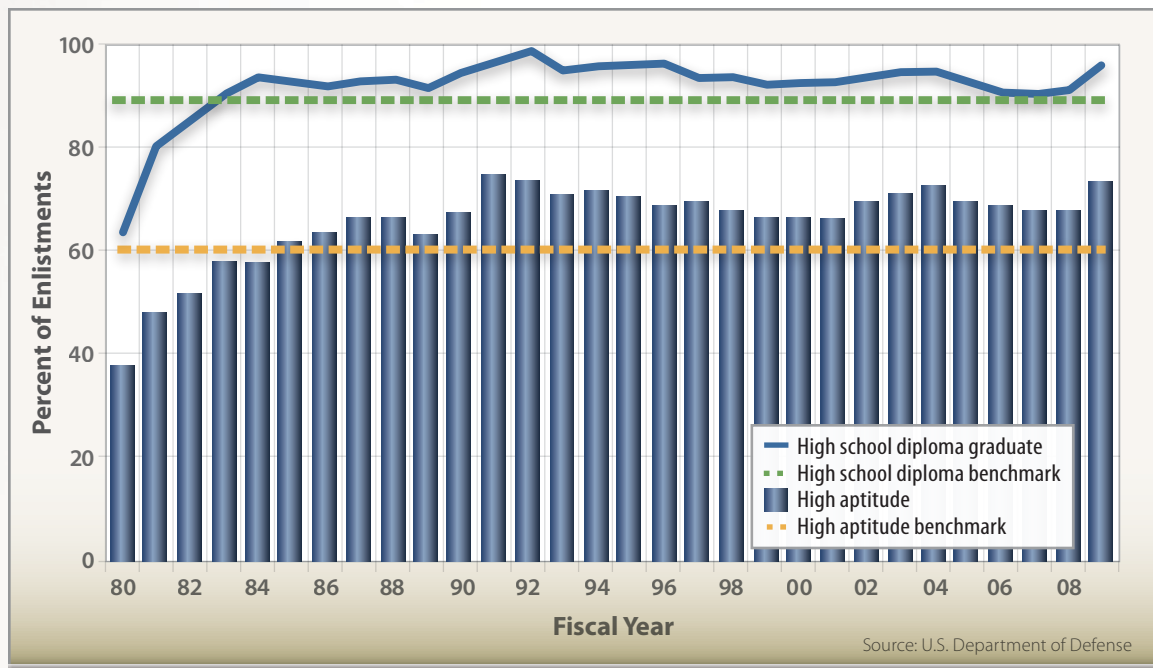
Difficult recruiting climates can also affect the quality of the force, as fewer high-quality youth—high school graduates who score in the upper half of the military's aptitude test—choose to enlist. In 1979, for example, not only did all four services miss their recruiting goals, high-quality

3. These benchmarks were established in 1993 and confirmed in 2000 (U.S. Department of Defense 2000b).

4. Recruits with General Educational Development (GED) certificates have attrition rates nearly as high as attrition rates for non-high school graduates (Armor and Sackett 2004).

5. All recruits take a written enlistment test called the Armed Services Vocational Aptitude Battery (ASVAB). One component of the ASVAB is the AFQT, which measures math and verbal skills. For reporting purposes, scores on the AFQT are divided into five aptitude percentile categories: I = 93–99; II = 65–92; III = 31–64; IV = 10–30; and V = 1–9. Category III is typically divided into subcategories IIIA (percentiles 50–64) and IIIB (percentiles 31–49). By law, non-high school graduates in category IV and all those in category V are ineligible to enlist.

6. Only the Army missed the quality benchmark for high school diploma graduates in 2008, as well as in the previous three years from 2005 to 2007—an average shortfall of about 7 percentage points during the four year period.



**Figure 1.** Recruit Quality and DOD Benchmarks

enlistments tumbled as well, with only 25 percent of Army enlistees and 37 percent of Marine Corps enlistees considered high quality. And although the services were largely successful in meeting their aggregate numerical goals during the difficult 2005–2008 recruiting period, the quality of new enlistees fell, with all but the Navy experiencing a decline in high-quality recruits.

In order to maintain the total force levels necessary to meet mission needs, the military must consistently achieve its recruiting goals—*regardless of the recruiting climate*. To do this, the services turn to an array of recruiting tools that can be more heavily utilized during difficult recruiting periods. The key to continued success is the ability to provide the right level and mix of recruiting resources to meet recruiting market challenges promptly. Thus, it is important to understand the many factors that affect the military’s ability to recruit high-quality youth, and what steps the military services can take to better position themselves when recruiting challenges arise.

The factors that affect recruiting fall into two broad categories. Those in the first category are largely outside the military’s control, but nonetheless have a significant impact on the supply of recruits: the state of the civilian economy, the size and characteristics of the youth population, the propensity of youth to join the military, and the impact of combat operations. While the military cannot change these external factors directly, it can employ policy tools to counter the effects of economic, demographic, and political conditions. These tools—internal factors over which the services have control—comprise the second category and include the size of the recruiting force; expenditures on advertising, enlistment bonuses, and educational benefits; and military pay.

The remainder of this paper explores both the external and internal factors that affect recruiting for the active duty enlisted force, by capturing the results of a rich body of economic research that



quantifies the degree to which these factors impact recruiting.<sup>7</sup> It also discusses how sustained investments in recruiting resources can improve recruiting success. While many factors come together to influence recruiting at any point in time, understanding their individual impacts can be a useful basis for decision-making. The paper concludes with an examination of how both external and internal factors have affected recruiting since the early part of this decade—a period during which the military services experienced both recruiting highs and lows. The changes in the recruiting environment during this period, as well as the impact of actions taken by the department, offer useful lessons for the future.

## The Civilian Economy and Youth Market

Recruiting does not take place in a vacuum. Many factors affect the willingness of youth to enlist in the military, and often these factors are outside the military's control, such as the unemployment rate, youth population trends, and other factors affecting the youth market such as interest in joining the military, race and ethnicity, and wartime operations. Therefore, the military must continually monitor trends in these areas so it can anticipate changes in the recruiting environment and respond in a timely and effective manner.

### Unemployment

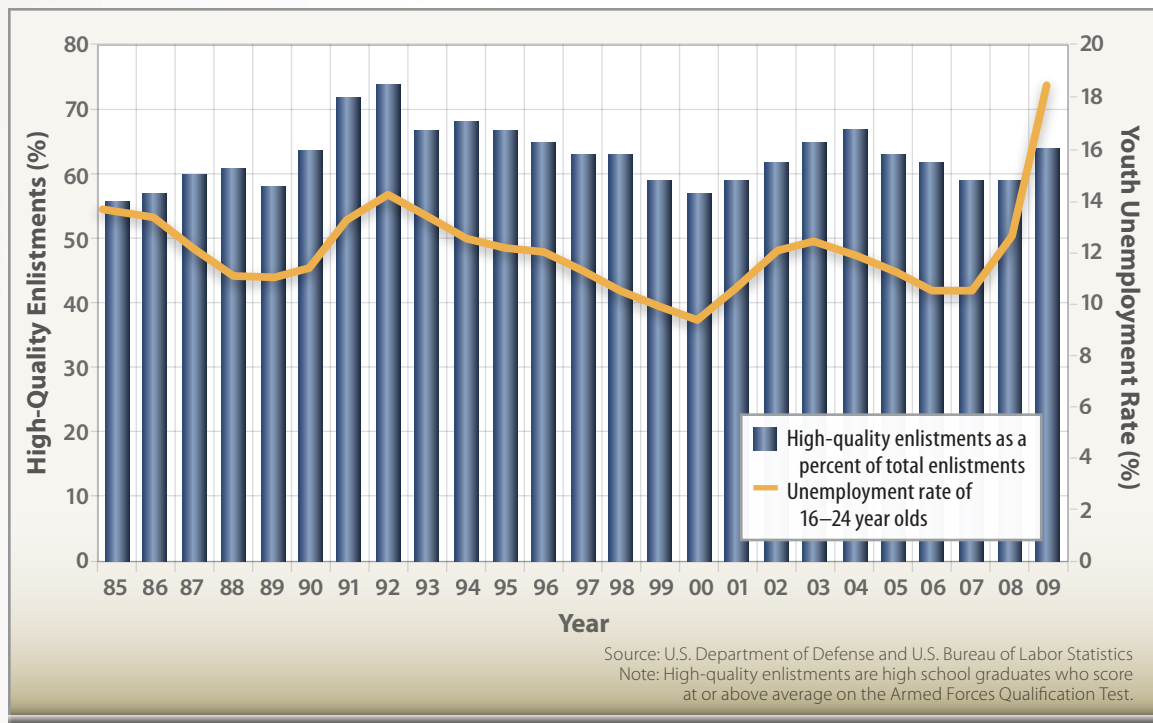
The state of the civilian economy, as reflected in the civilian unemployment rate, has a significant impact on military recruiting. In the 36 years since the inception of the all-volunteer force, the overall annual unemployment rate has varied considerably, from a low of 4.0 percent in 2000, to a high of 9.7 percent in 1982 (U.S. Department of Labor 2009). Monthly unemployment rates have, at times, been even higher. For example, the peak during the 1983 recession was 10.8 percent; and more recently, in October 2009, the jobless rate rose to 10.2 percent. Comparable unemployment statistics for youth, ages 16 to 24, are typically above the level for the population as a whole—9.3 percent in 2000 and 17.3 percent in 1982. As Figure 2 shows, the proportion of high-quality youth recruited into the military over the last 20 years has been closely tied to fluctuations in the youth unemployment rate.

During periods of high unemployment, when civilian sector jobs are harder to find, more youth are willing to consider military service, and it is easier to recruit high-quality young men and women. In the early 1990s, when youth unemployment was relatively high (14.2 percent in 1992, for example), 74 percent of new recruits were high quality. When unemployment is low, on the other hand, the competition for workers—particularly high-quality workers—intensifies. Talented youth have attractive employment and education opportunities in the civilian sector, and recruiters must work harder to interest these high-quality candidates in military service—where working conditions may involve frequent moves, long hours, deployments away from family, and hazardous combat situations. In 2000, when youth unemployment dropped to 9.3 percent, the proportion of high-quality recruits fell to 57 percent.

What do these historical patterns teach us about the future? Analyses of the relationship between the unemployment rate and high-quality enlistments estimate that a 10 percent decrease in the unemployment rate (for example, from 10.0 percent to 9.0 percent) would decrease high-quality

---

7. This discussion focuses on recruiting for the active duty enlisted force. Officers comprise 15 percent of the all-volunteer force. They are also recruited, but are commissioned into service under a different system than described in this paper.



**Figure 2.** High-Quality Enlistments and Youth Unemployment

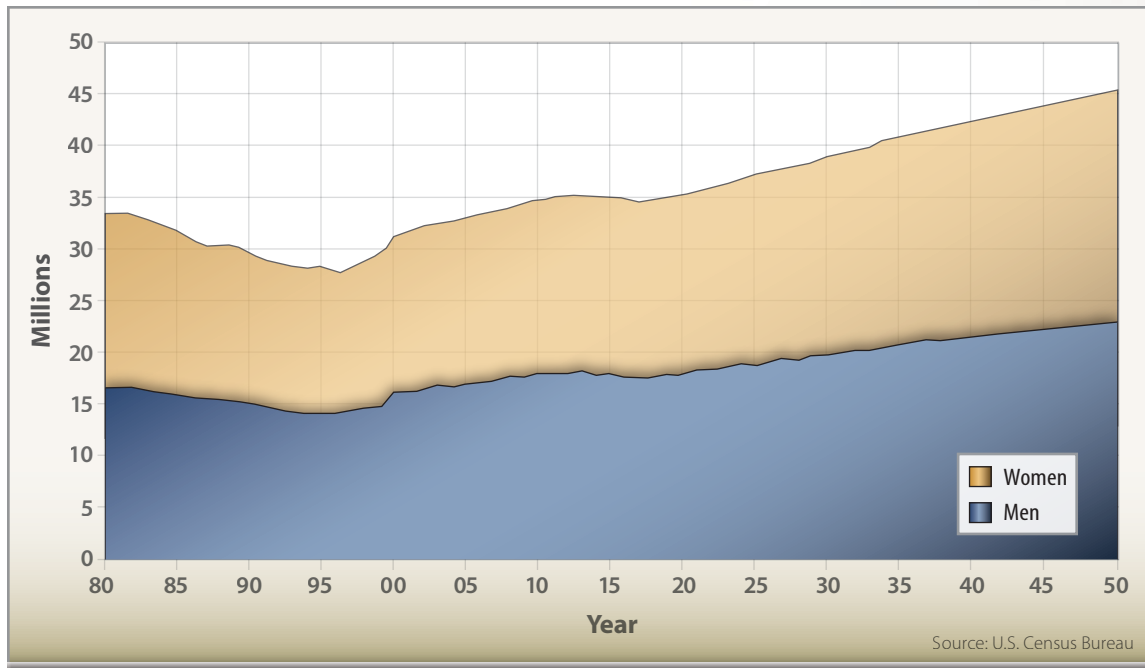
Army enlistments by between 2 and 4 percent, or as many as 1,300 recruits (Simon and Warner 2008).<sup>8,9</sup> Between 2003 and 2007, youth unemployment fell by more than 15 percent, suggesting as much as a 6 percent decline in high-quality enlistments—about 2,200 recruits annually. While the 2007 rate (10.5 percent) was higher than the historically low rates of the late 1990s, it still represented the lowest level of youth unemployment since 2000, and contributed to the already challenging recruiting environment that the services faced during that period. In order to counter the negative effects of lower unemployment, DOD intensified its recruiting efforts, as is discussed in more detail later in this paper. In contrast, by October 2009, the youth unemployment rate jumped to 19.1 percent—an 80 percent increase, which may have increased high-quality enlistments by as much as 32 percent and helped all the services meet or exceed their accession goals.

## Youth Population

The military's ability to recruit high-quality youth depends upon a sufficiently large pool of qualified young men and women from which to draw applicants. Population projections for the next 40 years suggest that there will be enough young people to meet recruiting needs. Changes in the composition, characteristics, and aspirations of the youth population, however, will present various challenges for military recruiters.

8. One recent study calculated a somewhat smaller unemployment effect on recruiting (Asch et al. forthcoming) while another finds a larger unemployment effect (Goldberg, Cooper, and Wait 2008).

9. Another study that assessed how race and ethnicity affect the relationship between unemployment and recruitment found that White youth are more affected by changes in the unemployment rate than Black or Hispanic youth (Asch, Heaton, and Savych 2009).



**Figure 3.** Actual and Projected Population of 17–24 Year Olds

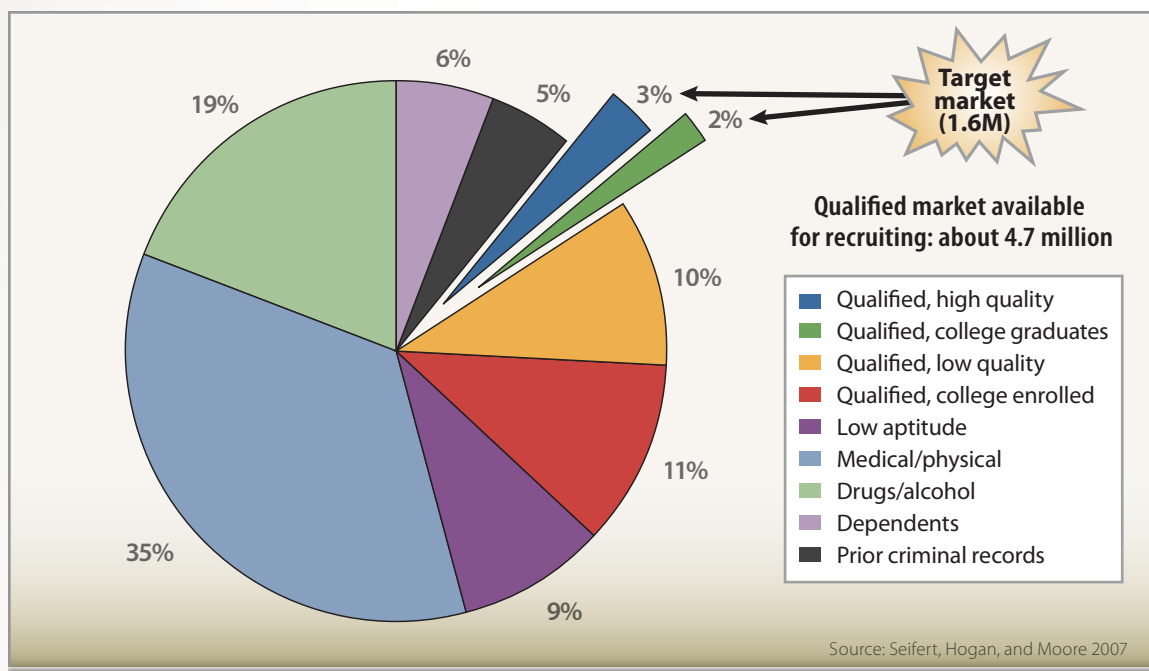
The size of the 17-to-24-year-old population—the target population for military recruiters—is expected to grow from 34.7 million in 2009 to 45.1 million by 2050 (Figure 3). Such growth in the youth population is good news for recruiters as it appears that the pool of potential recruits will steadily expand through the middle of the 21st century. Assuming stable force size, such growth in the target population suggests that the percentage of this cohort that must be recruited into the military to meet enlistment goals would not need to increase.

Even so, the number of youth actually eligible for military service substantially reduces the size of the available pool, with 75 percent of the youth population currently ineligible to serve (Figure 4). Nearly half of that number is ineligible because of medical or physical conditions, such as obesity, asthma, or diabetes. Obesity alone is a major and growing reason for ineligibility. One study estimates that between 25 and 35 percent of male youth would not meet the weight requirements of at least one of the services (Asch et al. 2009), a percent likely to grow given rising obesity rates among American adolescents (Centers for Disease Control and Prevention 2009).<sup>10</sup>

Other reasons for ineligibility are drug dependency or failed drug testing, existence of young dependents, and prior criminal records. Moreover, 9 percent of the youth market does not meet the services' aptitude standards and another 11 percent, though qualified, are enrolled in college. Taking all these into consideration, 15 percent of the youth population, or 4.7 million, remain, only one third of which is high quality. Among eligible youth, those who are actually interested in military service further reduce the pool.

