National Longitudinal Survey of Youth Labor Market Experience

Military Studies

Youth and the Military Services:

1980 National Longitudinal Survey Studies of Enlistment, Intentions to Serve, Reenlistment and Labor Market Experience of Veterans and Attriters

by Choongsoo Kim

May 1982

Center for Human Resource Research
The Ohio State University

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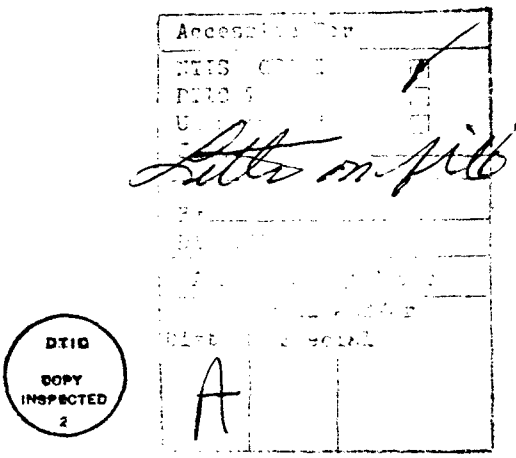

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PREFACE

This report covers the second survey of a cohort of youth who were age 14-21 on January 1, 1979. The cohort will be interviewed annually for the next four years to trace the experiences of the youth over the period. The purpose of these surveys is to better understand the factors affecting success in the labor market and in life generally.

This cohort of youth is part of the National Longitudinal Surveys of Labor Force Experience (NLS), which were begun in 1966. Funding for the NLS comes from the Office of Research and Development and Office of Youth Programs, Employment and Training Administration, U.S. Department of Labor and a military funding consortium consisting of the Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics), Army Research Institute, Air Force Office of Scientific Research and the Office of Naval Research.

A key role in the design of the military component of the NLS was played by Zahava D. Doering, Defense Manpower Data Center, and David W. Grissmer, The Rand Corporation. They initiated the idea of a military component, and designed the military portion of the questionnaire. The funding consortium was coordinated by Al Martin, former Director, Accession and Retention, Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics). Support for the selection of the military sample and assistance in the location of military personnel was provided by Kenneth C. Scheflen, Chief, Defense Manpower Data Center and his staff.

Overall responsibility for the NLS rests with the Center for Human Resource Research, The Ohio State University, who design the questionnaires, analyze the data and provide the data to the public. Sample design and data collection for the youth cohort were conducted by the National Opinion

Research Center (NORC). The Survey Director at NORC for this project was Mary Catherine Burich; sample design was the responsibility of Martin Frankel.

Many senior staff at the Center for Human Resource Research read the earlier version of this report. I would like to thank them for their useful comments. I am particularly indebted to Michael E. Borus for his guidance and encouragement. He read the entire manuscript and his helpful suggestions immeasurably improved the basic framework of the analysis. I have also benefited from the comments by Dr. Zahava D. Doering and Dr. David Boesel, Defense Manpower Data Center.

The excellent research assistance of John Jackson and Julia Zavakos, editorial assistance of Kezia Sproat, and clerical assistance of Sherry Stoneman McNamara are greatly appreciated.

Naturally, any remaining errors are the sole responsibility of the author.

EXECUTIVE SUMMARY

This report contains five studies of military manpower issues based primarily on data from the second-round interviews of the National Longitudinal Study (NSL) conducted in Spring 1980. The studies, which address issues related to the viability of the All-Volunteer Force (AVF), focus on characteristics of participants in the armed forces, characteristics of enlistees, factors in enlistment decisions, reenlistment, and post-military labor market experiences.

The data on enlistment pertain to the twelve months prior to the administration of the survey in Spring 1980, a period which represented the low ebb of AVF accessions, particularly in terms of quality. Since that time a good recruitment market, improved benefits, Congressional limitations on accessions from applicants in lowest category of Armed Forces Qualifying Test scores (Category IV), and the renorming of the Armed Services Vocational Aptitude Battery have resulted in dramatic improvements in both numbers and quality of acccessions. Even in 1979, however, this report indicates that the accessions picture was not without positive aspects.

