

# Youth Demographic Trends and the Future Recruiting Environment: IWAR Report

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# REPORT DOCUMENTATION PAGE

Form Approved  
OPM No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources gathering and maintaining the data needed and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22302-4302, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

1. AGENCY USE ONLY (Leave Blank)		2. REPORT DATE December 1999	3. REPORT TYPE AND DATES COVERED Final
4. TITLE AND SUBTITLE  Youth Demographic Trends and the Future Recruiting Environment: IWAR Report		5. FUNDING NUMBERS  N00014-96-D-0001  PE - 65154N  PR - R0148	
6. AUTHOR(S)  CS Moore, HS Griffis		8. PERFORMING ORGANIZATION REPORT NUMBER  CAB 99-136	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)  Center for Naval Analyses 4401 Ford Avenue Alexandria, Virginia 22302-1498		10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)  Deputy Director, Assessment Division (N-81B)		11. SUPPLEMENTARY NOTES	
12a. DISTRIBUTION AVAILABILITY STATEMENT  Distribution unlimited		12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words)  To support the Integrated Warfare Architecture (IWAR) study effort, N81 asked CNA to predict the supply of potential enlisted recruits over the next decade and beyond. In this report, we discuss relevant trends and changes that the Navy can expect. We examine the future population of youths aged 17 to 26 to estimate the number that will be eligible for, and have a propensity for, military service. This information will facilitate long-term planning of recruiting resources.			
14. SUBJECT TERMS  Demography, enlisted personnel, naval personnel, naval planning, personnel selection, population, recruiting, recruits		15. NUMBER OF PAGES 38	
		16. PRICE CODE	
		17. LIMITATION OF ABSTRACT SAR	
18. SECURITY CLASSIFICATION OF REPORT Unclassified	19. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	20. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	

# Youth Demographic Trends and the Future Recruiting Environment

IWAR Report

Carol Moore  
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Center for Naval Analyses  
December 1999

To support the Integrated Warfare Architecture (IWAR) study effort, N81 asked CNA to predict the supply of potential enlisted recruits over the next decade and beyond. In this report, we discuss relevant trends and changes that the Navy can expect. We examine the future population of youths aged 17 to 26 to estimate the number that will be eligible for, and have a propensity for, military service. This information will facilitate long-term planning of recruiting resources.

## Outline

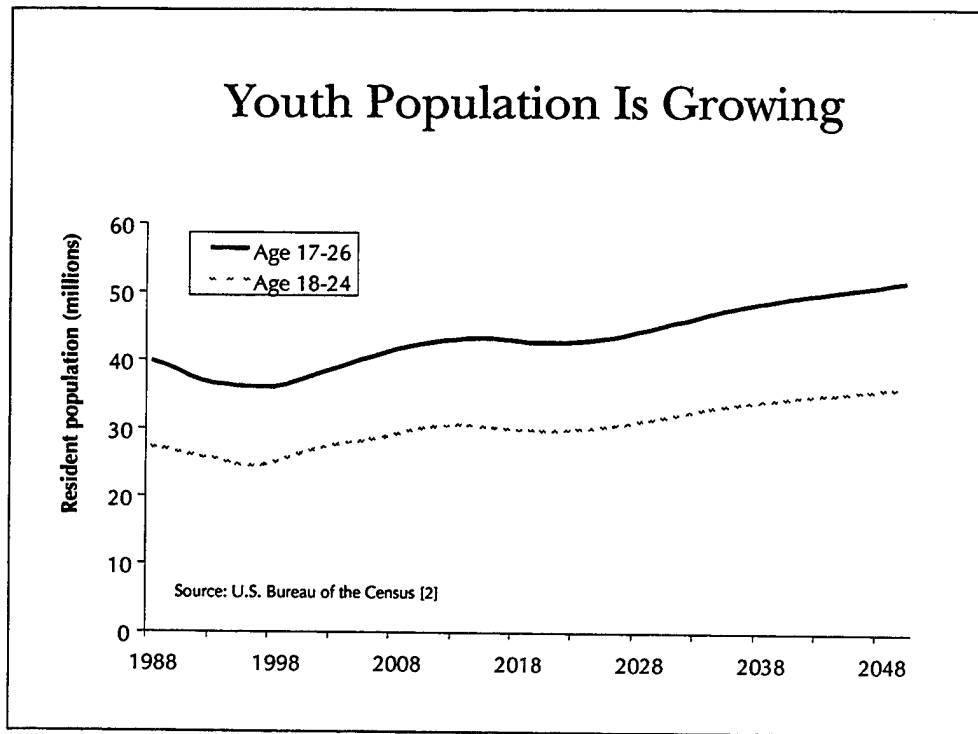
- Describe trends and (where possible) future projections in prime age market
  - Population—size and mix of race/ethnicity
  - Educational attainment and test scores
  - Size of veteran population
  - Drug use, crime, arrests
  - Civilian labor market opportunities
- Discuss combined, or net, effects of separate trends

The IWAR team asked us to evaluate the impact of several specific socio-economic trends on the supply of potential enlisted recruits aged 17 to 26. The variables of interest are population, educational attainment, test scores, moral qualifications (drug use, crime), and civilian labor market opportunities. How will demographic trends affect the services' ability to meet recruiting goals in the future?

The age group that we focus on reflects the composition of enlisted recruits. All recruits must be under the age of 36, but most are far younger. In 1994, 94 percent were 25 and under [1]. Some analysts focus on the population of 18- to 24-year-olds, while others define the market more or less broadly. The 17- to 26-year-old population currently exceeds the population aged 18 to 24 by about 11 million.

In this document, we discuss trends affecting enlisted supply. Where possible, we present government projections of future trends as well as recent historical data. We then evaluate the net effects of these changes on the military's ability to meet future goals.