10. In 2007, between 25 and 29 percent of the 18–34 year old population in half of the states were classified as obese, with obesity rates of 30 percent or more in three other states (Centers for Disease Control and Prevention 2008). Rising obesity levels among adolescents suggest obesity will continue to be a health issue for young adults. National Health and Nutrition Examination Surveys found that obesity among 12–19 year olds rose from 5.0 percent in the 1976–1980 surveys to 17.6 percent in the 2003–2006 surveys.





**Figure 4.** Eligibility for Military Service, 2007

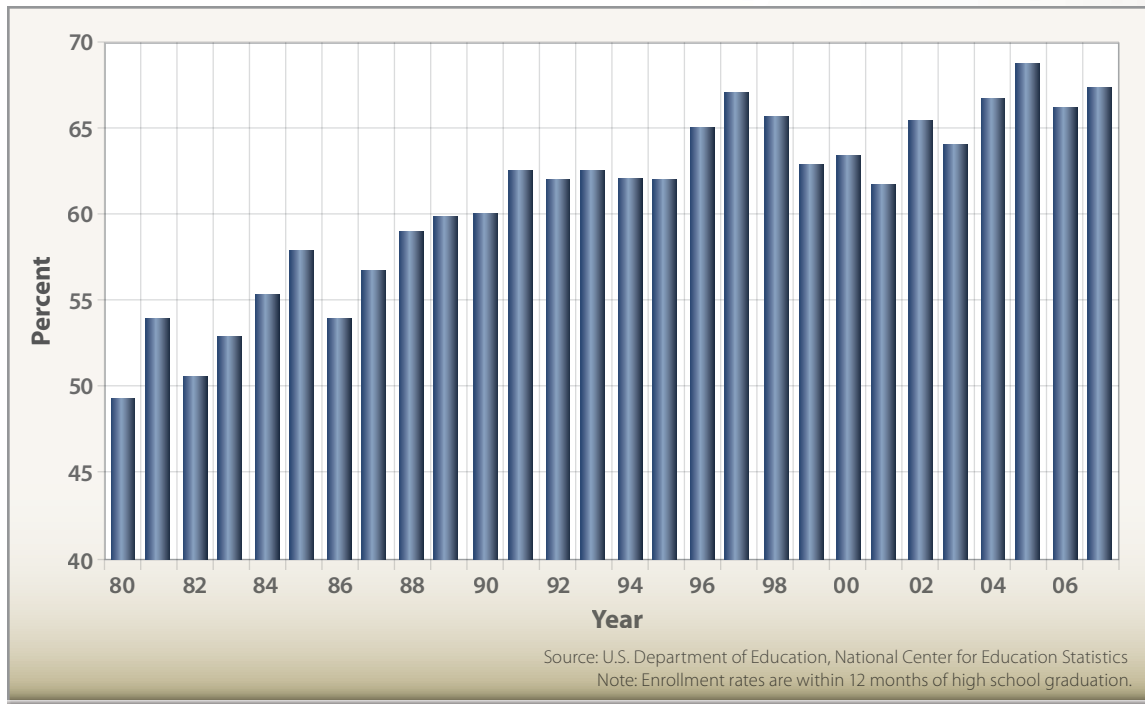
The military services have the authority to grant waivers to applicants who do not meet some of these rigorous enlistment standards. In fact, in recent years about 25 percent of new enlistees required a waiver in order to enlist, with those for medical conditions and conduct the most frequently used. Yet, while the waiver process provides recruiters with some flexibility to consider otherwise qualified youth for enlistment, it does not meaningfully alter or effectively address the fact that three quarters of today's youth are ineligible for military service.<sup>11</sup>

### ***Educational Attainment***

In the 36 years since the inception of the all-volunteer force, one of the most critical trends in the youth population has been the steady rise in college attendance. The share of high school graduates who enrolled in college within a year of leaving high school rose from 49 percent in 1980 to 67 percent in 2007—an increase of more than 35 percent (Figure 5).<sup>12</sup> A 2008 poll of youth aged 16 to 21 found that 86 percent plan to pursue higher education (U.S. Department of Defense 2008c).

11. Concerned with the substantial portion of the youth population ineligible to serve in the military, a group of nearly 90 retired senior military leaders has launched Mission: Readiness—a campaign to encourage policies that improve the academic achievement and health of American youth, with the goal of ensuring that more young people who are interested in military service will meet the rigorous enlistment standards. The group's first report, *Ready, Willing, and Unable to Serve*, urged state and federal governments to expand access to quality early education, an essential tool for advancing the skills and ability of American youth. See <http://www.missionreadiness.org/reports/NATEE1109.pdf>.

12. Part of the increase in college attendance is likely due to the substantial financial returns associated with a college degree. In 1979, the salaries of graduates from four-year colleges were 40 percent higher than those of high school graduates. By 1995, the college premium had risen to 65 percent (Asch et al. 1999), a differential that has persisted. In 2006, salaries of male graduates 25 and older were 65 percent higher than salaries of those with just high school degrees (U.S. Department of Education 2007a). See also Hosek and Sharp 2001.



**Figure 5.** College Enrollment Rates of High School Graduates

This increase in college attendance has had a substantial and negative effect on recruiting. As more youth choose to attend college after high school, fewer are willing to pursue military service. One study estimates that the 11 percent increase in college attendance of 17–21 year olds between 1987 and 1997 could have caused a 10 to 13 percent reduction in the number of high-quality enlistees (Warner, Simon, and Payne 2001). Moreover, the young men and women who choose to attend college tend to have relatively higher aptitudes than those who do not pursue post-secondary education. As a result, the increased trend in college attendance is not only reducing the overall pool of potential enlistees, but also skimming off a disproportionate share of the high-quality youth cohort that is preferred by the military.<sup>13</sup>

College attendance rates will remain strong for the foreseeable future—particularly among the high-quality youth whom the services most want to attract. With only one-third of high school graduates not attending college, the services must explore new ways to make military service attractive and manageable for the growing number of young people who pursue post-secondary education, and also to highlight the financial assistance available to service members to pay for higher education. Initiatives that show potential for attracting this population include tuition assistance and loan repayment programs, as well as distance learning, which enables service members to take college courses while in the service. The recently enacted Post-9/11 GI Bill also offers generous educational incentives for service members to pursue higher education while still on active duty.

With more youth enrolling in college right after high school, the military should also focus some recruiting efforts on the promising older youth market—slightly older youth who may have

13. Lower aptitude youth are often highly interested in military careers, but are less likely to actually enlist because they do not meet the military's quality standards.

permanently dropped out or temporarily “stopped out” of college,<sup>14</sup> and are exploring career options.<sup>15</sup> In fact, preliminary analysis of Army enlistments suggests that the majority of new recruits do not enlist directly out of high school, and only 47 percent are under 20 years of age. Rather than enlist immediately after high school, these relatively older recruits often turn to the military because college did not work out or because of dissatisfaction with their civilian work situation (Rostker and Klerman forthcoming). Among the college population, students enrolled in two-year programs appear to be a promising group, due to family background and other characteristics that typically signal a higher interest in military service (Kilburn and Asch 2003).

While the college market and older recruits both show potential and should be pursued, the services must not abandon the traditional high school market.

## Propensity

The interest that young people have in considering military service—referred to as propensity—can be an important indicator about future enlistment behavior. General trends in youth propensity tend to parallel trends in recruiting (Simon and Warner 2008). Not surprisingly, youth who are more interested in military service are much more likely to enlist than other young people. Moreover, highly interested youth are less likely to be dissuaded from a military career by external factors such as the unemployment rate, parental influence, or civilian earnings. The military should work to keep this pool of highly interested youth as large as possible.

The Department of Defense measures propensity through surveys, asking American youth whether they are “definitely,” “probably,” “probably not,” or “definitely not” interested in military service.<sup>16</sup> Survey results from the late 1980s to the late 1990s show that males who responded that they were “definitely” interested in military service were four times more likely to apply to the military than male youth in general. And although they made up only about 25 percent of all youth surveyed, “definitely” and “probably” interested youth comprised approximately 50 percent of actual military applicants; the other half of enlistments come from youth with low propensity toward military service (Orvis, Sastry, and McDonald 1996; and Warner, Simon, and Payne 2002).

While the American public continues to express overwhelming support for the military as an institution (Gallup Poll 2009) and its leadership (Harris Interactive 2009), this support does not translate into a high propensity to enlist.<sup>17</sup> Propensity among young men to join the military, at about 21 percent in 2005, has declined sharply since then, dropping to as low as 12 percent at

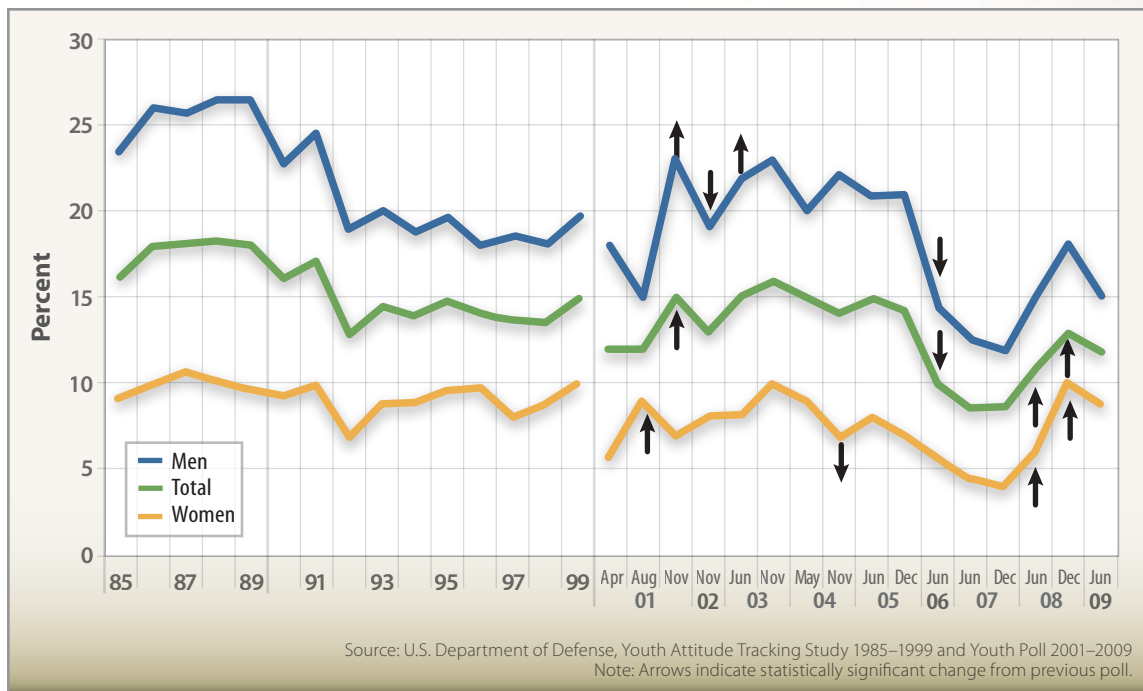
14. Dropouts and “stopouts” from two-year colleges may offer market potential for military recruiters. Of students who enrolled in two-year institutions in academic year 1995–1996, 39 percent had dropped out and not returned five years later. But among students who enrolled in four-year institutions, only 18 percent had not returned to school.

15. For further analysis and in-depth discussion of strategies to recruit college-bound youth, see Kilburn and Asch 2003.

16. From 1975 to 1999, DOD monitored youth propensity through its Youth Attitude Tracking Study (YATS), an annual survey of about 10,000 young people with ages ranging from 16 to 29 years old, depending on the year of the survey. Women were included in the survey beginning in the fall of 1983. In 2001, DOD shifted to smaller scale Youth Polls—a sample of about 3,000 16 to 21 year olds—that enable the department to track propensity on a more frequent basis. Beginning in June 2008, these polls were expanded to include 16 to 24 year old youth. Data from both surveys, shown in Figures 6 and 8, include respondents who indicated that they are “definitely” or “probably” interested in military service.

17. The most recent Gallup Poll, conducted between June 14 and 17, 2009, reported that the military remains at the top of the list of institutions in which Americans have confidence, with 82 percent indicating they have high confidence in the military, up 11 percentage points from 2008.





**Figure 6.** Youth Propensity Toward Military Service

the end of 2007, before rebounding somewhat to 15 percent in June 2009—still substantially below the 26 percent level of the mid-1980s (Figure 6). From the early 1990s through 2005, total propensity (men and women combined) was relatively steady, at around 15 percent. But the sharp decline in propensity among young men that began in late 2005 pushed total propensity below 10 percent—the lowest level in more than two decades. Following the substantial drops in propensity in 2006 and 2007, total propensity began to turn around in 2008, reaching 12 percent by June 2009—likely in response to a worsening job market for youth and the growing recession, as well as the improving situation in Iraq.

Because the military is most interested in high-quality youth, it is also important to look at propensity trends among that sought-after population. Research has shown that propensity is typically lower among high-aptitude youth and declines with educational attainment (Simon and Warner 2008; Asch et al. 2009; U.S. Department of Defense 2008c). This may be because high-quality individuals have many attractive career and educational opportunities available to them in the civilian sector. But over the past 20 years, this group has become even less inclined to join the military, with propensity among high-aptitude youth dropping 44 percent, compared to a 15 percent decline for youth with average aptitude (Simon and Warner 2008).

Part of this decline results from rising college attendance rates among all American youth. As mentioned earlier, college enrollments have increased more than 35 percent since 1980, and one analysis estimates that this growing cohort—individuals planning to attain four-year degrees—was almost 40 percent less likely to indicate that they would probably enlist in the military (Bourg 2003). In fact, estimates suggest that about one-third of the drop in propensity among white males between 1985 and 1997 can be attributed to rising rates of college attendance (Warner, Simon, and Payne 2001).

Other factors also affect propensity. Youth from more densely populated states—which generally offer more job opportunities—typically exhibit lower propensity than youth from less populated states (Warner, Simon, and Payne 2002). Some research suggests that youth propensity also varies by region, with youth from the southeast, southwest, mountain, and Pacific states exhibiting the highest propensity (Kearl, Horne, and Gilroy 1990; U.S. Department of Defense 2008c). Political affiliation, which historically had little impact, may also be an emerging factor in youth propensity, with one study showing that the recent decline in propensity has been greatest among Democrats, as compared to Republicans and independents (Simon and Warner 2008).<sup>18</sup> Propensity also varies based on youths' employment status and job opportunities in the civilian sector, with propensity higher among those who are unemployed, who predict it will be difficult to find employment, or who believe the military will offer higher pay than the civilian sector (U.S. Department of Defense 2008c). Race and ethnicity affect propensity as well (as discussed in a later section of this paper).

### ***Influencers***

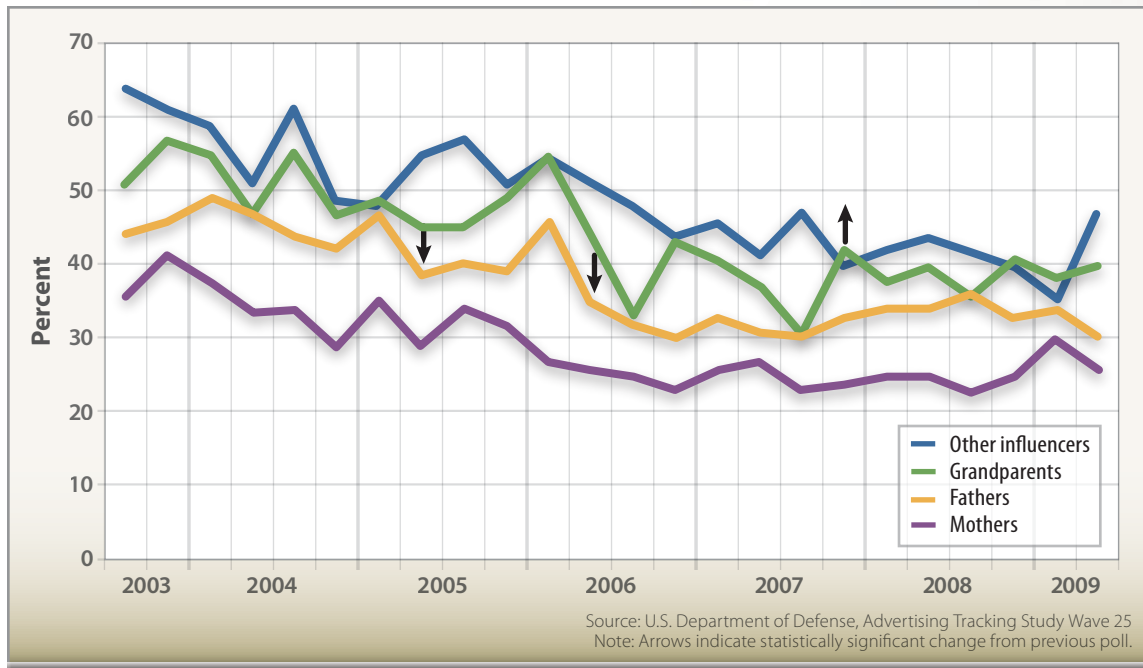
The decision to enlist is a major one, and youth do not make it alone. They receive advice and input from many sources, including parents, friends, teachers, coaches, clergy, guidance counselors, and veterans. Recent trends suggest that fewer influencers are promoting military service, with an almost certain adverse impact on propensity. The likelihood of parents, grandparents, and other influencers to recommend military service has dropped substantially over the last six years (Figure 7).

**Parents.** Parents exert a strong influence on their children when it comes to making decisions about military service. Parental characteristics—particularly levels of education attainment and whether or not they themselves are veterans—are strong indicators of their children's propensity to enlist. Over the last 25 to 30 years, the educational attainment and veteran status of parents have changed dramatically, and in both cases, those changes have contributed to the stagnation and recent decline in youth propensity. Parents today, particularly mothers, are far less likely to recommend military service than they have been in the past.