Characteristics of the Participants in the Armed Forces

*As measured in Spring 1980, the AVF was successfully drawing recruits from a cross-section of the youth population: the socioeconomic status and quality of respondents in the armed forces were about the same as those of civilian youth employed full-time. Inter-service comparisons, however, indicate disparities among the four services. Comparing members of the Armed Services with civilian youth employed full-time we find that:

- Socioeconomic status as measured by parental education and

occupation was about the same for service personnel and their civilian counterparts.

- Among white males, Armed Forces Qualifying Test (AFQT) scores were about the same for service personnel and their civilian counterparts; however, female and minority male service members scored substantially higher than their respective civilian counterparts.
- Mean AFQT scores of service personnel in the Air Force and Navy were higher than those of civilian youth, but the mean scores of Army and Marine personnel were lower.

Selected Characteristics of Enlistees, Reasons for Enlistment, and Determinants of Enlistment Decisions

*About 400,000 young men and women were sworn into the active forces (including the Delayed Entry Program) in the year prior to the 1980 interviews. Comparison of these 1979 entrants with those who had enlisted in the previous year, calendar 1978, shows declines in the following characteristics:

- Parental educational attainment: among white males, the parents of one in eight 1978 enlistees did not graduate from high school; among 1979 enlistees, the parents of one in four did not graduate.
- Proportion completing high school: while only one out of six 1978 enlistees were high school dropouts, more than four out of ten 1979 enlistees were dropouts.
- Mean AFQT score: on the average, 1978 enlistees scored 66 on a 100-point scale, while 1979 enlistees scored 59.

*Youth cited long-run returns as their chief reasons for joining the armed

forces rather than short-run returns such as salary. The most often cited reason for enlistment, given by 28 percent, was "training opportunities in the military." The next three most frequently cited reasons were "money for college," "to better myself in life," and "to travel." Male enlistees cited "training opportunities in the military" most frequently, while female enlistees cited the desire "to better myself in life." Only a small proportion of enlistees expected to receive higher wages in the military than in the civilian economy.

*Factors leading to higher enlistment rates were:

- Intention to enlist as of the previous year.
- Desire for occupational training other than regular schooling.
- Higher educational attainment.
- Not living with both natural parents at age 14.
- Enrollment in high school or having little civilian labor market experience.

The Potential Supply of Armed Forces Personnel: Positive Intentions to Serve and Reasons for Not Enlisting

*Among 17 to 21 year old youth who have never served, about 73 percent of males and 81 percent of females said that serving in the military is definitely or probably a good thing, while 22 percent of males and 11 percent of females said they would try to enlist in the future. The percentage of youth with positive intentions to serve was particularly high among black males.

*In terms of socioeconomic status, youth who talked to recruiters or took the

ASVAB represented a cross-section of the youth population, but the socioeconomic status of youth with positive intentions to serve was lower than that of the total youth population.

*Among youth who talked to recruiters but did not enlist, "going to school" was the reason for not enlisting cited most frequently by males and the second most frequently cited by females.

*"Insufficient pay or benefits" was cited as the reason for not enlisting by a very small percentage of youth (less than 2 percent) who talked to recruiters, took the ASVAB, and met the mental and physical requirements

Reenlistment, Separation after Completing Initial Term of Duty, and Attrition from Military Service Among Youth Who Enlisted Between 1975 and 1977

*Job satisfaction status was an important factor affecting the decision to leave or remain in the service, as might be expected.

*Other important factors influencing reenlistment or separation decisions were marital status and presence of a child. Those who had married were more likely to remain in the service, while those who had had a child were more likely to leave the service than those who had not.

*Females with non-traditional attitudes showed a higher probability of extending their term of service, while females with traditional attitudes had a higher likelihood of separating before completing their tour of duty.

Labor Market Experience of Veterans and Attriters

*Among males, the mean AFQT score of veterans was higher than that of their civilian peers, but the mean score of attriters was lower. Among females, however, the mean AFQT scores of veterans and attriters were substantially higher than those of their civilian counterparts.