Youth attitudes toward the military are significant predictors of enlisted supply. Most of the factors we discuss are reflected in the Youth Attitude Tracking Surveys (YATS), which measure attitudes toward military service. We do not examine the YATS because our purpose is to describe the future demographic changes that underlie changes in attitude.



The single most significant change affecting military recruiting will be in the growing population of youths in the prime recruiting market. The Census Bureau [2] projects that the decade-long decline in the youth population is over. The population aged 17 to 26 will grow at a rate of about 1 percent per year through 2010, and at a lesser rate through 2015. The same pattern applies to the age 18- to 24-year-old population.

These projections are significant for two reasons. First, population is the basic driver of the supply of quality recruits (i.e., the number of high school graduates). Population data are also significant because of their reliability. Compared to other factors affecting recruiting, near-term changes in population can be predicted with a large degree of confidence. Alternative Census Bureau projections (we have shown the middle of three sets of estimates here) show the same pattern (see [2], p. 90). Across the alternative projections there are small differences in expected population over the next 10 years, but all the estimates indicate growth over this period. Forecasts for years further into the future are, of course, more various.

By 2008, there will be about 41.6 million U.S. residents (21.1 million men and 20.5 million women) between the ages of 17 and 26. This is about 15.3 percent greater than the 1998 population. Furthermore, the annual rate of growth of the youth population will exceed that of recent experience. The previous 10-year period—1988 through 1998—saw a population decline averaging nearly 1 percent per year.

## How Will Other Factors Affect Recruiting?

- Population trend alone suggests that FY05 goal can be met with minimal increase in resources
- Services want quality recruits
  - High school graduation
  - AFQT scores
  - Drug/alcohol use and criminal history
- Propensity of quality youth to enlist depends on
  - College enrollment
  - Civilian labor market opportunities
  - Veteran population

Were the population increase the only change affecting military recruiting, we would conclude that the Navy could meet future goals with little additional spending per recruit. For example, in 1998, the services accessed 179,000 non-prior-service enlisted personnel—one-half of one percent of the 17- to 26-year-old population. In 2005, recruiting the same percentage of the population would result in about 198,000 accessions. This exceeds the current target for 2005 of about 196,000. More resources may be necessary to take full advantage of the increased population, but the people would be readily available.

However, many factors affect enlisted supply. The services want high-quality recruits—those with high school degrees who score at or above the 50th percentile on the Armed Forces Qualification Test (AFQT). Youth without high school degrees, and who test poorly, can be recruited at essentially no cost, but the Navy pays between \$8,000 and \$12,000 (depending on economic conditions) to recruit one high-quality sailor. High school graduation is the single biggest predictor of whether a sailor will complete his or her first term of enlistment [3]. On average between 1993 and 1997, 95 percent of DoD recruits held high school degrees, and 70 percent were in the 50th percentile of the AFQT. Sixty-six percent of military recruits, and 62 percent of Navy recruits, met both criteria.

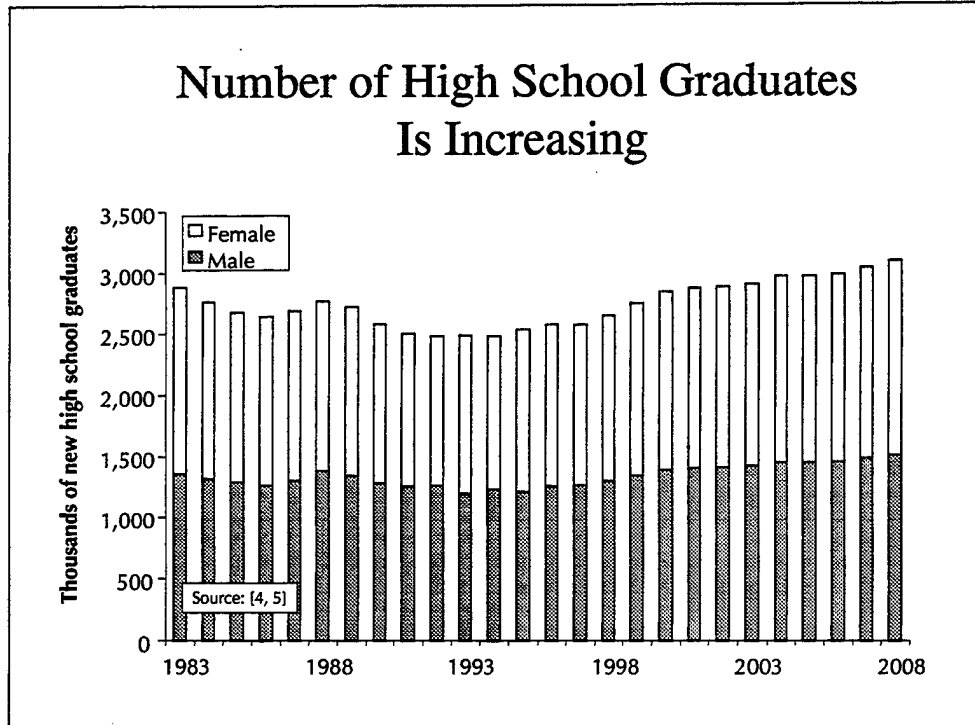
Not all recruits will be medically or morally qualified to enter. Policies vary by service and over time, but, in general, those with histories of illicit drug use, or who have been convicted of a crime, will require waivers to enter the military.

To a large extent, the different quality criteria will overlap; they will be correlated with each other (e.g., drug use and high school graduation rates), and they will all correlate with race, ethnicity, age, and gender.