As Figure 7 shows, fathers were 30 percent less likely to recommend military service to their children in 2008 than in 2003, while mothers were nearly 28 percent less likely to do so. Under Secretary of Defense for Personnel and Readiness David Chu remarked on this trend at a 2007 DOD news briefing, "Our real challenge out there isn't the young people, I would argue; it's parents, coaches, teachers—the older members of your contingent who, when asked by a young person, 'Well, Dad, Mom, should I do this'—too often get a sour and unsupportive answer" (U.S. Department of Defense 2007).

This decline results from many different factors. For example, since 1980, college attendance rates of mothers have greatly increased, rising from about 30 percent for children born in the early 1980s to over 50 percent for children born in the late 1990s (National Research Council 2003). Studies suggest that youth with more educated parents are more likely to pursue post-secondary education, and are therefore less interested in military service (Warner, Simon, and Payne 2001 and 2002). And, in fact, a 2008 DOD poll of youth influencers found that while 92 percent would

18. A recent study of how political affiliation affects Marine Corps recruiting efforts found that voting patterns had little impact on enlistments in that service. In fact, the results suggest that "blue" (or Democratic) counties generate slightly more Marine Corps enlistees than do "red" (or Republican) counties (Wenger and McHugh 2008).



**Figure 7.** Likelihood of Influencers to Recommend Military Service

recommend attending a four-year college, only 34 percent would recommend joining the military (U.S. Department of Defense 2008b).

A second important trend related to parents is the declining number of 18-year-olds who have at least one parent who is a veteran. In 1988, approximately 40 percent of 18-year-olds had a veteran parent. In 2000, that number had fallen to about 18 percent. By 2018, only about 8 percent of 18-year-olds will have a veteran parent and the exposure to and familiarity with military life that comes from being part of a military family (National Research Council 2003).

The Iraq war has also affected the willingness of parents and other influencers to recommend the military to youth, with the hardships of military service—including personal safety during a prolonged war—becoming more important to many influencers than the benefits of joining the military.

**Veterans.** The reduction in the number of veteran parents is consistent with a substantial drop in the number of veterans in the general population. Over the past two decades, the percentage of veterans in the U.S. population has dropped by a third, declining from 15 percent of those aged 18 and over in 1990, to only 10 percent in 2007 (U.S. Census Bureau 1993 and 2007). With the total force now one-third smaller than it was during the Cold War era, and the aging of the World War II generation, the number of veterans in the population is not likely to rebound. In fact, the Veterans Administration estimates that by 2036, the percentage of veterans in the U.S. population will drop to less than 5 percent of those aged 18 and above (U.S. Department of Veterans Affairs 2007; U.S. Census Bureau 2008). This means that youth, and the public in general, will have fewer role models who actually served in the military and who can share their positive experiences with



potential recruits and encourage them to consider military service. Moreover, results from one recent study suggest that the veteran population is becoming more geographically concentrated, meaning that youth in some parts of the country will be exposed to even fewer veterans than the national average (Simon and Warner 2008).

The declining veteran population has a substantial impact on recruiting. One study estimated that the drop in the number of veterans between 1987 and 1997 resulted in a 19 percent drop in enlistments (Warner, Simon, and Payne 2001). Although estimates of the impact of veterans differ considerably, studies typically point to a negative and significant effect on enlistments.<sup>19</sup> As the veteran presence continues to decline, the military must develop other ways to expose youth and their parents to the positive aspects of military life and the values of military service. Expansion of education and civic programs, such as the high school-based Junior Reserve Officer Training Corps (JROTC), JROTC Career Academies, the National Guard Youth ChalleNGe program, and the “Educate the Educator” program being used in some states, offers promise in this area.

### ***Moving Forward***

Youth propensity has eroded significantly over the past two decades. Stable at about 25 percent through the 1980s, male propensity dropped down to around 20 percent in the 1990s, and then fell to about 15 percent in late 2005, the level at which it remains today. Given the established link between propensity and enlistment, this long-term decline in propensity is significant, and presents serious challenges to today’s military recruiters, who must contend with a youth population much less interested in military service than previous cohorts. For the services, the critical question is whether propensity will eventually recover to the robust levels of 15 or 20 years ago, or do current propensity rates represent the new reality in which recruiters will operate for the foreseeable future?

In order to counter the impact of these external factors and to potentially stabilize propensity rates, the services should explore ways to use recruiting, advertising, national leaders, and military programs to promote the importance of patriotism, duty to country, and the mission of the U.S. military. In addition, the military should try to identify ways to make college and military service more compatible, as well as to better educate youth and their parents about the benefits of public service and military life. The benefits of military service should also be heavily promoted. The recently enacted Post-9/11 GI Bill, for example, may be an attractive incentive for the high-quality youth whom the military wants to recruit, but whose interest in the military has waned. Over time, a sustained and high-profile public service campaign could shift youth opinion (as well as the opinion of those who influence them) about military service and lead to a rise in propensity (U.S. Department of Defense 2000a).

### **Race and Ethnicity**

Race and ethnicity have a significant influence on the characteristics of the youth market and the inclination of American youth to join the military—so racial and ethnic trends are critical in shaping future recruiting efforts.

---

19. For further discussion of the relationship between veterans and enlistment, see Boyer and Schmitz (1996), and Wenger and McHugh (2008).

Much of the growth in the youth population in the years ahead will be fueled by dramatic growth in the Hispanic population, which is expected to increase from nearly 20 percent of the youth population in 2010 to almost 38 percent in 2050. This trend is due to both increased immigration and relatively higher fertility rates among Hispanics. Over this same period, the percentage of Blacks in the youth population will remain relatively stable in the 13 to 15 percent range, while the proportion of Whites will decline.<sup>20</sup>

The increasing numbers of Hispanic youth present both opportunities and challenges for military recruiters. The fastest growing component of the youth market, Hispanic youth have consistently been favorably disposed towards military service and remain so today. This is a potential opportunity for military recruiters, particularly as other factors, such as the growing college market, have reduced the number of youth attracted to military careers. Yet despite their interest in military service, Hispanic youth are underrepresented in the military compared to their numbers in the general population (Asch et al. 2009). In 2008, 14.3 percent of recruits were Hispanic, compared to 17.4 percent of the overall youth population. Black youth, in contrast, made up 14.8 percent of 2008 recruits, consistent with their 15 percent share of the overall youth population.

In part, this under-representation may be due to the fact that Hispanic youth tend to have higher high school dropout rates than either White or Black youth—21.4 percent compared to 5.3 percent and 8.4 percent for Whites and Blacks, respectively (U.S. Department of Education 2008). And even among high school graduates, only 36 percent of Hispanics score in the upper half of the military's aptitude test, compared to 68 percent of White graduates (Asch et al. 2009). Such educational and aptitude trends can be attributed, in part, to Hispanics' lack of proficiency with the English language and their higher likelihood of being an immigrant, rather than to lesser aptitude.

Another factor that disqualifies Hispanics from the military is weight. Hispanic youth tend to be more overweight than their white counterparts, and therefore less likely to meet the services' weight standards. Looking at all enlistment standards combined (education attainment, aptitude, weight, dependents, drug use, and prior criminal record), one study of Marine Corps recruiting estimates that White males are nearly 25 percent more likely to meet service enlistment standards than Hispanic males (Asch et al. 2009).

Despite these challenges, a recent study found that, once enlisted, lower-quality Hispanic enlistees had higher retention rates than high-quality White enlistees. And in the Army, lower quality did not translate into lower performance. In fact, lower-quality Hispanics were promoted more quickly than high-quality White service members, suggesting that enlisting some Hispanics with lower aptitude scores or educational attainment would not necessarily have a negative effect on force quality or retention (Asch et al. 2009).

The department can undertake a variety of strategies to maximize enlistment opportunities for this growing population—and increase their representation in the military. For example, the services can better educate Hispanics about the military's entrance requirements regarding high school completion, and encourage Hispanic youth to stay in school through initiatives such as

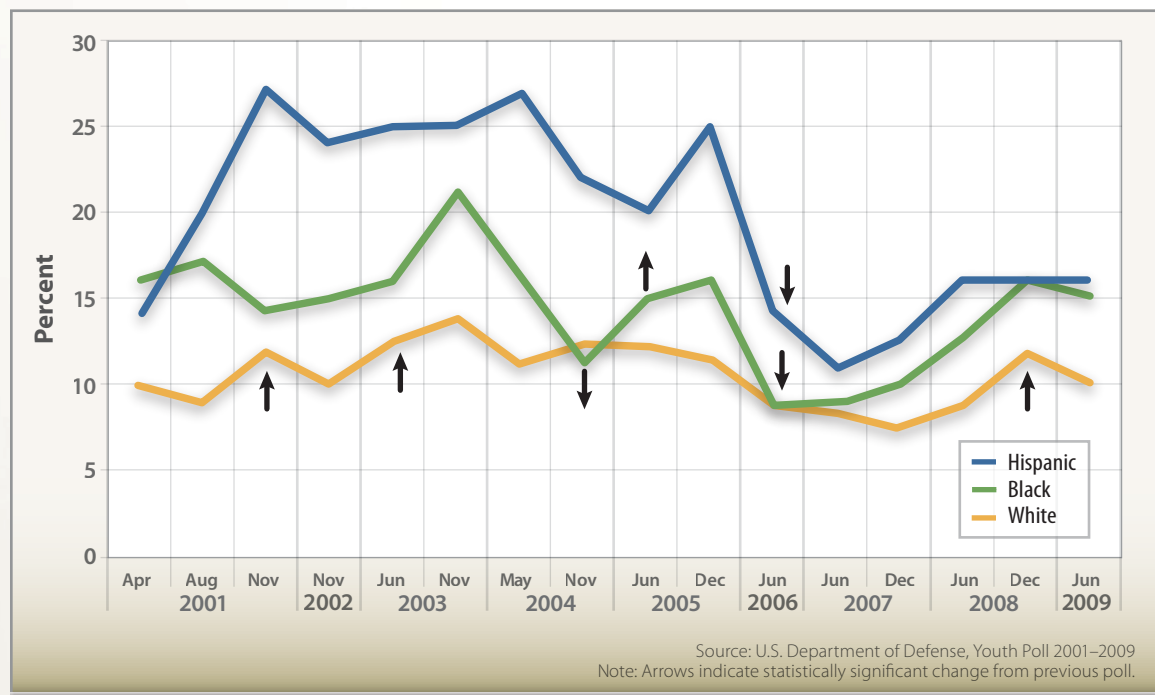
---

20. Data from U.S. Census Bureau's 2008 National Population Projections of 15–24 year olds (<http://www.census.gov/population/www/projections/summarytables.html>).

the Army's Operation Graduation.<sup>21</sup> However, because educational attainment among Hispanic youth is strongly influenced by family and financial circumstances, it may be difficult to improve graduation rates without tackling these underlying issues (Asch et al. 2009). To help parents, grandparents, and other influencers of Hispanic youth more fully understand the career opportunities and benefits associated with military services, the services should also produce Spanish-language versions of brochures and other resources targeted at influencers.

In addition to the growth of minority populations, the military is interested in trends in propensity among minority youth, particularly Black and Hispanic youth. In 1986, propensity among Black youth was 42 percent, twice as high as propensity among Whites. By 1991, however, Black propensity had dropped nearly in half to 22 percent. Propensity among Black youth still exceeded that of White youth, but the gap between the two groups had closed substantially, and the high propensity levels of 20 years ago have not returned. Today, propensity among Blacks is 15 percent, only one percentage point lower than it was in April 2001. However, during the intervening years, propensity for this group experienced huge swings, rising as high as 21 percent in November 2003, and dipping down to 9 percent during 2006 and 2007 (Figure 8).

Several reasons may account for the variability in Black propensity since the start of the decade. First, the U.S. economy was growing during much of the 2001–2008 period, which afforded Black youth other attractive alternatives besides military service. College attendance has also risen among this group, and the earnings of both Black high school and college graduates are significantly higher as well. Thus, the military found itself in direct competition with post-secondary



**Figure 8.** Military Propensity of White, Black, and Hispanic Youth

21. In September 2000, the U.S. Army, in cooperation with the Advertising Council, launched Operation Graduation to motivate teens to stay in high school. See <http://www.boostup.org/flash/index.html>.



institutions and private sector employers for high-quality Black youth. Black opinion on the Iraq war also appears to have influenced propensity, with several surveys showing that both Black youth and Black influencers were substantially less likely to support the Iraq war than either their White or Hispanic counterparts, and consequently less likely to join the military or endorse military service (U.S. Department of Defense 2004 and 2006a).

The change in propensity among Hispanics is less well understood, but clearly significant, with propensity rising as high as 27 percent early in the decade before dropping to 11 percent in June 2007 and then rebounding somewhat to 16 percent by mid-2009. Moreover, while Hispanics have traditionally been more positively disposed to military service than their Black or White counterparts, Figure 8 shows that the propensity differential between Hispanic and other youth has been greatly reduced over the last several years. As with other populations, the war in Iraq has had an impact, but, for this youth sector, so has the ongoing immigration reform debate—with both having a negative influence on propensity. In fact, in 2006, 30 percent of Hispanics reported that debates over immigration reform have made them less interested in military service (U.S. Department of Defense 2006b).

In contrast to Black and Hispanic youth, propensity among White youth remained relatively steady at around 10 percent during much of this decade, although it, too, began to drop off in 2006, declining to as low as 7 percent by the end of 2007, before rising to 10 percent in June 2009. The difference in propensity among racial and ethnic groups, as well as changes in their numbers, illustrates the importance of targeted recruiting and offers insight into where resources may be most needed to enhance recruiting efforts.

## A Nation at War

The war in Iraq and ongoing operations in Afghanistan have also taken a toll on recruiting, having a direct effect on American youth as well as on those who influence them. The impact has been particularly acute in the Army and Marine Corps, which have suffered most of the war's casualties and whose members have been subjected to multiple and lengthy deployments in support of the war effort.

Estimates of the impact of the war on recruiting suggest high-quality enlistments have fallen significantly. One study, focusing on the years during which casualties were the highest, finds that Army enlistments had declined by about 33 percent a year (Simon and Warner 2007). Other studies, covering longer periods, find enlistments falling by 15 to 20 percent a year (Asch et al. forthcoming) and 12 percent annually (Goldberg, Cooper, and Wait 2008). The variation in estimates highlights the difficulties inherent in measuring the effects of national policy changes. Nonetheless, the estimates are consistent in showing that the war has had a sizable negative effect on high-quality Army enlistments.

But while the war's impact on overall enlistment levels has been substantial and negative, it has varied somewhat by racial and ethnic group and by military service. One study estimates that the war has reduced high-quality Black enlistments in the Army by 45 percent, more than double the 21 percent reduction in high-quality White and Hispanic enlistments (Asch, Heaton, and Savych 2009). Yet that same study also found that the war *increased* the Navy's high-quality Hispanic enlistments by about 20 percent, and left Black naval enlistments unchanged—outcomes that reflect, in part, the fact that fewer naval personnel are involved in combat operations as compared to the Army and Marine Corps.

As the past five years have clearly demonstrated, the effects of war on recruiting are real. After combat operations commenced in Iraq and Afghanistan, the services struggled to meet enlistment goals and maintain the quality of the force, with recruiting challenges becoming more severe as troop deployments and casualties rose. More recently, as the situation in Iraq improved, so too did the recruiting environment. That said, additional troops are now being sent to Afghanistan, with even larger deployments to that country under consideration. It is clear that in the global environment of the 21st century, U.S. operations abroad are volatile and changing and likely to continue. Force managers must, therefore, take into account the potential for wartime operations to challenge recruiting efforts and impact enlistments.

## Recruiting Resources

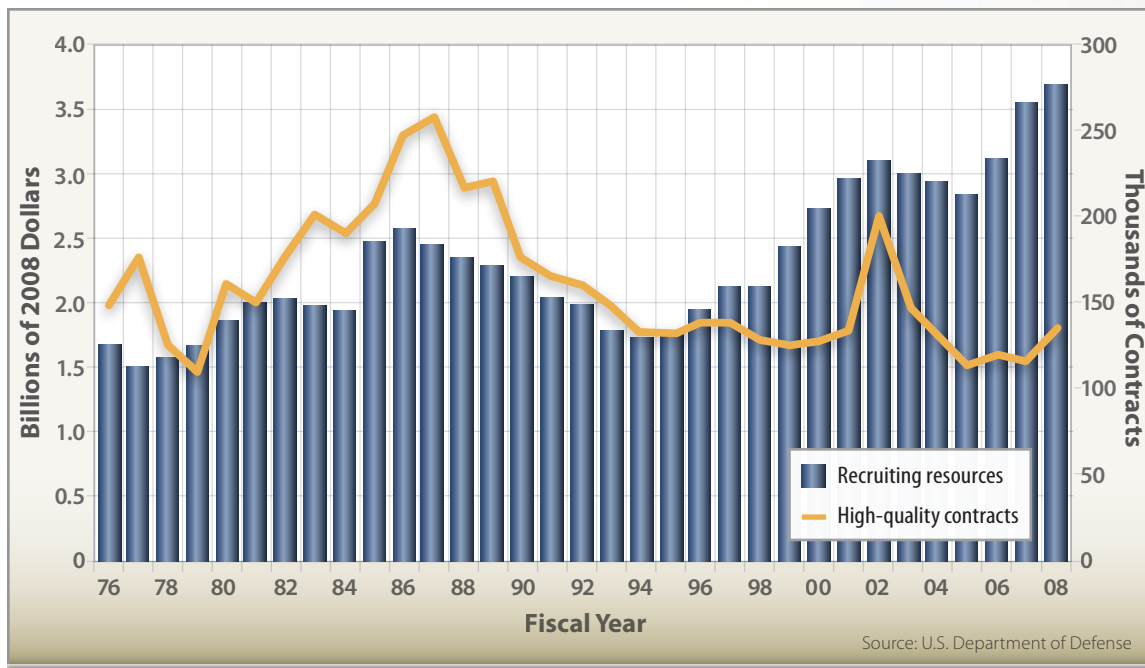
As described in the previous section, many external factors affect DOD's ability to recruit sufficient numbers of high-quality youth into the military. Some of these factors, such as changes in the unemployment rate and civilian wages, are cyclical in nature with easily predicted implications for recruiting. The military can effectively address these factors with timely changes in a variety of recruiting resources. Other factors, such as rising college enrollments and declining propensity for military service, have long-term effects on the recruiting environment. While the military has virtually no control over these dynamics, proven policy tools are available to offset their potentially negative effects on recruiting.