*College enrollment rates among males were lowest for attriters, intermediate for veterans, and highest for civilians who had never served. Among females, however, college enrollment rates were about the same for veterans, attriters, and civilians who had not served.

*The unemployment rates for both sexes were highest for attriters, intermediate for veterans, and lowest for civilians who had never served.

*Among employed males, the weekly earnings of veterans were about the same as those of civilians who had never served, while the earnings of attriters were somewhat lower. However, the weekly earnings of female attriters were substantially higher than those of both female veterans and civilians who had never served: female veterans earned eight percent more and attriters earned forty-one percent more than their civilian counterparts. Veterans of both sexes received slightly lower wages but worked slightly more hours than their civilian counterparts.

*Although male veterans were at a disadvantage at the time of separation from the military, parity in wage rates with civilians who had never served was achieved when, holding other factors constant, male veterans had ten months of adjustment to the civilian ecoromy. The wage rates of male attriters were

lower than those of civilians who had never served, other things being equal.

*At the time of separation, female attriters earned slightly higher wages than their civilian peers, but the difference was not significant. As the civilian adjustment period increased, their wage rates at first grew slowly relative to civilian rates, then they recovered, so that in about three years the wages of female attriters were at parity with those of civilians who never had served, other factors held constant.

TABLE OF CONTENTS

Introduction

Although recent increases in the unemployment rate have greatly facilitated military recruitment, recruiters, who are charged with attracting and selecting the best possible individuals to attend to defense of the nation, need all the information they can get about their target population. This report is designed to answer questions about that population.

- Who is most likely to enlist, and why do they enlist?
- What can we tell about the characteristics of potential enlistees?
- Of enlistees, which ones are most likely to stay? to reenlist?
- What labor market choices are likely to become available as a consequence of having served in the military?

This study presents military manpower analyses based on the second round of interviews in the National Longitudinal Survey of Youth Labor Market Experience (NLS). The NLS survey in 1980 included 11,147 civilian youth and 984 youth serving in the active armed forces who were 15-23 years old when interviewed in the Spring of 1980 (see NLS Handbook, 1982).

Each of the five chapters sheds light on the causes and effects of enlistment in the armed services. Chapter I compares persons who have chosen the full-time job of serving in the active armed forces with those who have instead chosen full-time employment in the civilian sector. Selected individual characteristics also are compared across service branches: of particular concern are the socioeconomic status and educational achievement of the different groups.

Chapter II compares the individual characteristics and motives for enlistment of 1979 enlistees (those interviewed in Spring 1980) with the characteristics and motives of 1978 enlistees (those interviewed in Spring 1979). An enlistment model is also developed to identify factors which

distinguish those eligible male youths who do enlist from those who do not. Particular attention is paid to whether or not previously expressed enlistment intention is a predictor of actual enlistment behavior. We also examine how the desire for occupational training affects the enlistment decision.

Chapter III aims at identification of future armed forces personnel. The first part of the chapter presents characteristics of youth who have positive intentions to serve, who talked to recruiters, or who took the Armed Forces Vocational Aptitude Battery (ASVAB). The primary concern is to examine whether or not the individual attributes of those who have positive intentions to serve or those who made specific efforts to gather information about military service represent a cross-section of the youth population. The second part of Chapter III discusses why individuals who talked to recruiters, who took the ASVAB, or who passed both mental and physical examinations, did not enlist in the military. Differences in the main reasons according to labor market status, enrollment status, and educational attainment are examined in detail. The analyses in this chapter should help recruiting policy.

Chapter IV explains why some individuals decide to extend their initial term of service, others leave the military after completing their first tour of duty without reenlisting, and some separate from the military before the end of their term of duty. We test the hypothesis that youths view the service in the military as a way of obtaining some occupational training or post-service educational benefits rather than as a career-oriented job. We also inspect the impacts of marital status and presence of child(ren) on the decision to remain in the service.