Economic and cultural factors shape the attractiveness of military service to high-quality potential recruits. The fraction of high school graduates planning to attend college has been increasing. The size of the veteran population has also been found to affect enlistment propensity, perhaps through its impact on exposure to and knowledge of the military [1].



## Number of High School Graduates Is Increasing

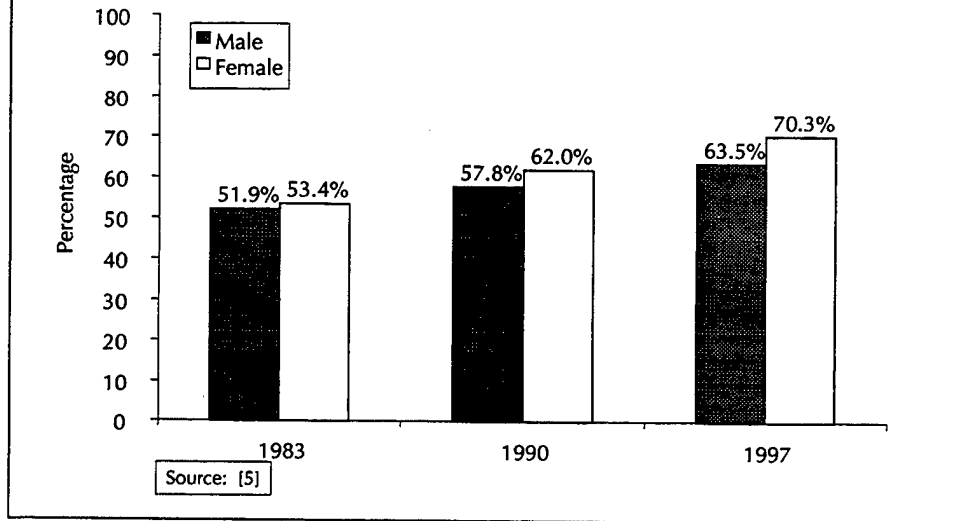


Based in part on expected population growth, the National Center for Education Statistics (NCES) estimates significant growth in the number of high school graduates [4]. It reports that the number of new high school graduates aged 16 to 24 will increase by an average of 1.5 percent per year between 1996 and 2008 (these data include students from public and private schools and do not include GED recipients). The estimated number of graduates in 1998 was 2.65 million. In 2008, 3.09 million will graduate from high school—an overall increase of 16.5 percent. In contrast, the number of graduates declined each year from 1988 (2.77 million graduates) through 1992 (2.48 million graduates), and grew slowly through 1998 (2.65 million graduates).

Men make up the majority of recruits. Most high school graduates are female, but the gender mix has become slightly more equal over time. According to the NCES, female students made up 53 percent of the class of 1983, and 51 percent of the class of 1997. These percentage differences are small but can noticeably affect enlisted supply. Of the 2.57 million to graduate high school in 1997, 1.26 million were men. If the gender mix had been the same as in 1983, only 1.21 million would have been men, a reduction of 50,000.

To estimate the number of male and female high school graduates, we combined the projections of numbers of graduates with additional, historical NCES data on the gender mix of recent classes [5]. We assumed that 51 percent of future classes would be female.

## College Enrollment Rates Have Increased

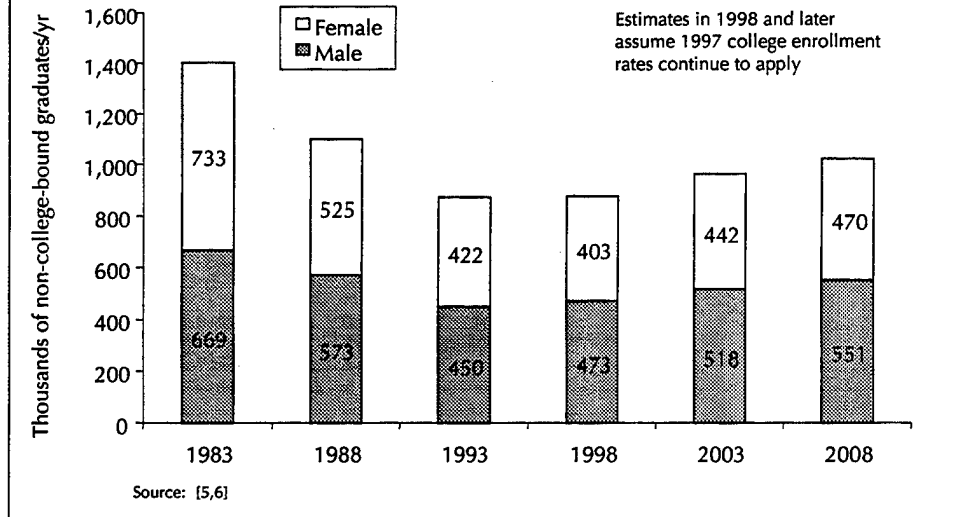


Together, population growth and larger high school graduation classes favor an improved recruiting environment in the future. College enrollment rates, however, have increased steadily over time. Most recruits have no college education at the time of enlistment. High school graduates who do not go to college soon after graduation—termed “non-college-bound graduates”—constitute the majority of the recruiting market. Recently, the Navy has tried to recruit community college graduates, but those efforts have been small [6].

This chart shows the percentages of 16- to 24-year-old college students who had graduated from high school during the preceding 12 months. The data include GED recipients and reflect attendance at 2-year and 4-year institutions. Female and male enrollment rates have been increasing, but female graduates are more likely than male graduates to enroll in college. Most observers attribute the enrollment trend to increasing economic returns to college education, and to the expansion of 2-year colleges. Between 1988 and 1998, enrollment at 2-year institutions increased by 19.8 percent.