How the military services invest in these tools can have a significant impact on recruiting success, as there is a close relationship between investments in recruiting resources and high-quality enlistments (Figure 9). The drop in enlistments in the late-1970s was largely the result of significant cuts in recruiting resources.<sup>22</sup> A similar problem occurred in the mid-to-late 1990s, when recruiting budgets were cut too much at a time when the economy was strong, unemployment low, and the recruiting mission increased after more than half a decade of force downsizing. In 2005, resources were cut again, just as the services were entering the most challenging recruiting period since the inception of the all-volunteer force. In each case, it took a significant infusion of resources before recruiting rebounded. In contrast, in the mid-1980s, serious recruiting problems were averted by a large increase in the recruiting budget in 1985.

There is a similar relationship between cost-per-recruit and the percentage of high-quality recruits, with the latter generally rising along with expenditures per recruit. The cost-per-recruit has increased about 39 percent since 2000, rising steadily from a level of \$13,435 in 2000 to \$18,632 in 2008 (in 2008 dollars). For the Army, the increase has been even greater, with the cost-per-recruit growing by 53 percent since 2000—from \$15,917 to \$24,323.<sup>23</sup> These rising costs are a reflection of sustained recruiting challenges since the late 1990s, as the services faced more intense competition from civilian employers and colleges, as well as declining interest in military service, due in part to the war in Iraq.

22. Another factor in the drop in high-quality enlistments during this period was an error in scoring the ASVAB enlistment tests. Test scores at the lower end of the distribution were artificially inflated, permitting the enlistment, between 1976 and 1980, of over 400,000 low-quality recruits who should have been rejected. Furthermore, the drop in high-quality enlistments in the mid-1980s was due in part to a decline in recruiting goals from about 300,000 to about 200,000 annually, as a result of the force drawdown.

23. Cost-per-recruit has also increased in other services. From 2000 to 2008, the Navy's cost-per-recruit jumped 44 percent from \$11,491 to \$16,597, while cost in the Marine Corps rose 17 percent, from \$9,436 to \$11,035. Only the Air Force experienced a decline over this period, with its cost-per-recruit dropping from \$9,302 to \$8,949—a modest 4 percent reduction.



**Figure 9.** Recruiting Resources and High-Quality Enlistment Contracts

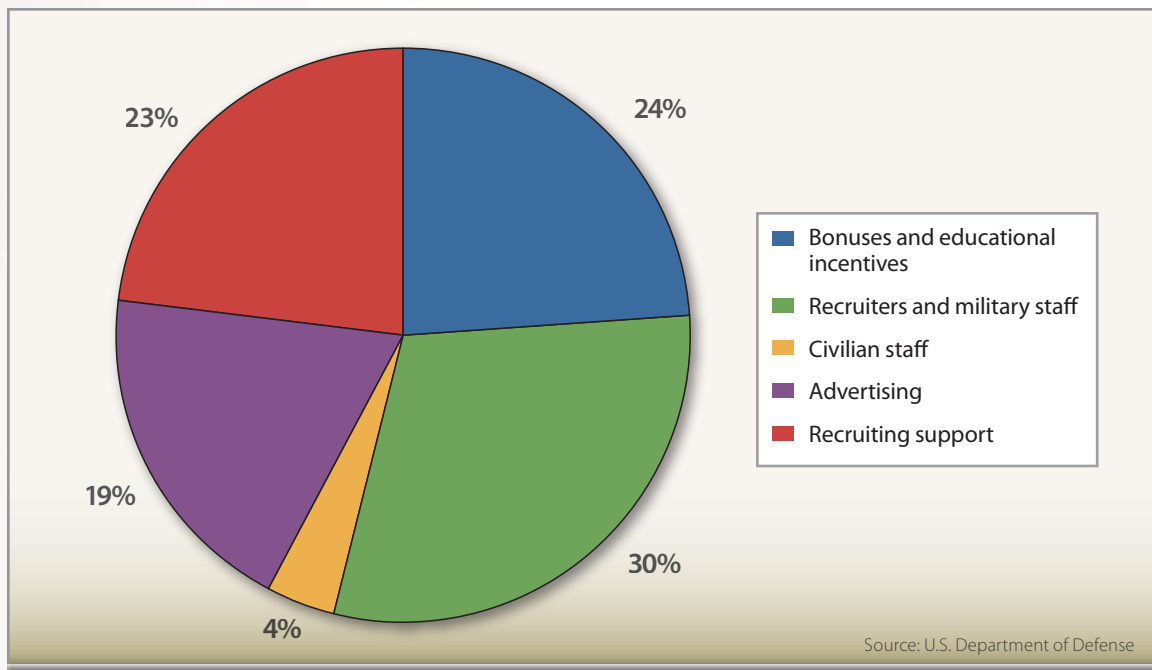
Of paramount importance is that the services make adequate investments to support recruiting, particularly during times when external factors, such as low unemployment, create a challenging recruiting market. But often this relationship between the recruiting resource budget and enlistments is overlooked by the department, though it has been relevant for decades. As noted by General Maxwell Thurman, one of the early supporters of the all-volunteer force, “the quality of the enlistee tracks with the expenditure of recruiting resources. We must understand this relationship ... and so too must the Congress” (Thurman 1986).

Figure 10 illustrates how the military allocated its \$3.7 billion fiscal year 2008 recruiting budget among the various resources. The largest share of this investment, about 30 percent, went to field recruiters and supporting manpower. Recruiting support, those resources dedicated to administrative, automation, and logistical support of the recruiting effort, comprised 23 percent. Another 19 percent of the budget was devoted to advertising, while enlistment bonuses and educational incentives were 24 percent.

For the most part, these recruiting resources are decentralized among the military services, with each service operating a full range of recruiting activities. Some recruiting services, however, are provided centrally, such as oversight of recruiting activities by the Office of Accession Policy. Other centralized activities include applicant screening and processing, which is conducted by the U.S. Military Entrance Processing Command, and office space rental, with which the Army Corps of Engineers assists.

Centralized within the Defense Human Resources Activity are data collection, marketing, and research and analysis activities that provide critical support to the services’ recruiting efforts.





**Figure 10.** Recruiting Resource Investments, Fiscal Year 2008

The Defense Manpower Data Center, for example, provides the military services with enlistment and demographic data by local area, and the Joint Advertising, Market Research and Studies program performs market analysis, conducts youth surveys, and funds joint advertising that also supports the services' recruiting activities.

The discussion that follows provides an overview of the wide range of resources available to encourage enlistment and effectively respond to recruiting challenges. These resources include military recruiters and recruiting support, advertising, enlistment bonuses, educational benefits, and military pay.

## Recruiters

Encouraging enough high-caliber people to join the military is crucial to the success of the all-volunteer force. Even young people who are highly interested in military service will interact with recruiters to gain a better understanding of the opportunities and advantages a military career might offer. As a result, the recruiter force is the most critical component of the military's recruiting effort.

Operating out of local offices in every state in the country, these enlisted personnel are the "sales force" responsible for recruiting young people into military service. Each service maintains its own recruiter force, although recruiters from different services may share office space within a recruiting station. Not surprisingly, the Army has the largest recruiter force, totaling about 6,985 in 2008, compared to 3,685 recruiters in the Navy; 3,083 in the Marine Corps; and 1,178 in the Air Force.

Aside from the recruiters themselves, each service also provides a range of management, training, marketing, advertising, and administrative services to assist in the recruiting effort. This allows recruiters to focus on their main responsibility—developing leads and converting them into enlistments. Leads can be generated in a number of ways, including referrals, advertising, local displays and presentations, community outreach programs, purchased lists, direct mail, and, increasingly, Internet sites and chat rooms operated by the services.

One important source of leads is the joint-service-sponsored ASVAB Career Exploration Program. This program provides high school students in grades 10, 11, and 12 with career exploration materials, as well as the enlistment aptitude tests, to help them learn about their interests and skills. Today, just over 54 percent of the nation's 22,148 high schools participate, with about 643,000 students volunteering to take the test. With the consent of the schools, recruiters can obtain participating students' test scores.

Converting leads into signed enlistment contracts, however, is not an easy task. Only a small fraction of the people a recruiter initially contacts ultimately enlists, and it is not unusual for a recruiter to spend several weeks signing up one new enlistee. The average Army recruiter, for example, must contact between 150 and 250 individuals in order to secure one enlistment.

Past experience has shown that a sufficiently large and experienced recruiter force can bring in high-quality recruits and effectively counter the negative effects that economic and demographic factors can have on recruiting. One recent study estimates that increasing the number of Army recruiters by 10 percent will increase high-quality Army enlistments by between 4.1 and 4.7 percent. Decreasing recruiters by 10 percent reduces high-quality enlistments by between 5.6 and 6.2 percent. Thus, a decline in the number of experienced recruiters has a greater negative impact on enlistments than the positive impact of increasing the number of recruiters (Simon and Warner 2008), due in part to new recruiters being less effective than their more experienced counterparts at securing enlistees.<sup>24</sup>

Unfortunately, the size of the recruiter force has fluctuated significantly for all services over the 36 years of the all-volunteer force, which has sometimes made it difficult for the military to use this valuable tool as quickly and effectively as possible in response to emerging recruiting challenges. The services often cut back the number of recruiters when downturns in the civilian economy make it easier to meet enlistment goals or when goals themselves are reduced, and then increase recruiters when the economy rebounds or goals increase and recruiting again becomes more difficult. But once the recruiter force has been cut, its size and expertise cannot be reestablished quickly. It takes time to assign and train additional recruiters, and, as mentioned above, it takes new recruiters considerable time to gain the skills and productivity of their more experienced colleagues.<sup>25</sup>

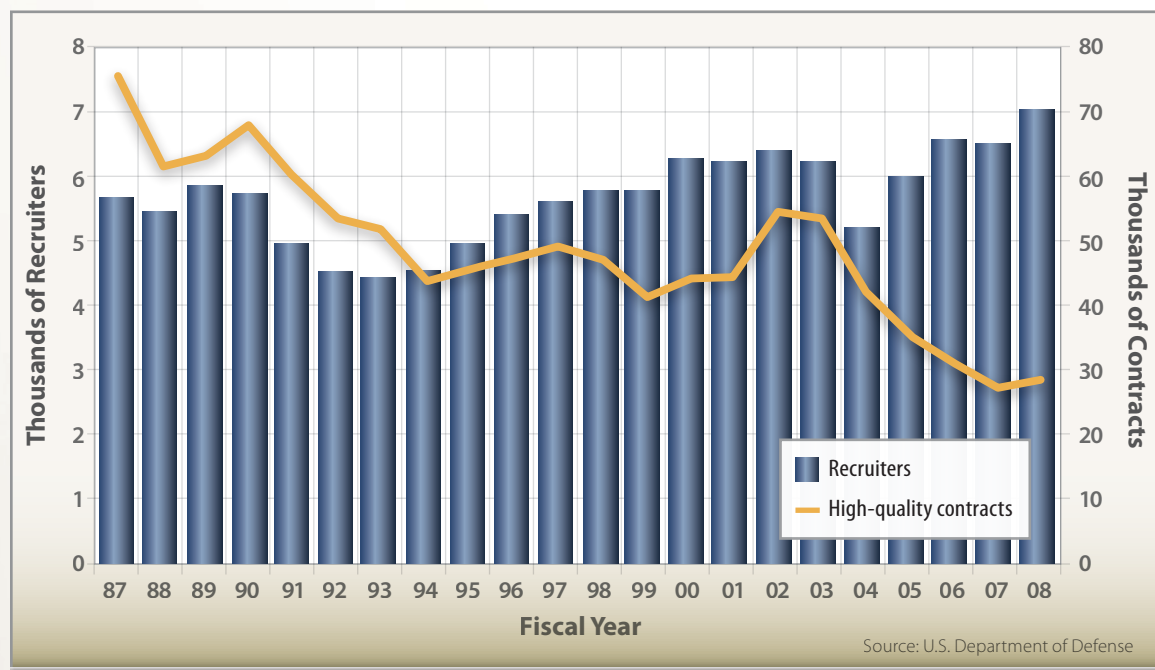
---

24. Another study reports a similar recruiter effect with a 10 percent change in the recruiter force resulting in a 6.2 percent change in Army enlistments (Asch et al. forthcoming).

25. Because the size of the enlisted force is capped, a service member assigned to recruiting duty, beyond the authorized recruiter strength, is a member that has to be taken away from the field or the fleet. Thus, the services must balance the benefit of adding to the recruiter force with a potential decline in readiness as a result of pulling members from the field—a balance that is not based purely on "dollar cost."

The number of Army recruiters has fluctuated considerably since 1987 (Figure 11). Between 2002 and 2004, for example, the number of recruiters declined 23 percent, resulting in a significant decline in high-quality enlistment contracts. Substantial increases in the recruiting force beginning in 2004 helped slow the steep decline in high-quality enlistments, with the total number of recruiters growing from 5,000 to 7,000 by 2008. But the impact on enlistments of a larger recruiting force is not immediate. And it was not until 2008 that the number of high-quality recruits began to recover and increase—more than three years after the initial infusion of new recruiters. A decade earlier it also took three years for the 1998 recruiter force expansion to begin appreciably boosting high-quality enlistments.

Another important argument for maintaining a stable and sizeable recruiter force is the military presence it provides in communities across the country. This presence serves to counteract the shrinking veteran population that traditionally provided role models for young people, particularly in those areas of the country with small veteran populations. Recruiters take on added importance in their roles as community members who can share their positive military experiences with young people and their parents. Downsizing the recruiter force too much when the recruiting climate is favorable may erode the military presence in local communities and could chip away at propensity. In the early 1990s, for example, a weak economy and the military drawdown eased recruiting challenges, prompting the services to cut back on recruiters and close a number of small recruiting offices. These decisions eliminated the military's presence in many communities, perhaps affecting propensity in the long term (Warner and Asch 2001). Such consequences should be considered carefully as the military services respond to today's more favorable recruiting environment.



**Figure 11.** Army Recruiters and High-Quality Enlistment Contracts



And in fact, several studies have found that zip codes located furthest away from recruiting stations produce fewer recruits. Not only do these communities lack the consistent military presence associated with a recruiting station, residents (or visiting recruiters) face longer travel times, and interested youth have little opportunity to “walk-in” to a local station (Goldberg, Cooper, and Wait 2008). These authors suggest that, in some instances, it may be more beneficial for a service to open a new recruiting station than to expand the number of recruiters at existing stations.

Not surprisingly, when the economy expands and the recruiting environment deteriorates, recruiters have to work harder to enlist the same number of recruits. In other words, their productivity declines, making it even more important to maintain a robust and experienced recruiter force. Aside from such cyclical changes in productivity, Army recruiters also have experienced a more prolonged productivity decline, with total monthly contracts per recruiter falling from an average of 1.53 in 1993 to 1.09 in 2008—a near 30 percent drop. The effect of this productivity decline can be seen in Figure 11, with high-quality enlistments tracking less closely to changes in the size of the recruiting force since the mid-1990s. The differential became particularly pronounced in the middle part of this decade, at the height of combat operations in Iraq.

Along with increasing the size of the recruiter force, the services continue to explore reforms to enhance recruiter effectiveness and productivity. Since recruiters are the military’s sales force, their selection, training, incentive, and support systems should all be designed to maximize their selling potential. To better identify those members who are well suited for recruiting assignments—and hence improve recruiter productivity—the Army now uses a personnel evaluation tool to assess those characteristics and abilities that are important to recruiter effectiveness, such as sales talent, social judgment, and leadership ability (Halstead 2009). Implemented in 2006, this new selection tool has enabled force managers to better identify those service members who are most likely to succeed as recruiters.

Recruiters with similar characteristics to the youth they are recruiting also tend to be more productive, such as recruiters assigned to their home states or minority recruiters assigned to areas with significant minority populations. Younger recruiters (under age 30) also tend to be more productive than their older colleagues (Dertouzos and Garber 2006). Providing recruiters with better “tools”—such as the department’s increased support of more attractive and conveniently located recruiting office space—could also boost productivity. Studies have shown that conveniently located recruiting stations have a positive impact on enlistments (Hogan et al. 1998).

Establishing appropriate recruiter goals and effective incentive systems can also affect recruiter productivity, enlistment levels, and recruit quality. In fact, one study of the 2001–2003 recruiting period found that a more effective allocation of mission goals among existing stations could have increased high-quality enlistments by as much as 2.7 percent at no additional cost (Dertouzos and Garber 2006). And because low-quality youth are easier to recruit than high-quality youth, recruiter goals and incentives should be designed in ways that focus recruiter efforts on the more challenging high-quality youth market.

Furthermore, some argue that recruiters themselves should take ownership of their goals. More specifically, recruiters and their commanders would together establish enlistment goals, for which recruiters would then assume responsibility (Thurman 1986). Based on recommendations

from a 2008 study of its recruiting system (Dertouzos and Garber 2008), the Army recently implemented several critical changes to its recruiter program, principal among them being a revision in how recruiter goals are set. The Army also made modifications to assignment policies, incentive programs, and target market strategies.

Recruiter goals and incentives also influence the effectiveness of other recruiting tools, such as advertising or enlistment bonuses. That is, the maximum impact of increasing one recruiting tool, such as enlistment bonuses, may not be fully achieved if recruiters expend less effort and do not increase overall enlistments. Increasing recruiter goals may be one way to avoid reductions in recruiter effort and maximize the return on new recruiting resource investments (Dertouzos 1985; Polich et al. 1986).

## Advertising

At \$661 million, advertising and marketing research accounted for approximately 19 percent of total recruiting resources in fiscal year 2008. There are separate advertising programs for each service, as well as a joint advertising program designed to promote military service in general. A main focus of each service's advertising campaign has been to encourage youth to join its own service. They market their "brand" by promoting education assistance, job training opportunities, enlistment bonuses, and other benefits available in their service.