Finally, Chapter V evaluates the post-service labor market performances of former service personnel with that of civilians who have never served. In the first section, comparisons of school (college) enrollment rates,

unemployment rates, earnings, number of hours worked, job satisfaction and industrial and occupational employment distributions are presented. In the second section, efforts are made to explain the variations in the wage rates among different groups by restricting the analysis to non-enrolled employed youth. The main hypothesis to be tested is that service in the military is no longer considered a career interruption in the all-volunteer-force environment. Because the military is the single largest employer of youth in the nation, the success or failure of former service men and women in their subsequent civilian lives is an important issue from a social policy perspective. Moreover, their relative labor market performance gives us an opportunity to reassess current military manpower retention policies.

Chapter I

Characteristics of Current Participants in the Armed Forces

This first chapter describes the characteristics of individuals age 17 to 23 who were serving in the active forces as of the Spring 1980 interview date and compares them to those youth who were employed full-time in the civilian labor force.[1] Our military sample consists of 984 individuals serving in the active forces at the time of the interviews; they represent 788,000 service members, of which 269,000 were new enlistees.[2] Between the Spring of 1979 and Spring 1980, 400,000 youth were sworn into active service; 67 percent were serving in Spring 1980, 21 percent were on the delayed entry program, 4 percent had entered and subsequently left the service (attrited), and 8 percent had not begun their active duty.

The composition of the armed forces by race, sex and age is presented in Table 1.1. Females comprise about 9 percent of the total. Minorities make up 27 percent of males and 30 percent of females. The median age is 20 years for males and 19 years for females.

Forty one percent of the males are serving in the Army and 15 percent in the Marines (Table 1.2). The corresponding figures for females are 49 percent and 3 percent, respectively. Minorities serve in greater proportions in the Army than in the Navy and Air Force, but black females are particularly

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[1]The 23 year old group in our sample represents only the younger part of that age distribution of the population. This is because sample members were ages 14 to 21 as of January 1st, 1979, and interviews were performed during the first half of the calendar year.

[2]The NLS is a nationally representative survey. Each individual is assigned a sampling weight, the inverse of the probability of being selected. Unless specified otherwise, the numbers in this chapter and in subsequent chapters are based upon the population estimates where each response is weighted by the respondent's sampling weight.

Table 1.1 Number of Participants in the Armed Forces (in thousands), by Race, Sex, and Age: 1980[a]
(Unweighted sample sizes in parentheses)

Age	Total	Male				Female			
		Total	Black	Hispanic	White	Total	Black	Hispanic	White
17	4	4	3	1	0	0	0	0	0
	(3)	(3)	(2)	(1)	(0)	(0)	(0)	(0)	(0)
18	71	65	10	0	55	6	2	0	4
	(23)	(20)	(8)	(0)	(12)	(3)	(2)	(0)	(1)
19	168	146	33	10	103	22	5	0	17
	(127)	(89)	(26)	(10)	(53)	(38)	(12)	(3)	(23)
20	183	173	34	9	130	10	3	0	7
	(243)	(148)	(24)	(11)	(113)	(95)	(20)	(2)	(73)
21	177	162	39	5	117	14	5	1	9
	(280)	(174)	(39)	(6)	(129)	(106)	(24)	(6)	(76)
22	145	130	30	10	90	15	4	1	10
	(243)	(161)	(37)	(13)	(111)	(82)	(14)	(3)	(65)
23	41	39	11	1	27	2	1	0	1
	(65)	(54)	(17)	(2)	(35)	(11)	(3)	(1)	(7)
Total	788	718	161	36	522	70	19	2	49
	(984)	(649)	(153)	(43)	(453)	(335)	(75)	(15)	(245)

[a]Sum of column or row numbers may not add up to total due to rounding.