We were not able to find published forecasts of the percentage of future high school graduation cohorts who will go on to college. We used other estimates to predict the size of the future pool of non-college-bound graduates.

## Pool of Non-College-Bound Graduates May Increase

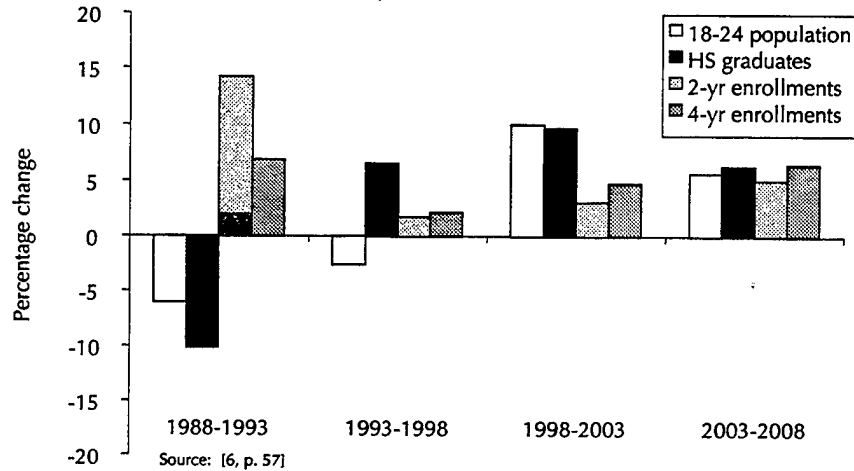


One way to predict the number of non-college-bound graduates is to make assumptions about the future propensity of high school graduates to enroll in college. Here, we have assumed that college enrollment within a year of graduation remains fixed at 1997 rates. That is, we assume that 70.3 percent of female high school graduates, and 63.5 percent of male graduates, will enroll in college each year. Under this assumption, the class of 2008 will contain about 145,000 more youth who do not go on to college than did the class of 1998. This translates into a 10-year growth rate in the number of non-college-bound graduates of 16.5 percent.

This growth is in contrast to the 1988-1998 period, when smaller high school graduating classes and increased rates of college enrollment made recruiting more difficult. During that decade, the pool of non-college-bound, recent high school graduates decreased by 24 percent.

The assumption of fixed college enrollment rates may be more realistic for women than for men. The rate for women is already high. If it continued to grow at its 1983-1997 average rate of 1 percentage point per year, it would exceed 80 percent by 2008. This seems unlikely. Therefore, if the female college enrollment rate does increase, it is likely to do so at a rate far lower than has recently been the case.

## Growth in Number of High School Graduates Will Exceed That of College Students



The NCES publishes projections of total enrollment in higher education, which can also be used to estimate the changes in the supply of non-college-bound graduates. Total enrollment differs from the data we have used so far because it includes continuing and returning students as well as recent high school graduates.

This chart (from [6]) indicates that, between 1998 and 2003, the number of annual high school graduates will grow faster than the number of students enrolled in college. From 2003 through 2008, college enrollment and high school graduation will grow at nearly the same rate. Between 1998 and 2008, college enrollment will grow by 10.2 percent and high school graduation will grow by 16.5 percent. This suggests that the fraction of graduates going on to college within a year of graduation will remain fixed or will decrease.

These data underscore the greater scarcity of non-college-bound high school graduates during the previous decade. Between 1988 and 1993, enrollment at 2-year colleges increased by 14.2 percent, and enrollment at 4-year colleges increased by 6.8 percent. At the same time, the number of high school graduates declined by 10 percent.

On the basis of these data, reference [6] (p. 57) concludes that “although the relative availability of people stopping their education at high school fell during the late 1980s and early 1990s, this trend is not expected to continue.... The Navy should recognize that changes in the recent past have narrowed the high school graduate market, but it shouldn’t have to contend with significantly more narrowing in the future.”

## An Increasing Share of Youth Population Is Non-White

Race/ethnicity distribution of 17- to 26-year-olds (percentages)

	<u>2000</u>	<u>2005</u>	<u>2010</u>	<u>2020</u>
African-American	14.2	14.2	14.1	14.3
White	66.8	66.6	65.1	62.7
Hispanic	13.9	14.1	15.1	16.9
Asian and other	5.0	5.1	5.6	6.1
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: [2]

In addition to changes in population, high school graduation, and college enrollment, decision-makers are interested in how the changing racial/ethnic mix of the youth population will affect recruiting.

Whites are slowly becoming a smaller fraction of the population, as the Hispanic and Asian presence grows. Because performance on the AFQT is highly correlated with race and ethnic group, some have been concerned about the impact on the supply of high-quality enlisted recruits. We investigate this issue in the next few slides.

In the above data, "White," "Asian and Other," and "African-American" refer to non-Hispanic members of these populations.

**Navy Recruit Race/Ethnicity  
vs. Society as a Whole  
(Percentage of Total)**

	<u>Society</u>	<u>Navy recruits</u>	<u>Navy UMG HSDG recruits</u>
African-American	14	20	13
Asian/Pacific Islander	4	5	5
Hispanic	14	12	10
Other	1	4	5
White	<u>67</u>	<u>58</u>	<u>67</u>
Total	100	100	100

If the Navy racial/ethnic distribution resembles the distribution in society, the Navy faces roughly the same level of difficulty recruiting within each racial/ethnic group. Thus, if the two distributions match, changes in society's distribution will have little effect on the Navy's ability to bring in enough people. As the data above show, the Navy's recruiting mix is fairly representative of the current proportions among 17- to 26-year-olds in society, although whites and Hispanics are somewhat underrepresented and the other categories somewhat overrepresented.