The services use a range of media to get their recruiting messages out to youth and the people who can influence their career decisions. These include television, radio, newspapers, magazines, and direct mail. The precise media mix varies by service, and is partly based on budgetary considerations and the recruiting environment. Television advertising, for example, is extremely effective, but is also very expensive. Less costly strategies may be more successful for smaller operations, such as the joint advertising program, which relies primarily on direct mail to get out its message (Dertouzos and Garber 2003). In recent years, the emergence and growing popularity of new media—such as the Internet, cable television, and sponsored events—has substantially changed how the services allocate their advertising dollars (Dertouzos 2009).

Various studies of military advertising have concluded that it has a positive impact on high-quality enlistments (Asch, Hosek, and Warner 2007; Dertouzos 2009). For example, one study estimated that a 10 percent increase in the advertising budget would increase the number of high-quality recruits by about one percent for the Army, although the results vary by service (Warner and Simon 2005). And research on the 2002–2003 recruiting budget concluded that the cost-effectiveness of Army advertising spending compared favorably with other recruiting tools, with a marginal cost of \$10,000 per enlistment, compared to \$15,000 for recruiter spending, and over \$90,000 for bonuses. The marginal cost for the other services was estimated to be even lower, at \$8,000 per enlistment over the 2002–2004 period (Dertouzos 2009).

For a variety of reasons, however, the precise effect, and the impact by service, is difficult to measure. Part of the difficulty in estimating the impact of advertising stems from the delayed effect that military advertising can have on youth attitudes and behavior—particularly advertising that might increase propensity long before youth make the decision to enlist (Dertouzos 2009). Lag times also vary among the different types of advertising. Television advertising, for example, has a large upfront impact on enlistment decisions, while the enlistment effect from

radio and magazine advertising can take more than a month to materialize and endure for several more months (Dertouzos and Garber 2003). Hence, studies that measure advertising impacts during a narrow time frame will not capture the sometimes substantial effects that occur outside that time frame (Asch and Orvis 1994).

Furthermore, if estimates of advertising effectiveness are based on less than optimal levels of advertising expenditures, they would underestimate the potential impact of advertising spending (Dertouzos and Garber 2003).<sup>26</sup> Data limitations also contribute to difficulties in estimating advertising effectiveness, particularly the lack of outcome measures to assess program performance (U.S. General Accounting Office 2003). Also, industry standards for reporting and monitoring nontraditional media, such as Internet activities and events-based advertising, are still evolving, making an accurate assessment of advertising in those rapidly growing media outlets difficult (Dertouzos 2009).

Historically, advertising funding suffered from the same cyclical fluctuations as the budget for recruiters, rising in difficult recruiting times and falling when a struggling civilian economy or shrinking enlistment goals eased recruiting difficulties. Figure 12 shows funding levels for the four services' advertising programs from 1985 to 2008, adjusted for inflation. Advertising budgets plummeted by over 60 percent between 1986 and 1993, as the size of the force was reduced. Funding remained relatively low until major recruiting challenges arose in the mid-to-late 1990s and spending rebounded, with all of the services increasing their advertising expenditures beginning in 1998. Since 2000, total advertising spending has grown significantly, driven largely by increased Army and Marine Corps expenditures. It is clear that significant investments in recent years have been needed to respond to the current recruiting challenges, particularly in these two services.

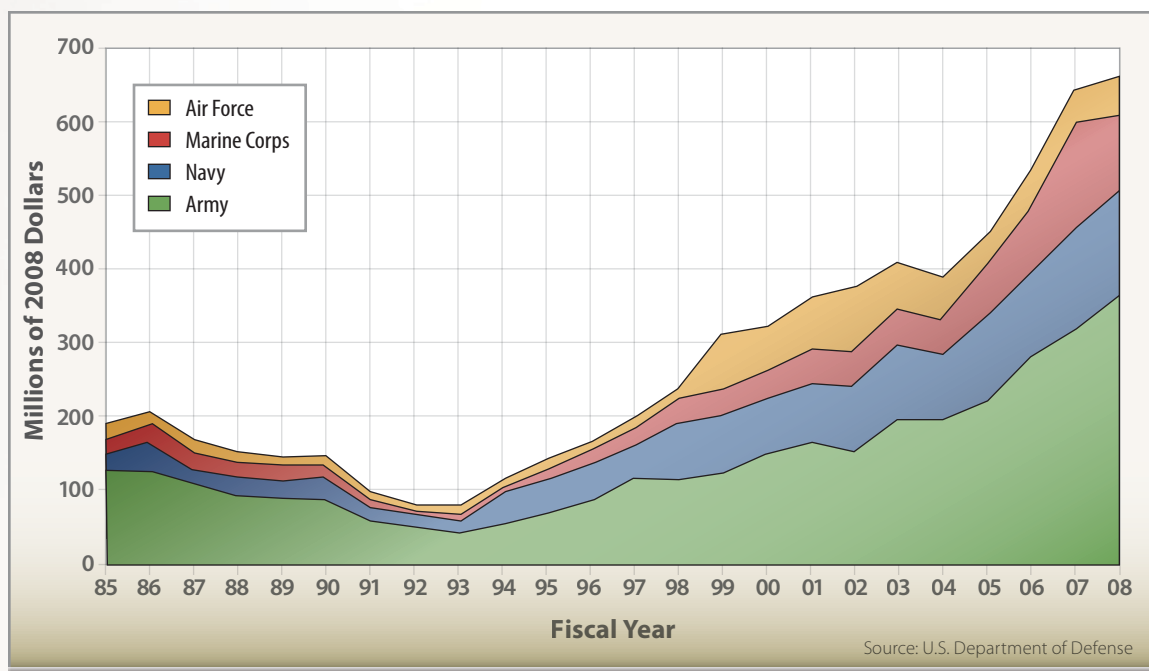
Linking spending on military advertising to the ups and downs of the recruiting climate disregards the delayed impact of advertising on behavior, as well as the important long-term role that advertising can play in generating awareness of the military and in improving youth propensity for military service. Regardless of the enlistment climate at any given time, an ongoing advertising effort to promote military service could increase propensity and improve enlistment results in the future. If advertising spending is cut back to much when recruiting is strong, that potential long-term gain in awareness and propensity may be lost (National Research Council 2003). In fact, the dramatic advertising cutbacks between 1986 and 1993 coincided with a considerable erosion of public awareness regarding military service. The loss of awareness during this period had a serious effect, as it appeared that many in the public believed the military was no longer "hiring" (Dorn 1996).

Joint advertising that supplements service-specific advertising can play a crucial role in educating young people and those who influence them about the values of military service and in exposing them to positive messages about the military. Some have argued that advertising that promotes military service in general, by focusing on the honorable and patriotic aspects

---

26. The effectiveness of advertising spending is said to follow an "S-curve." According to this concept, the level of advertising must reach a certain threshold before it begins to have an effect on the audience; below that level, it would have little or no effect. As advertising spending is increased, it eventually reaches a saturation point beyond which additional spending would have minimal impact. These threshold and saturation points are different for each advertising medium (Dertouzos and Garber 2003).





**Figure 12.** Advertising Expenditures

of service, may be a compelling message and should be a more prominent theme in military advertising (Bozell/Ezkew et al. 2002). By making more youth positively disposed toward the military, expanded values-focused advertising could increase the pool of young people who would be receptive to service-specific advertising—and military service—in the future. In contrast, service-specific advertising messages designed to compete for youth who are positively disposed to military service appear to do little to increase the size of that pool; they merely focus favorably inclined youth on a particular service (National Research Council 2003; U.S. Department of Defense 2000a).<sup>27</sup>

The services continue to redesign their advertising campaigns to better utilize emerging media and to more closely reflect youth media habits. Today, youth spend more time on the Internet, watching cable television, and playing video games, and less time on newspapers, magazines, and network television. The services have responded to such changes by channeling more of their advertising resources into these popular media venues, and sharply reducing spending on print media and radio (Dertouzos 2009). In addition to reallocating advertising dollars, the services are using new and nontraditional approaches to reach out and convey their message to young people, including initiatives such as sponsored NASCAR teams; advertising in movie theaters; swearing in of enlistees at sporting events; and creative use of the Internet, including “chat rooms,” Twitter, Facebook, and other social networking websites.

27. The research is somewhat mixed regarding the inter-service impact of advertising. A review of the services’ advertising programs during the early 1980s concluded that there were positive spillover effects among the programs; that is, advertisement-generated enlistment gains for one service did not come at the expense of another service (Dertouzos 1989). However, a more recent review of Army advertising from 2001–2002 found that increased advertising by another service siphoned off enlistments from the Army and substantially reduced the effectiveness of Army advertising (Dertouzos 2009).

Because parents have substantial influence over their children's decisions about military service, the services have also developed advertising messages that emphasize those aspects of military service that may appeal to parents. An ongoing joint advertising campaign in the print media urges parents to educate themselves about the value of a military career by citing Internet resources for parents. Complementing the print media campaign are televised public service announcements encouraging parents to learn more about the military so that they can have two-way conversations with their sons and daughters about the military as a career. Results from the advertising campaign, *Today's Military Conversations*, demonstrate that the department's joint advertising and marketing effort is achieving success and positively influencing adults' perception of the military. Specifically, adult influencers who have seen these commercials are more likely to recommend military service and to support a youth interested in joining.

In addition to refocusing the advertising message, productivity gains could be realized by reallocating advertising dollars to achieve a more cost-effective media mix. For example, magazine advertising is extremely effective at low spending levels. In contrast, TV advertising, which can have a larger impact on recruiting than either magazine or radio advertising, does not become cost effective until much higher spending levels. Investing in these media at less than optimal spending levels will reduce their cost-effectiveness. Research has shown that establishing a different media combination could be more cost effective, thereby increasing enlistments without increasing total advertising spending. Monthly fluctuations in spending also limit the effectiveness of advertising resources, with spending sometimes dipping below minimally acceptable levels, and at other times surpassing saturation points. To the extent that advertising spending varies from month to month, allocating resources more evenly throughout the year can improve productivity and boost enlistments—without increasing spending (Dertouzos 2009).<sup>28</sup>

## Enlistment Bonuses

Cash incentives designed to induce potential recruits to enlist, enlistment bonuses are extremely valuable in helping the services meet their recruiting goals. They are also important for channeling high-quality recruits into hard-to-fill career fields and, in some cases, for longer terms. Additionally, the services offer bonuses to recruits willing to go to particular locations and who agree to “ship” to basic training at a specific time (often very quickly) in order to even the flow of recruits to the training base. Unlike a basic pay increase, which must be paid to all enlistees, enlistment bonuses can be targeted to particular high-quality recruits who are willing to enlist in skills where there are shortages, making bonuses a much more cost-effective incentive.

In general, to qualify for an enlistment bonus an enlistee must be a high school graduate, have a score of 50 or above on the AFQT, and agree to serve in an eligible career field for a specified term of service. The types of hard-to-fill positions typically eligible for bonuses are demanding or hazardous posts (such as combat) or those occupations in high demand in the private sector.

In 2007, in response to the increasingly difficult recruiting situation, Congress doubled the size of the maximum allowable enlistment bonus from \$20,000 to \$40,000. The specific occupations eligible for bonuses vary by service, as does the overall number of bonus-eligible occupations. The

---

28. In fact, in a review of advertising expenditures from early in the decade, Dertouzos (2009) estimated that spreading out monthly spending levels evenly during that period would have increased enlistments by twice as much as a 10 percent increase in total spending.

Army, for example, has traditionally offered bonuses to high-quality enlistees entering a wide range of its occupational specialties, while the Air Force targets its bonus program to enlistees in a much smaller subset of career fields. The length of service necessary to qualify can also differ, with the Army typically authorizing bonuses to enlistees who commit to three- or four-year terms, while the Air Force generally limits eligibility to those who enlist for six years. These differences reflect different service objectives. The Army program tends to increase total high-quality enlistments, while the Air Force program is effective at steering high-quality recruits into hard-to-fill jobs for longer terms.

The services regularly modify the amount of bonus awards and “turn on or off” eligibility for various career fields depending on personnel needs, the supply of quality recruits, and the available budget. When bonuses are limited to enlistees who commit to longer service contracts, they encourage extended terms of service, which leads to a more skilled and experienced force, reduced training costs, and lower enlistment requirements over the long term. Since 1998, the Air Force has used the Enhanced Initial Enlistment Bonus program, which provides larger enlistment bonuses to recruits who commit to longer initial service terms in occupations with traditionally high turnover or training costs. The program has not only successfully extended terms of service, but also is more cost effective than other term-lengthening tools (Simon and Warner 2009).<sup>29</sup>

The services have also used bonuses to encourage enlistees to enter the military during off-peak months, which lowers training costs by providing a steadier stream of recruits into training programs throughout the year. In late 2007, for example, the Army offered “quick ship” bonuses to new recruits who entered active duty before the end of the fiscal year—a move that allowed the Army to overcome a recruiting deficit and meet its 2007 recruiting goals and readiness needs. Likewise, an evaluation of the Navy’s nuclear field bonus program found that increasing off-peak bonuses by 1 percent reduced peak summer month accessions by 1.9 percent (Hansen, Wills, and Reese 2004).

Studies typically show that enlistment bonuses have a positive effect on recruiting, although results are small and vary across the services. One review estimated that a 10 percent increase in the bonus amount would increase high-quality Army enlistments by between 0.5 and 1.7 percent. Thus, the increase in the average Army enlistment bonus between 2004 and 2008, a period when bonuses nearly tripled, increased high-quality enlistments by as many as 5,300 soldiers per year.<sup>30</sup> If Army bonus levels had not increased beyond their 2004 levels, the Army would have enlisted 26,700 fewer high-quality recruits over the subsequent five year period (Asch et al. forthcoming).

Table 1 details the share of each service’s recruits, in 2005 and 2008, who enlisted with a bonus, as well as the size of the average bonus and each service’s total bonus budget. Although participation rates vary by service, and few enlistees receive the \$40,000 maximum, each of the four services substantially increased its enlistment bonus budget between 2005 and 2008—not surprising given the deteriorating recruiting situation during this period. The average bonus amount rose in

29. Warner and Simon (2005) estimate that setting six-year enlistment bonuses \$2,500 higher than four-year enlistment bonuses increased longer enlistment contracts by 15 percentage points.

30. Fiscal year 2004 was used as the basis for this estimate because the average Army enlistment bonus was at its lowest point in over five years.



**Table 1.** Enlistment Bonus Programs, Fiscal Years 2005 and 2008

	Army		Navy		Marine Corps		Air Force		DOD	
	2005	2008	2005	2008	2005	2008	2005	2008	2005	2008
Total enlistments (nonprior service)	65,019	69,360	37,460	37,959	32,234	37,019	19,174	27,765	153,887	172,103
Number receiving enlistment bonuses	41,858	46,994	19,429	17,524	2,005	11,638	1,543	5,376	64,835	81,532
Percent receiving enlistment bonuses	64.4%	67.8%	51.9%	46.2%	6.2%	31.4%	8.0%	19.4%	42.1%	47.4%
Average bonus amount	\$11,090	\$18,304	\$5,677	\$11,065	\$4,120	\$6,998	\$7,322	\$4,359	\$9,163	\$14,215
Bonus dollars obligated (millions)	\$464.2	\$860.2	\$110.3	\$193.9	\$8.3	\$81.5	\$11.3	\$23.4	\$594.1	\$1,159.0

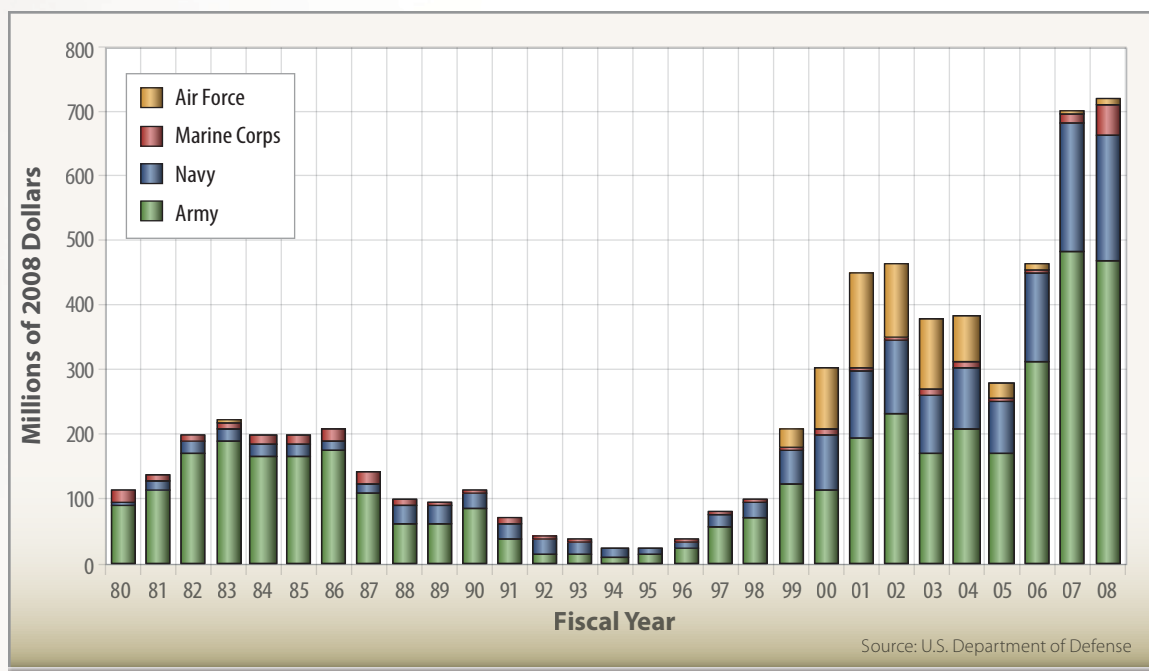
Source: U.S. Department of Defense

all services but the Air Force, and all services except the Navy expanded the number of enlistees receiving bonuses.

The Army has the largest bonus program, with over two-thirds of its 2008 recruits receiving an enlistment bonus that averaged more than \$18,000; followed by the Navy, which awarded enlistment bonuses that averaged \$11,000 to about 46 percent of its 2008 recruits. Although the Air Force and Marine Corps traditionally have had relatively small bonus programs compared to the Army and Navy, their programs have grown considerably over the past few years in response to the prevailing recruiting challenges. In 2005, for example, only 6 percent of Marine Corps recruits were offered enlistment bonuses, compared to nearly one-third of its 2008 recruits.