Table 1.2 Participants in the Armed Forces, by Race, Sex, and Branch of Service: 1980[a]

(Percentage distributions)

Branch of service	Total	Male				Female			
		Total	Black	Hispanic	White	Total	Black	Hispanic	White
Total number (thousands)	788	718	161	36	522	70	19	2	49
Distribution by sex and race	100	91.1	20.4	4.6	66.2	8.9	2.4	0.3	6.2
Distribution by race	-	100	22.4	5.0	72.6	100	27.1	2.9	70.0
Total percent	100	100	100	100	100	100	100	100	100
Army	42.0	41.3	62.1	38.9	35.1	48.6	65.7	76.5	40.8
Navy	22.1	22.0	13.0	19.4	24.9	22.9	3.0	0	30.6
Air Force	21.7	21.3	13.0	16.7	24.1	25.7	29.3	17.6	24.5
Marines	14.2	15.4	11.8	27.8	15.7	2.9	1.5	5.9	2.0

[a]Sum of column or row numbers may not add up to total due to rounding.

overrepresented in the Air Force.[3] Over 60 percent of black males are in the Army, as are about two thirds of black females and three quarters of Hispanic females. More than a quarter of Hispanic males are in the Marines.

Comparison of Armed Forces and Civilian Personnel The viability of the all-volunteer force (AVF) is thought to be dependent upon the ability of military authorities to recruit a cross-section of the total population rather than one segment of it. It has been argued that the military would attract disproportionate numbers of youth from lower socioeconomic status backgrounds and of persons who have limited opportunities in the civilian economy due to their low ability.[4] In order to test these arguments, those serving in the military in 1980 are compared with 17 to 23 year old youth who are employed full-time. High school students and full-time college students are excluded from this comparison, even though they work full-time, because schooling is considered their major activity. Only those part-time college students who work full-time are included, since we do not know whether school or work is the major activity for them.

OVERALL COMPARISONS

Males

Tables 1.3 and 1.4 compare selected characteristics of the active armed

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[3]Twenty-nine percent of black females are serving in the Air Force, while 22 percent of the total military personnel are in the Air Force.

[4]See, for example, The Report of the President's Commission on All Volunteer Armed Forces, USGPO, 1970.

Table 1.3 Comparison of Selected Characteristics of Male Youth in Armed Forces and Employed Full-Time in Civilian Sector, by Race: 1980

(Percentage distributions)

Characteristics	Total		Black		Hispanic		White	
	Armed forces	Employed full-time	Armed forces	Employed full-time	Armed forces	Employed full-time	Armed forces	Employed full-time
Total number (thousands)	718	4,812	161	506	36	307	522	4,000
Socioeconomic status								
Education of parent[a,b]								
Total percent	100	100	100	100	100	100	100	100
Less than 12 years	24.4	26.4	35.0	44.4	55.0	61.5	19.5	21.5
12 years	48.4	47.9	45.5	38.2	21.8	26.0	50.9	50.7
13-15 years	12.9	12.5	11.6	11.7	9.7	6.0	13.5	13.1
16+ years	14.21	13.2	7.9	5.6	13.5	6.5	16.1	14.6
Occupation of parent[a,c]								
Total percent	100	100	100	100	100	100	100	100
Professional or managerial	20.8	25.1	8.4	10.6	21.8	12.9	24.1	27.5
Sales or clerical	12.6	10.8	8.8	6.4	10.3	5.1	13.7	11.7
Blue collar	55.0	49.2	54.2	56.7	49.5	48.3	55.5	48.4
Service	10.2	9.3	25.8	22.2	18.4	14.7	5.5	7.5
Labor or farm	1.4	5.5	2.7	4.1	0.0	18.9	1.2	4.8
Number of siblings[a,d]								
Total percent	100	100	100	100	100	100	100	100
1-2	13.3	18.8	8.2	10.9	13.3	11.3	14.9	20.4
3-4	41.1	41.2	28.4	29.2	24.9	26.1	46.2	43.9
5-6	28.1	23.6	31.8	22.0	27.0	20.8	27.0	24.0
7+	17.5	16.4	31.6	37.8	34.8	41.8	11.9	11.7
Quality of respondent								
Education of respondent								
Total percent	100	100	100	100	100	100	100	100
Less than 12 years	24.0	24.1	17.5	35.6	34.5	51.3	25.3	20.6
12 years	67.3	59.2	74.3	47.5	59.5	32.2	65.7	62.8
13-15 years	6.9	13.9	7.6	14.4	5.9	14.5	6.8	13.7
16+ years	1.8	2.8	0.7	2.5	0	2.0	2.2	2.9