The recruiting mix is even more representative of national proportions when limited to recruits who score in the upper mental group (UMG) on the AFQT and are high school diploma graduates (HSDGs). (UMG refers to scores at or above the 50th percentile on the AFQT.) This suggests that, even if the population of one group grows over time relative to another, the effect on the military's ability to find UMG recruits will be slight. The racial/ethnic changes expected through 2010 should result in a decrease of about 1 percent in UMG recruits, all else equal.

Why is the Navy able to achieve a representative racial/ethnic distribution of recruits? Large differences across racial/ethnic categories appear to cancel each other out in their effects on recruiting. Significant differences in test score distributions and high school graduation rates across the categories,

taken in isolation, would suggest that it would be somewhat harder for the Navy to recruit qualified Hispanics and even more difficult to recruit qualified African-Americans. But fewer civilian employment opportunities available to military-qualified members of these groups and differences in propensity to serve apparently come close to offsetting the test score and high school degree effects.

## Test Scores Increasing But ASVAB May Be Renormed

- Data show test scores increasing slightly over time
  - NLSY 97 vs. NLSY 79
  - NAEP
- NLSY 97 will need to be reweighted on race, gender, age, education
  - Average score up about 5 AFQT points (unweighted)
  - After reweighting, increase will probably be less
- OSD probably will use NLSY 97 to renorm ASVAB
  - Renorming makes existing standards more restrictive

Data show that test scores have been increasing slightly over time, which suggests that the services have been benefiting from a greater supply of qualified recruits, and may continue to do so. However, a renorming of the Armed Services Vocational Aptitude Battery (ASVAB) would have the opposite effect of restricting the supply of qualified recruits. The ASVAB is the series of tests on which the AFQT score is based.

A recent CNA study [7] analyzed ASVAB scores from tests administered as part of the 1997 National Longitudinal Survey of Youth (NLSY 97). The average AFQT score was about 5 points (on a 100-point scale) higher in the 1997 sample than in the 1979 sample. Data from other sources, such as the National Assessment of Educational Progress (NAEP), provide evidence that test scores have risen some since 1979.

It is not clear, however, that the average score has risen by as much as 5 AFQT points. Certain groups are underrepresented in the NLSY 97: respondents from both high and low socioeconomic status (SES) households, respondents with low levels of education, and respondents from the older portion of the age distribution (which ranges from 18 to 23). Thus, [7] concludes that “NLSY 97 is likely to be missing correspondingly large fractions of high and low ASVAB scores. The effect is likely to be greatest for Hispanics. Any ASVAB norms resulting from these data will surely be biased unless this distortion is corrected.” The study recommends, among other things, that the NLSY 97 be reweighted on respondents’ race, gender, age, education, and SES.



The reweighting is likely to reduce but not eliminate the increase in test scores over the 1979 to 1997 time period. Should OSD use the NLSY 97 to renorm the ASVAB, the existing standards of 31 AFQT to enter the Navy and 50 AFQT to be UMG will become more restrictive, placing an additional burden on recruiting. OSD is expected to decide the renorming issue early in FY01.

## Veteran Representation in the Population Is Decreasing

- About 33 percent of Navy recruits have a parent who served in the military
- Veteran share of population one of the most significant recruiting factors
- However, changing composition of veterans may improve recruiting
  - More will be from the all-volunteer force, fewer will be from the Vietnam era or hollow-force years
  - At this point, an untested hypothesis

The number of veterans in the population influences the propensity of youth to join the military. The Navy's New Recruit Survey shows that about 33 percent of Navy recruits have a parent who served in the military. This is about 3 times as large as one would expect from sampling society at random. Presumably, veterans influence propensity through the exposure to and knowledge of the military that they provide to the younger generation.

For this reason, it is troubling for the prospect of Navy recruiting that the veteran share of the population is shrinking. A 1996 CNRC report [1] explored the role of the under-65 veteran population in influencing enlistment and provided a projection of the veteran share of the population. The study found that veteran share was one of the most significant predictors of youth enlistment behavior. As an example from the study, veteran influence appeared to explain why Fairfax County, Virginia, is a much better source for recruits than Montgomery County, Maryland, even though both counties have similar household income and unemployment rates. CNRC reports that the veteran share of population will drop from just under 6 percent in 1998 to just over 4 percent in 2008 (a backup slide shows the longer term trend).

The good news is that the composition of the veteran population is changing. Veterans will increasingly be from the all-volunteer force. Fewer will have been drafted. Furthermore, fewer will have served in the

turbulent Vietnam era or during the hollow-force years of the late 1970s. For instance, youth turning 18 between 2000 and 2008 will have been born between 1982 and 1990. Parents who were in the service during those years may pass down better impressions of the military than did veterans who left the service before the 1980s. Thus, the changing composition of veterans may mitigate the negative impact of declining numbers.

However, the CNRC study did not distinguish between different types of veterans. To the best of our knowledge, no such study exists. The recruiting benefit of the all-volunteer force remains an untested hypothesis. Therefore, we rely on previous research to estimate the impact that the declining veteran presence will have on enlistment.

## What About the Economy?

- Economy unlikely to get stronger—no *additional* negative effect on recruiting
  - Depends on DoD increasing pays to keep pace with inflation of civilian wages
- However, competition for more skilled or higher quality sailors may increase

How will the economy affect recruiting over the next decade? Because the time frame of our analysis is longer than the horizon of most reliable forecasts, the answer is uncertain. At this point, the most reasonable prediction is that the economy will not cause *additional* deterioration of the recruiting environment.

The civilian labor market is unlikely to become much stronger than it is now. The last time that the unemployment rate was as low (4.1 percent) as it is now was 1970. The longest expansion in U.S. business cycle history lasted from 1961 to 1969. The current expansion has lasted almost as long.