While enlistment bonus expenditures rose dramatically between 2005 and 2008, Figure 13 illustrates that such variability is not unusual in the all-volunteer force.<sup>31</sup> In fact, the resources devoted to enlistment bonuses have fluctuated over time, with the services cutting back bonus awards and program eligibility during favorable recruiting periods and expanding them when recruiting became more challenging—precisely as the bonus program is intended to be used. During the robust recruiting climate of the late 1980s to mid-1990s, for example, the Army reduced the number of occupations eligible for bonuses to the point where only 13 percent of high-quality enlistees received the incentive. Since the mid-1990s, the services have expanded their use of enlistment bonuses. Total bonus expenditures have grown from \$24 million in 1995 to over \$700 million in 2008. Much of the increased spending between 2000 and 2004 was the expanded use of bonuses by the Air Force—an effort to forestall recruiting shortfalls in a competitive market. Since that time, the rest of the services have dramatically increased bonus

31. Annual bonus expenditures, as depicted in Figure 13, are typically less than the total bonus dollars obligated (Table 1) because many enlistment bonuses, after the initial payment, are paid to recruits in subsequent installments.



**Figure 13.** Enlistment Bonus Expenditures

expenditures. Interestingly, since the mid-to-late 1990s bonuses have overtaken educational benefits as the primary enlistment incentive.

## Educational Benefits

The services offer a range of educational benefits to attract youth into military service. With more and more young people planning to attend college, combined with the rising costs of college tuition,<sup>32</sup> educational benefits represent an increasingly important and effective recruiting tool for a growing segment of the youth population, particularly those high-quality youth most sought after by the services. In fact, among all the benefits associated with enlistment, educational benefits are usually the most frequently cited reason for joining the military. In a 2006 poll, 43 percent of responding teens indicated that “pay for future education” was one of the main reasons for considering military service (Teenage Research Unlimited 2006). And a survey of new recruits in the Army revealed that 11 percent identified “money for education” as their most important reason for enlisting.<sup>33</sup>

In order to accommodate and support youth at various stages of their academic careers, the military provides an array of educational benefits that can be used before, during, and after military service. The major educational benefits available to service members are the GI Bill and the Army, Navy, and Marine Corps College Funds. These programs have historically provided financial assistance for service members once they leave active duty, although recent changes to the GI Bill provide new incentives to encourage service members to utilize their GI Bill benefits while

32. From 1996 to 2006, tuition costs at two-year colleges increased by 63 percent, while costs at four-year colleges rose 78 percent (U.S. Department of Education 2007c).

33. Other top reasons for joining the military included “wanted to serve country” (41 percent), “wanted the skills I will learn” (20 percent), and “wanted adventure” (14 percent). U.S. Department of the Army, FY 2007 New Recruit Survey Data.

still on active duty. In addition to the GI Bill, the services also offer tuition assistance and other educational programs to help service members pursue education while on active duty (Thirtle 2001).<sup>34</sup> Additionally, the services can use loan repayment programs to attract youth who may have existing college loans to pay off.

### ***GI Bill and College Funds***

**GI Bill.** A cornerstone of military recruiting efforts for decades, the GI Bill program has been essential to the success of the all-volunteer force. Most active duty service members and mobilized reservists are eligible to participate in the program, which is administered by the Department of Veterans Affairs. From the mid-1980s until August 2009, these education benefits were provided through the Montgomery GI Bill (MGIB). In 2008, however, Congress greatly expanded GI Bill benefits with enactment of the Post-9/11 Veterans Education Assistance Act, a new benefit available to personnel who have served at least 90 days on active duty since September 11, 2001. Compared to the MGIB, the new program—referred to as the Post-9/11 GI Bill—offers more generous tuition assistance to better cover the costs of veterans' higher education, establishes stipends for housing and other expenses, eliminates required monetary contributions from participating members, extends the eligibility period for drawing down benefits, and authorizes the transfer of GI Bill benefits to family members.<sup>35</sup>

For 15 years after discharge, the Post-9/11 GI Bill benefit is available to provide eligible veterans with tuition assistance for up to 36 months to help pay for college, as well as assistance with living and other expenses. The actual benefit varies depending on course load, state of residence, and duration of active duty service, with reduced amounts available to those who attend school part time or who served less than 36 months of active duty. Full-time students who served for at least 36 months receive 100 percent of their tuition costs, up to the amount charged by the most expensive public university in the state in which the school is located. Veterans who are attending school more than half time are also eligible for a monthly housing allowance averaging approximately \$1,200 in 2009, as well as a \$1,000 annual stipend for books and supplies.

While the MGIB program has generally been utilized by veterans after they leave the military, the Post-9/11 GI Bill program allows career active duty service members to transfer their GI Bill benefits to family members, enabling them to tap into the benefit while remaining in service. Additionally, since service members who use the benefit while on active duty are not subject to the public school tuition and fees cap, the Post-9/11 program provides generous subsidies to encourage personnel to continue their education while in service.

Heavily utilized by service members, the GI Bill program is a highly valued benefit. Under the Montgomery GI Bill, new recruits wishing to participate in the program were required to have their pay reduced by \$100 per month during their first year of service. Even with this monetary contribution, the Department of Defense estimated that over 95 percent of each year's new

---

34. While tuition assistance is designed to help service members pursue their education while on active duty, one study found that personnel who utilize the benefit have higher first-term attrition rates than other personnel; perhaps because participation in the tuition assistance program indicates a robust interest in a college education, which can be achieved more quickly outside of the military (Buddin and Kapur 2002).

35. The MGIB also remains available to new enlistees, subsidizing education outside the scope of the Post-9/11 GI Bill. While the latter is limited to enrollment at colleges and universities, the MGIB can be used for other types of education, such as technical and vocational training, flight training, and apprenticeship or on-the-job training.



recruits chose to enroll in the program, with over 70 percent eventually tapping into their GI Bill benefit after leaving the military.

Usage of the GI Bill benefit is likely to increase even more under the Post-9/11 GI Bill program, which approximately doubles the size of the benefit and eliminates the \$1,200 buy-in requirement for participation. The new benefits may also be an attractive enlistment incentive for highly qualified, education-oriented youth, who are the target population for the military, but whose propensity and participation has dropped, particularly since the onset of the war in Iraq (Simon, Negrusa, and Warner forthcoming).

**College Funds.** The Army, Navy, and Marine Corps also operate College Fund programs to supplement the basic GI Bill benefit.<sup>36</sup> The College Funds provide additional educational benefits, or “kickers,” to high-quality recruits who serve in crucial or hard-to-fill fields for specified terms of service.<sup>37</sup> The size of the College Fund kicker is based on an enlistee’s length of service and occupation. Personnel participating in the program can receive up to \$950 per month in addition to their basic GI Bill benefit. Under the Montgomery GI Bill program, this could result in total combined GI Bill and College Fund benefits of over \$70,000 (Thirtle 2001). Under the Post-9/11 GI Bill program, maximum educational benefits may easily exceed that amount.

Several studies have concluded that both the Army and Navy College Funds increase high-quality enlistments. One analysis estimates that a 10 percent increase in College Fund eligibility would increase high-quality Army enlistments by about 2.6 percent (Warner and Simon 2005).<sup>38</sup> Another study estimated that more than half of the 14,000 high-quality Army enlistees who received College Fund benefits in fiscal year 1997 would not have enlisted absent that incentive, and that about 18 percent of the Navy’s 9,200 College Fund recipients would not have enlisted. The smaller effect on Navy enlistments may be partly due to the longer service commitments typically required to qualify for the Navy College Fund (Warner, Simon, and Payne 2001).

**Impact on Retention.** Although educational benefits are an effective way to increase enlistments among high-quality youth who plan to attend college, some service members are understandably eager to finish their term of service so that they can begin to put their education benefits to use. In fact, all else being equal, high-quality recruits generally have lower retention rates than other enlistees (Simon, Negrusa, and Warner forthcoming). And while Army College Fund participants are more likely to fulfill their service commitment, they are less likely to reenlist than other service members (Asch and Dertouzos 1994) and tend to favor shorter terms (Warner, Simon, and Payne 2001).

Moreover, the likelihood of reenlistment declines as the value of the educational benefit increases. One study estimates that the substantially more generous benefits available under the Post-9/11

36. The Air Force does not offer College Fund benefits, instead focusing its education resources on tuition assistance for active duty personnel (Thirtle 2001).

37. For purpose of College Fund eligibility, high quality is defined as high school graduates who score 50 or above on the AFQT.

38. The actual College Fund and GI Bill expenditures necessary to achieve these enlistment results are somewhat less than the grant awards offered to enlistees. Most recipients do not tap into their benefit until after leaving the military, which postpones the payout for several years and reduces the net present value of the benefit. Moreover, some recipients do not use the entire award (Asch and Dertouzos 1994). The use of educational benefits contrasts with enlistment bonuses, for which a significant portion is typically paid up front, with the remainder paid in installments while the member is still in service.

GI Bill will reduce retention in all services except the Navy, with first-term retention in the Army predicted to decline by up to 8–12 percentage points (from 40 percent down to between 28 and 32 percent). Hence, some of the recruiting gains resulting from the new education benefit may be offset by lower retention (Simon, Negrusa, and Warner forthcoming).

In order to moderate the negative effect that the more generous Post-9/11 GI Bill benefits may have on retention, Congress included in the new program a provision proposed by the department that allows those personnel with at least six years of service (who also commit to another four years of service) to transfer their GI Bill benefits to family members. This transferability authority enables members to utilize their GI Bill benefit without necessarily having to leave the military, thus potentially reducing separations and increasing retention.<sup>39</sup> Such transferability had long been promoted by military family advocates, and responses to a DOD member survey indicate that the new authority will be heavily utilized by eligible service members, with over 90 percent of members with children indicating they will transfer benefits to their children, and over 70 percent of those with spouses planning to transfer benefits to their spouse. These results suggest that the transferability provision will be an attractive incentive for members and potential recruits, and could also curb potential retention losses.

The Post-9/11 GI Bill also encourages retention by offering more generous educational benefits to service members who tap into the program while still on active duty. Specifically, for active duty personnel pursuing higher education, the new program covers full tuition and fees at any school, with no cap on tuition costs. In contrast, tuition payments to veterans no longer on active duty are capped at the amount charged by the most expensive public university in the state in which the school is located. With substantially larger benefits available to active duty personnel, the Post-9/11 GI Bill could encourage some service members to continue their education while still on active duty, thus providing another counterbalance to the new program's effect on retention.

### ***Other Educational Benefits***

Given rising interest in a college education, it is advantageous for the military services to show that pursuing college and a military career need not be an “either/or” proposition—a viewpoint not yet widely shared by college-bound youth. One survey of college students, for example, found that more than half believe that military service would interfere with their education (Asch and Loughran 2005). Yet opportunities to pursue a college degree while in the military do exist and are growing.

Continuing education is highly valued in today's military. All of the services offer a range of programs designed to provide active duty personnel with the flexibility, convenience, and financial resources they need to continue their education while meeting their service obligations. These include generous tuition assistance to cover education costs, as well as programs that utilize military training facilities, networks of affiliated colleges, distance learning, and credit for military service and training—programs such as the Community College of the Air Force, Servicemembers Opportunity Colleges, Program for Afloat College Education, and the U.S. Army University Online (Thirtle 2001). As mentioned above, service members can also use

---

39. During hearings on the Post-9/11 GI Bill, the department expressed concern that the new program's positive impact on enlistments would be more than offset by the negative effect it would have on retention. For a more in-depth description of the department's concerns—and its transferability proposal—see the testimony of Dr. Curtis Gilroy, Director of Accession Policy of the Under Secretary of Defense for Personnel and Readiness, before the Subcommittee on Economic Opportunity of the Committee on Veterans' Affairs. U.S. House of Representatives, 110th Congress, April 16, 2008 (pp. 41–2) and September 24, 2008 (pp. 62–3).

their Post-9/11 GI Bill benefit to cover educational costs while on active duty, with the program covering full tuition and fees at any institution.

## Military Pay

In order to successfully recruit high-quality youth, the military must offer pay rates that are comparable to private sector earnings. If military pay declines relative to private sector salaries, youth will opt for more lucrative private sector jobs, and interest in military service will decline. Raising military pay relative to civilian earnings, in contrast, will make military service a more attractive career choice and increase enlistments.

Analysis has consistently shown a clear relationship between pay and high-quality recruits—when basic pay declines relative to civilian pay, the percent of high-quality enlistees declines as well. Recent analyses of the impact of relative pay estimate that a 10 percent increase in military pay would increase high-quality Army enlistments by between 7 percent (Simon and Warner 2008) and 11.3 percent (Asch et al. forthcoming). But as a policy tool, the pay hikes necessary to generate such impressive recruiting growth would be extremely expensive, since a pay raise designed to increase enlistments would have to be paid to all new enlistees, even those who would have enlisted at the original lower pay rate, as well as to the entire force. Today, a single percentage-point increase in basic pay (for both active and reserve members) adds about \$1 billion to the annual defense budget.<sup>40</sup> Thus, increasing military pay is not a cost-effective way to boost total enlistments.

While an across-the-board pay raise is not generally viewed as an efficient recruiting tool, *per se*, it is a policy tool at the department's disposal. As the history of the all-volunteer force has shown, allowing military pay to fall too far behind the salaries offered in the private sector could have deleterious effects on both recruiting and retention. A drop in relative military pay was one of the key contributors to the recruiting crisis that threatened the viability of the all-volunteer force in the late 1970s. The situation began to turn around when Congress instituted 11.7 and 14.3 percent military pay increases in 1981 and 1982 to restore comparability between civilian and military pay (Gilroy, Phillips, and Blair 1990).

The military must therefore be vigilant in ensuring that the pay of service members remains comparable to that of civilians with similar levels of education and experience (Rostker and Gilroy 2006). This issue was addressed by The Ninth Quadrennial Review of Military Compensation (QRMC), which identified earnings disparity as an important issue in sustaining high-quality enlistments. The QRMC held that in order to maintain comparability between military and civilian pay, regular military compensation should be set at approximately the 70th percentile of earnings for comparably educated individuals in the civilian sector—a finding subsequently endorsed by the 10th QRMC as well (U.S. Department of Defense 2008a).<sup>41</sup> This above-average

40. The annual military pay raise is set by Congress and is typically based on the increase in private sector wages as measured by the employment cost index (ECI), which is calculated by the Bureau of Labor and Statistics. For the past several years, Congress has set the pay raise 0.5 percentage points above the ECI increase—an amount higher than the increase requested by the department in the President's Budget. The fiscal year 2009 pay raise, for example, was 3.4 percent, 0.5 percentage points above the 2.9 percent ECI for that year.

41. Regular military compensation is made up of basic pay, housing and subsistence allowances, and the tax advantage of paying no federal taxes on the housing and subsistence allowances.



pay reflects the personal hardships and potentially hazardous working conditions associated with military service (Asch, Hosek, and Warner 2001), as well as the fact that military enlistees typically have above-average aptitude and achievement.

While pay comparability is not a general concern today, it is an issue for certain hard-to-fill occupations and skills that command high salaries in the civilian sector, particularly in high technology fields. But as previously discussed, other parts of the military compensation package, such as enlistment bonuses, offer more economical and targeted mechanisms to deal with such requirements. In addition, the services can use special and incentive pays to increase compensation in certain hard-to-fill occupational or skill areas, or for certain hazardous duty assignments. Unlike basic pay, special and incentive pays are designed to target segments of the force where additional compensation is necessary to meet mission and management needs. Broader increases in military pay, however, are important when pay comparability with the civilian sector is out of line across the board, and when increases are needed not only to enable the military to be a competitive employment option but also to retain the current force.

### Relative Effects of Recruiting Resources

The previous sections of this paper have described the key factors that impact the military recruiting environment. In managing the effects of these many influences, military personnel managers must determine the most effective way to allocate resources to ensure that the military services meet their recruiting goals. This is determined by the impact that recruiting resources have on enlistment, as well as their cost. Table 2 summarizes the impact, for the Army, of the various recruiting resources available, as well as some of the other factors that can affect recruiting.<sup>42,43</sup>

As the table shows, high-quality enlistments are most responsive to increases in military pay. That said, it is also the most expensive tool for boosting recruits, with a marginal cost of over \$200,000 per recruit (based on a four-year enlistment). As previously discussed, it is not a cost-effective choice for addressing targeted recruiting needs within certain occupational or skill areas.

Increasing the number of recruiters is the next most responsive recruiting tool and points to the importance of maintaining an appropriately sized recruiting force. As is evident in the table, the detrimental impact from losing seasoned recruiters is greater than the positive effect associated with increasing the size of the recruiter force. Also, compared to across-the-board pay increases, recruiters have a much lower marginal cost.<sup>44</sup> While somewhat less effective as compared to

42. Although there are many studies that estimate the effects of recruiting resources and other factors on enlistment—using different methodologies, time periods, data, and variables—the effects discussed in this paper are the most recent estimates available and reflect the realities of the current recruiting environment. A survey of such analyses can be found in Asch, Hosek, and Warner 2007. The ideal way to estimate the relationship between recruiting resources and enlistments, however, is to use experimental data, which was done in the 1980s with bonuses and educational incentives. Using controlled experiments, alternative payment plans were offered to new recruits and their enlistment behavior was observed. However, this technique is time consuming and expensive relative to the studies based on administrative data reported here (see Rostker and Gilroy 2006, p. 249).

43. Recent research on Army and Navy enlistees indicates that the effectiveness of some recruiting tools can vary by race and ethnicity. Although such variability is not included in the figures presented here, data that detail which recruiting tools are most effective for different populations could improve the efficient utilization of recruiting resources (Asch, Heaton, and Savych 2009).

44. Precise estimates of the cost-effectiveness of each recruiting resource are not offered here, as the estimates vary considerably depending on the impact of the particular resource and the year in which the estimates are calculated. In short, all other policy options are more cost effective than military pay, and investment choices depend largely on the nature of the recruiting challenges facing the services, as has been described in the previous sections of this paper.