What if the unemployment rate does not get lower, but remains at its current rate? Might recruiting become more and more difficult as the labor market continues to be strong? We don't expect pay-based competition from the civilian sector to become more intense than it is now. As a backup slide indicates, inflation-adjusted civilian wages have increased only slightly since 1992. Overall, the relationship between unemployment and (inflation-adjusted) wages is weak. As long as DoD boosts pay each year to keep up with inflation, there is no reason to expect increased recruiting problems.

Over the long run, changes in the *composition* of employment may pose challenges independent of the unemployment rate. Many experts believe that both military and civilian employers will need a greater concentration of highly skilled workers in the future. Again, the added burden on recruiting depends in part on military compensation. According to [8], a more flexible, skill-based salary system would be needed to attract these workers.

## Moral Qualifications

- Projections unavailable—recent trends are best guide to future
- In 1998, 26 percent of high school seniors used an illicit drug at least once in a 30-day period
- Prison incarceration of youth aged 18-24 increased 50 percent during 1990 through 1996

Our analysis does not yet include the effects of changes in drug use and crime/incarceration on recruiting. However, there is nothing to suggest that recent trends in either of these factors will be detrimental to recruiting.

Drug use among high school seniors has increased in recent years but experienced a small downturn in 1998. We were unable to find published projections of future drug use, and recommend that the services expect 1998 patterns to continue into the future. A backup slide shows trends in drug and alcohol use in more detail.

Although we were unable to locate data on criminal convictions broken down by age, we did find youth incarceration data. Youth incarcerations have increased significantly in recent years but still reflect less than 1 percent of the population. The 50-percent increase since 1990 may be the result of longer sentences, increased youth felony activity, increased felony convictions, or many other factors. This trend will have affected military recruiting if some of the youth that would not have been incarcerated in the past would have been recruited by the military. For example, the Navy recruits sailors with prior arrest histories, but it looks more harshly at convictions. If incarceration continues to increase, it may reduce the supply of recruits. However, we were unable to find projections of future incarceration. Again, it is reasonable to expect 1996 patterns—sketched on a backup slide—to continue into the future.

## Combined Effects

Increase in youth population	15 percent
Increase in youth population needed to offset:	
Increased DoD recruiting goals	9 percent
Decreasing veteran population	7 percent
Changing racial/ethnic composition	1 percent
Change in college enrollment pattern	0 percent
Continued strong economy scenario	0 percent
Renorming of ASVAB	unknown
Changes in drugs/crime	unknown
Net increase to help (hurt) recruiting	(2) percent

The main question of this analysis is, "How will demographic trends affect the services' ability to meet recruiting goals in the future?" As our starting point we take the projected increase in the age 17-26 population from 1998 to 2008 of 15.3 percent (from 36.1 million to 41.6 million). Then we create a calculation for each factor, solving for the minimum rate at which the youth population must grow simply to offset the effect of that factor on recruiting.

DoD's combined recruiting goal will rise by 9 percent from FY98 to FY05. (FY05 is the last year that DoD has four-service projections.) All else equal, DoD could recruit the same fraction of the 17-26 population that it did in 1998 and meet the 2005-2008 goal of 196,000 accessions with room to spare. The minimum population growth necessary to meet the goal while recruiting a fixed share of the youth population is 9 percent.

Our calculations also indicate that the youth population would have to increase by 7 percent simply to offset the projected 18 percent decline in veteran population. In effect, growth in enlisted supply will be 8 percent, not 15 percent. Therefore, the services will need to recruit a larger share of the youth population than it has in the past in order to meet goals.

Expected changes in the youth racial/ethnic composition will have a small effect on the quality of people available (by itself, it will not affect quantity). All else equal, the changes will reduce the supply of upper mental group (UMG) recruits by about 1 percent. If the services are willing to accept lower quality recruits, additional population growth would not be necessary for it to

reach goals. Population would need to increase 1 percent to compensate for the changing distribution and sustain the same fraction of UMG recruits.

We found that recruiting has suffered considerably from increases in college enrollment over the past 10 years. However, government projections suggest that the situation shouldn't worsen over the next 10 years. We were unable to arrive at solid predictions of the number of non-college-bound high school graduates. However, it is reasonable to conclude that college will not continue to drain the recruitable population. Therefore, no additional population growth is needed to offset the effect of college enrollment.

An economic recession is going to happen, but we don't know when. Reliable forecasts (e.g., through FY01) don't indicate a turnaround any time soon. The economy is so strong right now that we feel only two scenarios present themselves in the near future: the economy stays strong (neutral effect on recruiting), or the economy weakens (helpful effect on recruiting). Over the long term, however, the services may want a greater concentration of high quality youth. This will lead to intensified competition with civilian employers.

Projections on moral qualification factors—drugs and crime—are not available, but the best guess is that their effects on recruiting will be neutral. Finally, it will take a year or two to determine what the effects of ASVAB renorming will be.

Overall, population growth is expected to be almost enough to support increased goals, assuming a continued strong economy and neutral effects from ASVAB renorming, drugs, and crime.

## How Might Recruiting Spending Need To Change?

- Total spending will need to increase to take full advantage of increased population
  - Costs of contacting, recruiting more young people
  - Spending per recruit may also increase to overcome negative effects of other factors
- Cost change depends on quality of recruits desired as goal increases
  - Historical tendency for goal and quality to be inversely related for Navy

An estimate of how much recruiting will cost in the future is beyond the scope of this analysis, but we can make some general predictions.

With higher goals, spending would increase even if there were no negative factors bearing on the future recruiting environment (e.g., fewer veterans). Attracting and recruiting a greater population of young people will still require more recruiters, advertising, and the like. In other words, the projected population increase cannot be fully exploited unless the services increase recruiting resources as well as goals.