**Table 2.** Impact of Various Factors on High-Quality Army Enlistments

Variable	Impact on Enlistments (percent change)
<b>Recruiting Resources</b>	
10 percent increase in recruiters	4.1 to 4.7
10 percent decrease in recruiters	-5.6 to -6.2
10 percent increase in advertising budget	~ 1.0
10 percent increase in bonus amount	0.5 to 1.7
10 percent increase in military pay	7.0 to 11.3
<b>External Factors</b>	
10 percent increase in unemployment	2.0 to 4.0
War in Iraq	-12 to -33

recruiters, advertising is also useful in generating new enlistments. In addition, enlistment bonuses are an important tool for channeling recruits into particular occupational categories, encouraging longer terms of enlistment, and managing the timing of entry into the force. Thus, these too are cost-effective tools on which the services can draw.

## Recruiting in the 21st Century

The services use a broad array of recruiting resources to help them meet their enlistment targets in even the most difficult recruiting environments. Unfortunately, funding for such recruiting tools has varied dramatically over the past three decades, with the services often reducing resources during successful recruiting periods, and then ratcheting spending back up when recruiting conditions deteriorate. While some spending reductions are to be expected during good recruiting times, the history of the all-volunteer force has shown that recruiting is a cyclical business, with good recruiting periods invariably followed by more challenging times. And when resources are cut back too far—particularly the recruiter force—the services do not have the tools they need to respond promptly when the recruiting climate worsens.

In the eight years following the September 11, 2001 terrorist attacks, the military has experienced the ups and downs of a full recruiting cycle: a robust recruiting environment in the months immediately after the terrorist attacks; followed by an extremely difficult period resulting from a booming civilian economy and the deepening war in Iraq; and finally the return to a more favorable recruiting climate in late 2008, when the civilian economy weakened and unemployment rose considerably.

This post-September 11, 2001 period is instructive, as it illustrates both the positive and negative effects that external factors such as the civilian economy can have on the recruiting environment. It also shows that, even in the most challenging recruiting circumstances, the military has the tools necessary to meet its enlistment goals—as long as those tools are utilized in a stable and prompt manner. As the services enter another successful recruiting phase, the achievements and mistakes of the last eight years offer important lessons about maintaining adequate investment levels and avoiding the substantial reductions that have characterized strong recruiting periods in the past.

## Robust Environment: 2001 to 2004

In the months following the September 11 attacks, the services benefited from a strong recruiting environment. Unemployment, which has a substantial effect on recruiting, was on the rise—increasing from 4 percent in 2000, to 5.8 percent in 2002, and 6 percent in 2003. In addition to the softening economy, some of the services (the Navy and Air Force) lowered their recruiting goals between 2003 and 2005, further reducing pressure on their recruiting resources. Not surprisingly, all four services met their enlistment targets during this period, and exceeded the department's quality standards for both the educational attainment and aptitude of new enlistees.

After several years of recruiting in this favorable environment, the services began to reduce their recruiting budgets and cut back their recruiting forces (Figure 14). The Army alone reduced its recruiter force by over 20 percent between 2002 and 2004. While these lower resource levels may have been sufficient to meet enlistment goals in the robust recruiting environment of the preceding few years, they left the services ill prepared for the “perfect storm” of events that would turn 2005 into possibly the most difficult recruiting environment since the inception of the all-volunteer force.

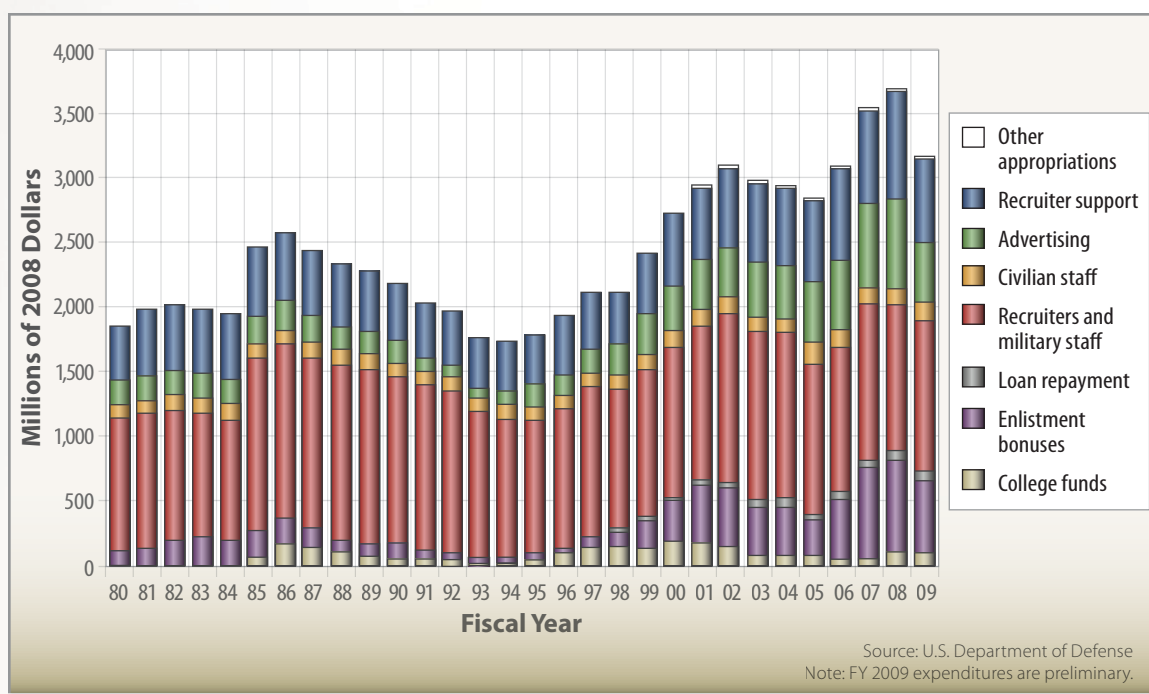
## Conditions Deteriorate: 2005 to 2008

A number of factors set the stage for the recruiting problems that arose in 2005. First, unemployment had fallen from a peak of 6.3 percent in mid-2003 to 4.9 percent by the end of 2005. Even absent the Iraq War and the negative impact that campaign has had on recruiting, this drop in unemployment would have created a tight recruiting market—much like the one experienced in the late 1990s, when three of the four services missed their recruiting goals.

Furthermore, as casualties from the war in Iraq increased, nearing the 2,000 mark, the military as a career option seemed less inviting to potential recruits and those who influence them. Joining the military, with a high probability of going to war, became a challenging mind set for recruiters to counter, particularly for the services recruiting ground forces—the Army and the Marine Corps. Further exacerbating the problems facing those two services were decisions by the department to increase end strength in response to growing requirements for ground forces in Iraq. As a result, annual enlistment goals for the Army increased by over 8 percent between 2003 and 2005 and Marine Corps goals increased by 17 percent between 2003 and 2008—putting further stress on an already strained recruiting corps.

As if such external factors were not enough, the Army—the service hit hardest by these circumstances—had significantly reduced its recruiting budget (and recruiting force) when the recruiting situation was more favorable, and thus entered this period with inadequate resources to address the rapidly deteriorating environment. Although the Army was quick to increase recruiting resources—including additional recruiters, expanded utilization of enlistment bonuses, and other incentives—it would be some time before its most critical investment, additional recruiters, could take hold and begin to yield positive returns. Although advertising resources also increased substantially during this period, such expenditures—like increased spending on recruiters—would take some time before benefits to recruiting were realized. Heading into this extremely difficult period with inadequate resources, the Army struggled to meet its 2005 enlistment goals, and by year's end fell short by more than 6,600 recruits. Although the Marine Corps hit its enlistment target, it required significantly higher resources than the Corps had originally budgeted.





**Figure 14.** DOD Recruiting Budget

The recruiting situation during this period also affected the quality of the force. Between 2005 and 2008, the percentage of accessions that were high quality declined in each of the services except the Navy. The decline was particularly severe in the Army, where the percent of high-quality recruits—high school graduates who scored in the upper half of the military’s aptitude test—dropped from approximately 60 percent earlier in the decade down to 44 percent in 2008. To make up for this loss in high-quality enlistees, the Army recruited more youth who had not graduated from high school or who fell into a lower aptitude category. In 2008, for example, 4 percent of all Army enlistments fell into a lower aptitude category (category IV). Although well below the congressional cap of 20 percent, this was a larger share than in previous years and the maximum percent allowable under the department’s AFQT category IV ceiling.

Adjustments in enlistment criteria during this time period also helped the Army meet its accession goals. For example, in 2005, Congress authorized an increase in the maximum age of new recruits from 35 to 42. Although the authorization was available to all four services, only the Army opted to raise its age limits.<sup>45</sup> Also at this time, the department eased its standards relating to asthma, attention deficit disorder, and attention deficit hyperactivity disorder. To further ease recruiting woes, the services increased the use of waivers, with waivers in the Army, for example, increasing from 19.5 percent of new enlistees in 2006 to 21.5 percent in 2008 (Alvarez 2009).

During this same period, the Army also implemented two important pilot programs designed to expand the pool of eligible recruits. Between 2005 and 2008, about 6,000 Army recruits enlisted annually through the Tier Two Attrition Screen program, which uses specialized testing to identify

45. This new authority has increased the number of older recruits enlisting in the Army, with 10 percent of 2008 Army accessions aged 29 and older, compared to just 2 percent or less of enlistees in the other services age 29 and older.

non-high school graduates who are more likely than other nongraduates to complete their first term of service. Another 1,000 recruits have joined the Army each year since 2006 through the Assessment of Recruit Motivation and Strength program, which enlists slightly overweight, yet otherwise qualified applicants who pass a special physical screen. As testament to the success of these programs, enlisted soldiers have attrition rates that are comparable to personnel who met the Army's traditional enlistment standards for weight and educational attainment.

### Upturn: 2008

In 2008, recruiting difficulties began to ease, as the economy slowed and unemployment, particularly among youth, began to rise. Actions by the services—such as increased enlistment bonuses and expansion of the recruiter force—also contributed to the turnaround, as did a decline in the violence in Iraq (Alvarez 2009). All four services met or exceeded their 2008 recruiting goals, and the number of lower quality accessions declined. By the end of 2009, the percentage of low-aptitude Army recruits was cut from 4 percent in 2008 to 1.5 percent. During that same period, the number of high-aptitude recruits rebounded, increasing from 62 percent in 2008 to 66 percent in 2009, and the proportion of recruits with high school diplomas increased from 83 to 95 percent.

After the recruiting challenges of 2005 through mid-2008, the military entered a more stable recruiting period in 2009. But as the post-September 11, 2001 period clearly illustrates, the recruiting environment can change quickly, and often due to external factors over which the military has little or no control. While the services must manage their recruiting resources in a way that efficiently meets current recruiting needs and challenges, they must also maintain the capacity over the long term to promptly and successfully respond when the recruiting climate again weakens. The cutbacks made in 2002 and 2003—particularly the reductions in the recruiting force—made it difficult for the services to quickly counter the various factors that coalesced in 2005.

Today's robust environment has already spawned efforts to reduce recruiting resources. Unveiled in May 2009, the President's 2010 budget proposes to reduce DOD's recruiting budget by 11 percent, or almost \$800 million. In addition to reduced spending on enlistment bonuses, these budgetary cutbacks would require reductions in the recruiter force and advertising spending. Such cuts are portrayed as reasonable in light of the current economic climate and the services' recent recruiting successes. Yet "[t]he challenge for the services will be to avoid budget cuts that will be too large, in the wrong places and taken too quickly" (Vogel 2009).

### Lessons Learned?

While the post-September 11, 2001 period nicely illustrates the problems of fluctuating resources and lagged budgetary responses, those problems are not unique to that period, as an historical perspective demonstrates. The early years of the all-volunteer force were successful primarily because Congress and the administration provided adequate resources. But overconfidence in the early success of the volunteer military characterized the late 1970s. "Recruiting resources as a whole [were] thought to be at least adequate, if not excessive, and thus became targets for cost-cutting" (Thurman 1986).

In the late 1970s, the economy was robust and youth unemployment low. Rather than cutting recruiting budgets in a tight labor market, resources should have been increased (Rostker and Gilroy 2006). The resulting recruiting difficulties should not have come as a surprise. By 1979, all four services missed their recruiting goals, but the Army and Marine Corps suffered most, with the Army falling short by 17 percent. Quality declined as well: for the Marine Corps, only 37 percent of enlistments were high quality, for the Army only 25 percent. For the next several years, the quality of recruits remained far below what is considered minimally acceptable today (Gilroy, Phillips, and Blair 1990).

The experiences of the military services in the late 1970s, and again in the late 1990s and the post-September 11 period, illustrate an important lesson—but one that apparently has not been learned very well. The lesson is this: avoid basing recruiting investments on the prior period's recruiting market because some of the most important resources, specifically recruiters and advertising, operate with a lag. Such “fine tuning,” to use the words of the Defense Science Board, is ineffective and can be detrimental to future recruiting efforts. The decision earlier this decade to cut resources after a successful recruiting period caused the military to lose valuable time in responding to a tighter recruiting market the following year. Not only should the services avoid sharp cuts in resources during boom times, but consideration should also be given to the mix of resources. As the services enter another successful recruiting period, they must preserve those resources, such as recruiters and advertising, which operate with a lag or take time to restore.

## Conclusion

The military invests significant resources in managing the force—in terms of training, compensation, promotion, retention, and family policies. But these efforts will matter little if the military fails to recruit the number and quality of youth it needs into the armed forces.

Over much of the history of the all-volunteer force, the services have been able to recruit the number of high-quality youth needed by using the many resources described in this paper. These resources have been essential in maintaining a skilled and effective volunteer force and overcoming challenges posed by factors outside the military's control. Even in a challenging recruiting environment—with a healthy economy, rising college attendance, increased enlistment goals, declining youth propensity, and an ongoing war in Iraq—these tools enabled the military to continue to meet most of its enlistment goals.

Unfortunately, funding for many of these recruiting tools has fluctuated dramatically over past decades—cut back during good recruiting times and then ramped back up when the recruiting climate became more difficult. While some fluctuation is understandable, if adequate resources are not in place when recruiting challenges arise, valuable response time is lost as new resources are added (Kearl, Horne, and Gilroy 1990).

Entering difficult recruiting periods with insufficient resources and inexperienced recruiters exacerbates the challenges facing the system and contributes to the boom and bust recruiting cycle. This cyclical funding strategy also ignores the ongoing and important role that recruiting resources—particularly recruiters and advertising—could have on youth attitudes and propensity to enlist over the long term. To be most effective, recruiting tools must be utilized in a stable and timely manner.



As the Defense Science Board Task Force on Human Resources Strategy noted in its 2000 report, “successful recruiting depends on adequate [and stable] resources” that support a long-term and “generous baseline funding level.” The services need to take a long-term perspective when planning investments in recruiting resources. Cyclical funding in response to last year’s recruiting market does not reflect effective or efficient resource planning. Furthermore, attempts at precise resource management for recruiting frequently result in undershooting the need, with adverse effects on personnel quantity and quality that can take many years to reverse.

As this update goes to print, the high unemployment rate and improving situation in Iraq have eased the recruiting difficulties that the services faced for much of this decade. But the favorable recruiting climate will not continue indefinitely. At this juncture, the department must guard against budgetary cutbacks that will leave the services unprepared for future recruiting challenges—as the experiences of the past have demonstrated. Such a strategy, however, requires the services to look beyond today’s healthy recruiting environment and continue to make the investments necessary to preserve the system’s long-term effectiveness and, in turn, sustain the all-volunteer force.

# References

- Alvarez, Lizette. 2009. "More Americans Joining Military as Jobs Dwindle." *New York Times*, January 18, 2009.
- Armor, David J. and Paul R. Sackett. 2004. "Manpower Quality in the All-Volunteer Force." In *The All-Volunteer Force: Thirty Years of Service*. Edited by Barbara A. Bicksler, Curtis L. Gilroy, and John T. Warner. Washington, D.C.: Brassey's, Inc.
- Asch, Beth J. 1990. "Do Incentives Matter? The Case of Navy Recruiters." *Industrial and Labor Relations Review* 43 (special issue): 89S–106S.
- Asch, Beth J., Christopher Buck, Jacob Alex Klerman, Meredith Kleykamp, and David S. Loughran. 2005. *What Factors Affect the Military Enlistment of Hispanic Youth? A Look at Enlistment Qualifications*. DB-484-OSD. Santa Monica, Calif.: RAND Corporation.
- \_\_\_\_\_. 2009. *Military Enlistment of Hispanic Youth: Obstacles and Opportunities*. MG-773-OSD. Santa Monica, Calif.: RAND Corporation.
- Asch, Beth J. and James N. Dertouzos. 1994. *Educational Benefits Versus Enlistment Bonuses: A Comparison of Recruiting Options*. MR-302-OSD. Santa Monica, Calif.: RAND Corporation.
- Asch, Beth J., Can Du, and Matthias Schonlau. 2004. *Policy Options for Military Recruiting in the College Market: Results from a National Survey*. MG-105-OSD. Santa Monica, Calif.: RAND Corporation.
- Asch, Beth J., Paul Heaton, James Hosek, Francisco Martorell, Curtis Simon, and John Warner. Forthcoming. *Cash Incentives and Military Enlistment, Attrition, and Reenlistment*. MG-950-OSD. Santa Monica, Calif.: RAND Corporation.
- Asch, Beth J., Paul Heaton, and Bogdan Savych. 2009. *Recruiting Minorities: What Explains Recent Trends in the Army and Navy?* Santa Monica, Calif.: RAND Corporation.
- Asch, Beth J., James R. Hosek, and John T. Warner. 2001. *An Analysis of Pay for Enlisted Personnel*. DB-344-OSD. Santa Monica, Calif.: RAND Corporation.
- \_\_\_\_\_. 2007. "New Economics of Manpower in the Post-Cold War Era." In *Handbook of Defense Economics*, Vol. 2. Edited by Todd Sandler and Keith Hartley. New York: Elsevier.
- Asch, Beth J., M. Rebecca Kilburn, and Jacob A. Klerman. 1999. *Attracting College-Bound Youth into the Military: Toward the Development of New Recruiting Policy Options*. MR-984-OSD. Santa Monica, Calif.: RAND Corporation.
- Asch, Beth J. and David Loughran. 2005. *Reserve Recruiting and the College Market: Is a New Educational Benefit Needed?* Santa Monica, Calif.: RAND Corporation.
- Asch, Beth J. and Bruce R. Orvis. 1994. *Recent Recruiting Trends and Their Implications: Preliminary Analysis and Recommendations*. Santa Monica, Calif.: RAND Corporation.
- Boostup.org/flash/index.html. Retrieved November 14, 2009.
- Bourg, Chris. 2003. "Trends in Intentions to Enlist and Attend College." In *Recruiting Youth in the College Market: Current Practices and Future Policy Options*. Edited by M. Rebecca Kilburn and Beth J. Asch. Santa Monica, Calif.: RAND Corporation.
- Boyer, Andrea and Edward Schmitz. 1996. *Socio-Demographics and Military Recruiting: The Role of Veterans*. Arlington, Va.: Commander, Navy Recruiting Command.
- Bozell/Eskew and Murphy, Pintak, Gautier, and Hudome. 2002. *A Report on the Audit of the Armed Services Recruitment Advertising*. Santa Monica, Calif.: RAND Corporation.

- Buddin, Richard and Kanika Kapur. 2002. *Tuition Assistance Usage and First-Term Retention*. Santa Monica, Calif.: RAND Corporation.
- Centers for Disease Control and Prevention. 2008. *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta Georgia. <http://www.cdc.gov/obesity/data/trends.html>. Retrieved November 14, 2009.
- Centers for Disease Control and Prevention. 2009. *NHANES Surveys (1976–1980 and 2003–2006)*. Atlanta, Georgia. <http://www.cdc.gov/obesity/childhood/prevalence.html>. Retrieved August 2, 2009.
- Dertouzos, James N. 1985. *Recruiter Incentives and Enlistment Supply*. R-3065-MIL. Santa Monica, Calif.: RAND Corporation.
- \_\_\_\_\_. 1989. *The Effects of Military Advertising: Evidence from the Advertising Mix Test*. Santa Monica, Calif.: RAND Corporation.
- \_\_\_\_\_. 2009. *The Cost-Effectiveness of Military Advertising, Evidence from 2002–2004*. Santa Monica, Calif.: RAND Corporation.
- Dertouzos, James N. and Steven Garber. 2003. *Is Military Advertising Effective? An Estimation Methodology and Applications to Recruiting in the 1980s and 90s*. Santa Monica, Calif.: RAND Corporation.
- \_\_\_\_\_. 2006. *Human Resource Management and Army Recruiting: Analyses of Policy Options*. Santa Monica, Calif.: RAND Corporation.
- \_\_\_\_\_. 2008. *Performance Evaluation and Army Recruiting*. Santa Monica, Calif.: RAND Corporation.
- Dorn, Edwin. 1996. "Sustaining the All-Volunteer Force." In *Professionals on the Front Line: Two Decades of the All-Volunteer Force*. Edited by J. Eric Fredland, Curtis Gilroy, Roger D. Little, and W. S. Sellman. Washington, D.C.: Brassey's.
- Gallup Poll. 2009. *Americans' Confidence in Military Up, Banks Down*. <http://www.gallup.com/poll/121214/Americans-Confidence-Military-Banks-Down.aspx?CSTS=tagrss>. Retrieved August 6, 2009.
- Gilroy, Curtis L., Robert L. Phillips, and John D. Blair. 1990. "The All-Volunteer Army: Fifteen Years Later." *Armed Forces and Society* 16, No. 3 (Spring 1990): 329–50.
- Goldberg, Lawrence. 2006. *Enlistment Early Warning System*. Briefing to the Directorate of Accession Policy, Office of the Under Secretary of Defense for Personnel and Readiness.
- Goldberg, Lawrence, R. William Cooper, and Christopher Wait. 2008. *Analysis of Army Recruiting*. Presented at the Western Economic Association Conference.
- Golfin, Peggy A. 2006. *A Proposed Pilot to Recruit Pretrained Personnel*. CRM D0013287.A1/Final. Alexandria, Va.: Center for Naval Analyses.
- Halstead, J. B. 2009. "Recruiter Selection Model and Implementation Within the United States Army." *IEEE Transactions on Systems, Man, Cybernetics – Part C: Applications*, Volume 39, Issue 1 (January 2009): 93–100.
- Hansen, M., J. K. Wills, and D. Reese. 2004. *Level-Loading of Enlisted Accessions*. CRM D0010352.A2/Final. Alexandria, Va.: Center for Naval Analyses.
- Harris Interactive. 2009. *The Harris Poll® Annual Confidence Index Rises 10 Points*. [http://www.harrisinteractive.com/harris\\_poll/pubs/Harris\\_Poll\\_2009\\_03\\_05.pdf](http://www.harrisinteractive.com/harris_poll/pubs/Harris_Poll_2009_03_05.pdf). Retrieved August 6, 2009.
- Hattiangadi, Anita U., Gary Lee, and Aline O. Quester. 2004. *Recruiting Hispanics: The Marine Corps Experience. Final Report*. D0009071.A2/Final. Alexandria, Va.: Center for Naval Analyses.
- Hogan, Paul F., Jared Hughes, Stephen Mehay, and Michael Cook. 1998. *Enlistment Supply at the Local Market Level*. Falls Church, Va.: The Lewin Group.
- Hogan, Paul F., Curtis J. Simon, and John T. Warner. 2004. "Sustaining the Force in an Era of Transformation." In *The All-Volunteer Force: Thirty Years of Service*. Edited by Barbara A. Bicksler, Curtis L. Gilroy, and John T. Warner. Washington, D.C.: Brassey's, Inc.



- Hosek, James and Jennifer Sharp. 2001. *Keeping Military Pay Competitive: The Outlook for Civilian Wage Growth and its Consequences*. IP-205. Santa Monica, Calif.: RAND Corporation.
- Kearl, Cyril E., David K. Horne, and Curtis L. Gilroy. 1990. "Army Recruiting in a Changing Environment." *Contemporary Policy Issues* Volume VIII, October: 68–78.
- Kilburn, M. Rebecca and Beth J. Asch. 2003. *Recruiting Youth in the College Market: Current Practices and Future Policy Options*. Santa Monica, Calif.: RAND Corporation.
- Kraus, A., J. Wenger, L. Houck, and D. Gregory. 2004. *College Recruits in the Enlisted Navy: Navy Outcomes and Civilian Opportunities*. CRM D0010405.A2/Final. Alexandria, Va.: Center for Naval Analyses.
- Mission: Readiness. Military Leaders for Kids. 2009. *Ready, Willing, and Unable to Serve*. <http://www.missionreadiness.org/reports/NATEE1109.pdf>. Retrieved November 10, 2009.
- Moniz, David. 2005. "Black Americans Make Up a Smaller Share of Military." *USA Today*, November 4.
- Orvis, B. and L. McDonald. 2004. *Strengthening Army Recruiting: The College First and GED Plus Test*. DRR-3426-A. Santa Monica, Calif.: RAND Corporation.
- Orvis, Bruce R., Narayan Sastry, and Laurie L. McDonald. 1996. *Military Recruiting Outlook: Recent Trends in Enlistment Propensity and Conversion of Potential Enlisted Supply*. MR-677-A/OSD. Santa Monica, Calif.: RAND Corporation.
- National Research Council. 2003. *Attitudes, Aptitudes, and Aspirations of American Youth: Implications for Military Recruitment*. Committee on the Youth Population and Military Recruitment. Edited by Paul Sackett and Anne Mavor. Washington, D.C.: The National Academies Press.
- The PEW Research Center. 2005. "Discontent with Bush and State of the Nation Ever Higher." News Release. October 13.
- Polich, J. Michael, James N. Dertouzos, and S. James Press. 1986. *The Enlistment Bonus Experiment*. R-3353-FMP. Santa Monica, Calif.: RAND Corporation.
- Powers, Rod. 2006a. U.S. Military: Army College Fund. <http://usmilitary.about.com/cs/armyjoin/a/armycollege.htm>. Retrieved August 6, 2009.
- \_\_\_\_\_. 2006b. U.S. Military: The Active Duty Montgomery G.I. Bill. <http://usmilitary.about.com/cs/education/a/admgib.htm>. Retrieved August 6, 2009.
- Rostker, Bernard and Curtis L. Gilroy. 2006. "The Transition to an All-Volunteer Force: The U.S. Experience." In *Service to Country: Personnel Policy and the Transformation of Western Militaries*. Edited by Curtis L. Gilroy and Cindy Williams. Cambridge, Mass.: The MIT Press.
- Rostker, Bernard and Jacob A. Klerman. Forthcoming. *Older Army Recruits: Insights from a New Survey*. Presented at the Western Economic Association Annual Meeting. Vancouver, British Columbia. July 2009.
- Seifert, Rita Furst, Paul F. Hogan, and Carol Moore. 2007. *Estimating the Qualified Military Available*. Falls Church, Va.: The Lewin Group, Inc.
- Simon, Curtis J., Sebastian Negrusa, and John T. Warner. Forthcoming. "Educational Benefits and Military Service: An Analysis of Enlistment, Reenlistment, and Veterans' Benefit Usage 1991–2005." *Economic Inquiry*.
- Simon, Curtis J. and John T. Warner. 2006. "Uncertainty about Job Match Quality and Youth Turnover: Evidence from Military Attrition." Working Paper. Presented at NBER Conference on National Security Policy, February 26, 2006. Department of Economics, Clemson University.
- \_\_\_\_\_. 2007. "Managing the All-Volunteer Force in a Time of War." *The Economics of Peace and Security Journal*, Vol. 2 (1).
- \_\_\_\_\_. 2008. "Youth Attitudes and Military Recruiting During Operation Iraqi Freedom." Work in Progress. Department of Economics, Clemson University.

- \_\_\_\_\_. 2009. "The Supply Price of Commitment: Evidence from the Air Force Enlistment Bonus Program." *Defence and Peace Economics* Vol. 20(3).
- Teenage Research Unlimited. 2006. *The TRU Update*. Spring 2006/Wave 47. Northbrook, Ill.: Teenage Research Unlimited, Inc.
- Thirtle, Michael R. 2001. *Educational Benefits and Officer-Commissioning Opportunities Available to U.S. Military Servicemembers*. MR-981-OSD. Santa Monica, Calif.: RAND Corporation.
- Thurman, Maxwell R. 1986. "Sustaining the All-Volunteer Force 1983–1992: The Second Decade." In *The All-Volunteer Force After a Decade: Retrospect and Prospect*. Edited by William Bowman, Roger Little, and G. Thomas Sicilia. Washington, D.C.: Pergamon-Brassey's.
- Tuition Assistance Overview*. August 5, 2005. Military.com. <http://www.military.com/Resources/ResourcesContent/0,13964,32879,00.html>. Retrieved August 6, 2009.
- U.S. Census Bureau. 1993. *1990 Census of Population: Social and Economic Characteristics United States*. <http://www.census.gov/prod/cen1990/cp2/cp-2-1.pdf>. Retrieved August 6, 2009.
- \_\_\_\_\_. 2004. *Current Population Survey*. <http://www.census.gov/population/www/socdemo/school.html>. Retrieved August 6, 2009.
- \_\_\_\_\_. 2007. *2007 American Community Survey*. S2101: Veteran Status. [http://factfinder.census.gov/servlet/STTable?\\_bm=y&-geo\\_id=01000US&-qr\\_name=ACS\\_2007\\_1YR\\_G00\\_S2101&-ds\\_name=ACS\\_2007\\_1YR\\_G00\\_-&-lang=en&-redoLog=false](http://factfinder.census.gov/servlet/STTable?_bm=y&-geo_id=01000US&-qr_name=ACS_2007_1YR_G00_S2101&-ds_name=ACS_2007_1YR_G00_-&-lang=en&-redoLog=false). Retrieved August 5, 2009.
- \_\_\_\_\_. 2008. *U.S. Population Projections*. <http://www.census.gov/population/www/projections/files/nation/summary/np2008-t2.xls>. Retrieved August 5, 2009.
- \_\_\_\_\_. 2009. *People and Household Economic Topics*. <http://www.census.gov/population/www/socdemo/educ-attn.html>. Retrieved August 5, 2009.
- U.S. Department of Defense. 2000a. *Report of the Defense Science Board Task Force on Human Resources Strategy*. Washington, D.C.: Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics.
- \_\_\_\_\_. 2000b. *Review of Minimum Active Enlisted Recruit Quality Benchmarks: Do They Remain Valid?* Report to Congress. Washington, D.C.: Office of the Assistant Secretary of Defense, Force Management Policy.
- \_\_\_\_\_. 2001–2006. *Department of Defense Youth Polls: Overview Report*. Arlington, Va.: Joint Advertising and Marketing Research and Studies Program.
- \_\_\_\_\_. 2002. *Report of the Ninth Quadrennial Review of Military Compensation*. Washington, D.C.: Office of the Under Secretary of Defense for Personnel and Readiness.
- \_\_\_\_\_. 2004. *Youth Poll Report and Crosstabulations*. Arlington, Va.: Joint Advertising and Market Research and Studies Program.
- \_\_\_\_\_. 2006a. *December 2005 Influencer Poll 5 Report*. Arlington, Va.: Joint Advertising and Marketing Research and Studies Program.
- \_\_\_\_\_. 2006b. *August 2006 Propensity Update*. Arlington, Va.: Joint Advertising and Marketing Research and Studies Program.
- \_\_\_\_\_. 2007. *DOD News Briefing with Under Secretary of Defense David Chu, Lt. Gen. Stephen Speakes, and Lt. Gen. Emerson Gardner from the Pentagon Office*. Washington, D.C.: Office of the Assistant Secretary of Defense (Public Affairs), January 19, 2007 News Transcript.
- \_\_\_\_\_. 2008a. *Report of the Tenth Quadrennial Review of Military Compensation: Volume I Cash Compensation*. Washington, D.C.: Office of the Under Secretary of Defense for Personnel and Readiness.
- \_\_\_\_\_. 2008b. *June 2008 Influencer Poll 10 Report*. Arlington, Va.: Joint Advertising and Marketing Research and Studies Program.

- \_\_\_\_\_. 2008c. *June 2008 Youth Poll 15 Report*. Arlington, Va.: Joint Advertising and Marketing Research and Studies Program.
- \_\_\_\_\_. 2009. *Advertising Tracking Study Wave 25, April–June 2009*. Arlington, Va.: Joint Advertising and Marketing Research and Studies Program.
- U.S. Department of Education, National Center for Education Statistics. 2007a. *Digest of Education Statistics, 2007*. [http://nces.ed.gov/programs/digest/do7/tables/dto7\\_371.asp](http://nces.ed.gov/programs/digest/do7/tables/dto7_371.asp). Retrieved July 27, 2009.
- \_\_\_\_\_. 2007b. *Digest of Education Statistics, 2007*. [http://nces.ed.gov/programs/digest/do7/tables/dto7\\_328.asp](http://nces.ed.gov/programs/digest/do7/tables/dto7_328.asp). Retrieved July 27, 2009.
- \_\_\_\_\_. 2007c. *Digest of Education Statistics, 2007*. [http://nces.ed.gov/programs/digest/do7/tables/dto7\\_320.asp](http://nces.ed.gov/programs/digest/do7/tables/dto7_320.asp). Retrieved July 27, 2009.
- \_\_\_\_\_. 2008. *Digest of Education Statistics*. [http://nces.ed.gov/programs/digest/do8/tables/dto8\\_109.asp](http://nces.ed.gov/programs/digest/do8/tables/dto8_109.asp). Retrieved August 6, 2009.
- U.S. Department of Labor. 2009. [http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?data\\_tool=latest\\_numbers&series\\_id=LNUo4000000&years\\_option=all\\_years&periods\\_option=specific\\_periods&periods=Annual+Data](http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?data_tool=latest_numbers&series_id=LNUo4000000&years_option=all_years&periods_option=specific_periods&periods=Annual+Data). Retrieved August 6, 2009.
- U.S. Department of Veterans Affairs. 2007. *Table 5L: Veterans 2000–2036 by RACE/ETHNICITY, GENDER, PERIOD, AGE*. Office of the Actuary, Office of Policy and Planning. <http://www1.va.gov/vetdata/page.cfm?pg=15>. Retrieved August 5, 2009.
- U.S. General Accounting Office. 2003. *Military Recruiting: DOD Needs to Establish Objectives and Measures to Better Evaluate Advertising's Effectiveness*. GAO-03-1005. Washington, D.C.: U.S. Government Printing Office.
- Vogel, Steve. 2009. "Military Recruiting Faces a Budget Cut." *Washington Post*, May 11: A-15.
- Warner, John T. and Beth J. Asch. 2001. "The Record and Prospects of the All-Volunteer Military in the United States." *Journal of Economic Perspectives* Vol. 15, No. 2 (Spring): 169–92.
- Warner, John T. and Curtis J. Simon. 2005. *Estimates of Army Enlistment Supply 1988–2005*. Briefing presented to the military recruiting summit, November 2, 2005. Arlington, Va. (Clemson University, S.C.).
- Warner, John T., Curtis J. Simon, and Deborah M. Payne. 2001. *Enlistment Supply in the 1990s: A Study of the Navy College Fund and Other Enlistment Incentive Programs*. DMDC report no. 2000-015. Arlington, Va.: Defense Manpower Data Center.
- \_\_\_\_\_. 2002. *Propensity, Application, and Enlistment: Evidence from the Youth Attitude Tracking Study*. Final Draft. September.
- \_\_\_\_\_. 2003. "The Military Recruiting Productivity Slowdown: The Roles of Resources, Opportunity Cost, and Tastes of Youth." *Defence and Peace Economics* 14: 329–42.
- Wenger, Jennie W. and Cathleen M. McHugh. 2008. *Is Recruiting More Difficult in "Blue" States? Evidence From Past Election Years*. CRM 0017556.A2/Final. Alexandria, Va.: Center for Naval Analyses.









STRATEGIC ANALYSIS, INC.

4075 Wilson Boulevard  
Suite 200  
Arlington, VA 22203  
(703) 527-5410  
(703) 527-5445 *fax*  
[www.sainc.com](http://www.sainc.com)