As we have already seen, negative factors mean that services must recruit a higher share of the youth population than it has in the past. This is likely to drive up costs per recruit; it must either spend more to get high-quality youth, or accept lower quality. In general, additional costs depend on the services' willingness to accept lower quality personnel. Once quality goals are determined, the services will be in a better position to estimate added costs.

Many analysts believe that the Navy will need higher quality youth in the future [6, 8]. However, the increased goal will have an impact on quality, all else equal. One study found that for the Navy, the higher the goal, the lower the number of contracts with high quality recruits [9]. The balance is difficult to predict. To overcome the pressures to reduce quality in the face of increased goals, additional resources will need to go toward recruiting (or retaining) high-quality people.



## Policies To Overcome the Negative Effect

- To limit increase in DoD recruiting goals
  - Boost retention with compensation or other measures
- To limit effect of declining veteran population
  - Sustained increases in recruiting advertising
- To limit effect of college attendance
  - Adopt initiatives for community college recruiting
  - Target compensation to sustain those initiatives
- To limit effect of renorming the ASVAB
  - Reset cut scores required for individual ratings
  - Recalculate UMG requirement based on new cut scores

The Navy has several options to try to improve the prospect for recruiting, concentrating on the factors listed previously. Instead of counting on a weaker economy to tip the balance, or compromising quality, the Navy should adjust to changing conditions.

Higher retention will reduce recruiting goals, thereby easing the prospect for recruiting. Retention may increase from compensation increases that are already being considered (e.g., increases in reenlistment bonuses, pay table reform, rescinding retirement redux, sea pay reform), from additional compensation increases, or from nonmonetary improvements (e.g., improvements in working conditions, improved and more accessible education benefits, and quality-of-life improvements).

It is more difficult to find an offset to the effect of a declining veteran population. Perhaps sustained increases in recruiting advertising can, over the long run, replace some of the effect of “selling the military” that veterans provide now. And, as we have proposed, the changing composition of veterans in the population may help to mitigate the effect of reduced numbers.

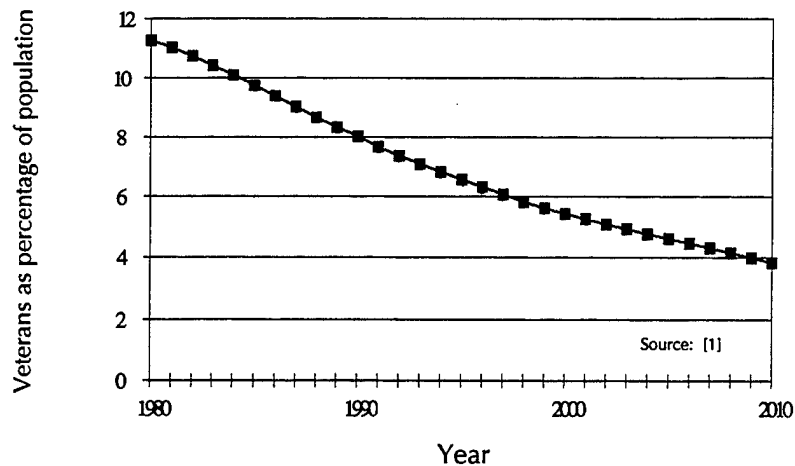
Several initiatives are under way to make it easier for the Navy to recruit college-bound youth, especially those bound for community colleges or technical/ vocational schools (e.g., [10]). Examples include tech prep partnerships with community colleges and the Navy college program. Another idea is to offer high school seniors a scholarship for one or two semesters of

community college before entering the Navy, with their Navy training finishing the requirements for a 2-year college degree. To appeal to the community college market, the Navy will probably have to adapt a specialized compensation system that can be targeted to those individuals.

ASVAB renorming will probably take place in about two years. The renorming will make existing standards more restrictive, but offsetting actions are possible. As the Navy did coincident with the last renorming, it should reset the cut scores required for individual ratings, so it will be no more difficult to qualify for a rating after the renorming than before. This should reduce the Navy's requirement for recruits in the upper mental group (UMG) of the AFQT distribution.

## Backup Information

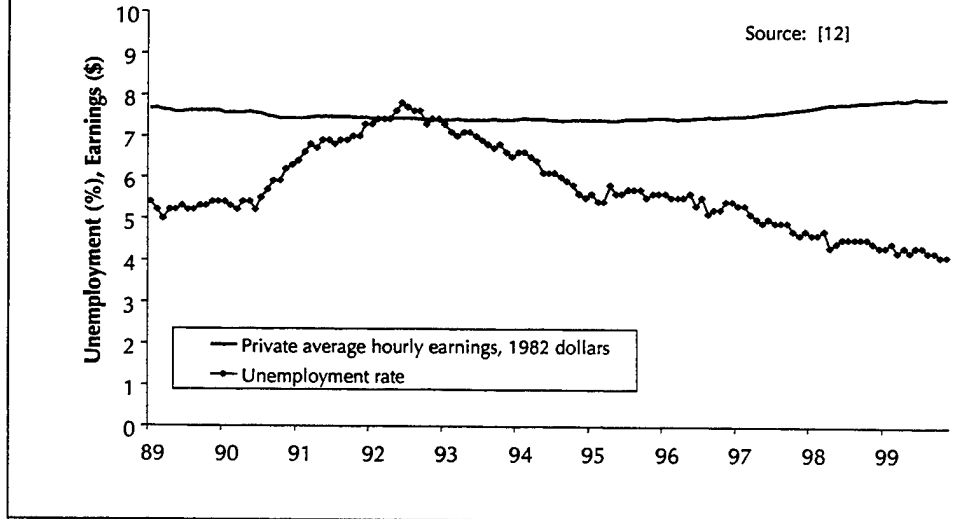
## Trend in Under-65 Veteran Population



This slide is reproduced from a 1996 CNRC report [1]. Veterans age 65 and younger constitute a decreasing share of the U.S. population. During the defense buildup of the 1980s, the veteran share of the population ranged between 8 and 10 percent. Veterans now make up 6 percent of the population, but this fraction will decline to 4 percent by 2010.

We were not able to find forecasts of the composition of the veteran population, for example, what percentage would come from the all-volunteer force.

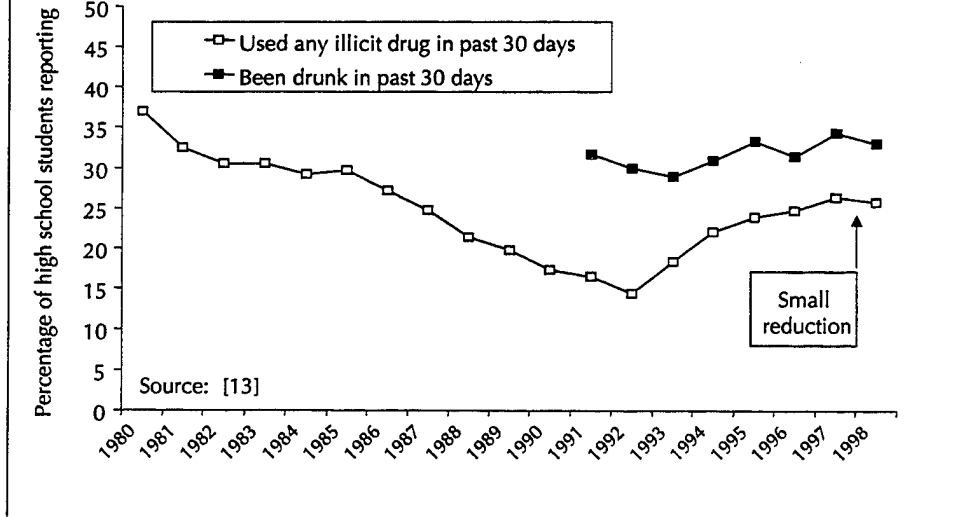
## Relationship Between Civilian Earnings And Unemployment



Civilian pay increases when the unemployment rate falls, but so do consumer prices. Inflation-adjusted wages are not strongly related to the business cycle. For example, hourly weekly earnings of civilian workers has increased by 6 percent between 1992 and today (from \$7.39 to \$7.87). At the same time, the unemployment rate has decreased from 7.8 to 4.1—a drop of 47 percent.

If DoD adjusts annual pay to keep up with inflation, it can remain competitive with the civilian labor market. Some components of pay do increase with inflation (e.g., basic pay increases by 2 to 3 percent per year). However, many special and incentive pays remain fixed or bump against legislated maximums. DoD has increased many of these pays in recent years.

## Illicit Drug Use Declined Last Year

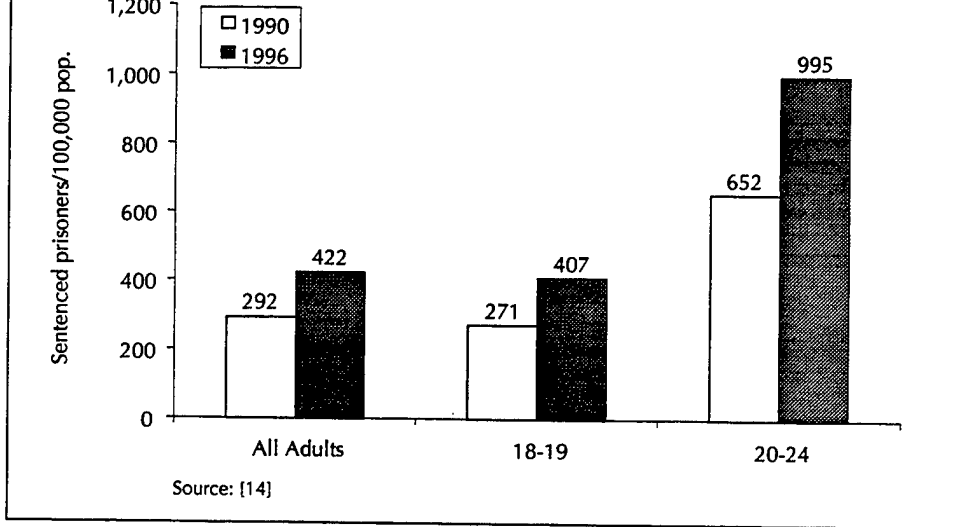


Drug-related entry restrictions vary over time and across services, but illicit drug use has always posed a challenge to recruiting. Youths with histories of drug use may fail to qualify for service, or may attrite from training. Alcohol use is also a predictor of attrition. A recent CNA study found that boot camp attrition for occasional drinkers was 3 percentage points greater than for those who never drank [11].

These data describe the survey responses of high school seniors in the University of Michigan's Monitoring the Future Study (MFS) [13], which is updated annually. We could find no projections of youth drug and alcohol use. One predictor is how younger students—today's 8th graders—respond to the survey now.

The fact that we could not find long-term MFS projections of youth drug use suggests that the present provides the best guide to the future. We suggest that policy-makers use current estimates of prevalence of drug and alcohol use among youth.

## Prison Incarceration of Youth Has Increased 50 Percent Since 1990



Prison incarcerations have increased 50 percent among youth, and across other age groups as well. Among the adult population as a whole, the rate has increased by 44 percent since 1990 [14].

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