Table 1.3 (continued)

Characteristics	Total		Black		Hispanic		White	
	Armed forces	Employed full-time	Armed forces	Employed full-time	Armed forces	Employed full-time	Armed forces	Employed full-time
Educational expectations[a]								
Total percent	100	100	100	100	100	100	100	100
Less than 12 years	4.9	10.8	3.6	10.7	5.6	22.9	5.3	9.9
12 years	34.8	47.7	30.1	40.8	23.0	39.8	37.0	49.2
13-15 years	21.3	20.8	24.4	18.5	25.8	13.1	20.1	21.7
16+ years	38.9	20.7	41.9	30.0	45.6	24.2	37.6	19.2
AFQT score								
Total percent	100	100	100	100	100	100	100	100
0-0.32	9.9	13.1	14.2	29.9	8.1	34.5	8.7	9.4
0.33-0.49	12.1	13.3	30.3	33.6	12.5	19.6	6.5	10.3
0.50-0.66	22.6	19.6	31.6	22.8	29.9	18.8	19.3	19.2
0.67-0.89	45.9	44.7	23.3	12.5	49.5	23.8	52.7	50.4
0.90-1.00	9.5	9.3	0.6	1.1	0	3.3	12.9	10.7
Other characteristics								
Marital status								
Total percent	100	100	100	100	100	100	100	100
Married	14.9	12.7	11.0	6.5	11.7	15.2	16.5	13.3
Not married	85.1	87.3	89.0	93.5	88.3	84.8	83.7	86.7
Health status								
Total percent	100	100	100	100	100	100	100	100
Does not affect work	94.4	96.0	96.6	95.5	95.4	96.7	93.7	96.0
Affects work	5.6	4.0	3.4	4.5	4.6	3.3	6.3	4.0

[a]The information is based upon 1979 survey data.

[b]Years of school completed by parent in the household with the highest educational attainment.

[c]One-digit occupation group of father's job. If father is absent from household and mother is present, then occupation group of mother's job.

[d]One is added to include respondent himself.

Table 1.4 Comparison of Selected Characteristics of Female Youth in Armed Forces and Full-Time Employed in Civilian Sector, by Race: 1980

(Percentage distributions)

Characteristics	Total		Black		Hispanic		White	
	Armed forces	Employed full-time	Armed forces	Employed full-time	Armed forces	Employed full-time	Armed forces	Employed full-time
Total number (thousands)	70	3,939	19	381	2	240	49	3,318
Socioeconomic status								
Education of parent[a,b]								
Total percent	100	100	100	100	100	100	100	100
Less than 12 years	21.4	24.7	39.8	47.2	52.2	62.0	12.7	19.6
12 years	41.8	48.2	47.1	37.7	29.2	23.8	40.2	51.1
13-15 years	18.4	12.4	11.7	9.2	6.8	4.9	21.5	13.3
16+ years	18.4	14.7	1.4	6.0	11.7	9.3	25.6	16.1
Occupation of parent[a,c]								
Total percent	100	100	100	100	100	100	100	100
Professional or managerial	31.7	24.0	3.8	9.4	8.1	18.5	43.8	25.9
Sales or clerical	13.9	14.6	28.4	10.0	5.9	10.6	8.3	15.3
Blue collar	41.8	48.3	45.7	57.0	69.1	47.2	39.3	47.5
Service	9.7	9.4	19.8	22.8	0	14.5	6.0	7.7
Labor or farm	2.9	3.7	2.4	0.8	16.8	9.2	2.7	3.6
Number of siblings[a,d]								
Total percent	100	100	100	100	100	100	100	100
1-2	9.1	16.2	4.1	8.4	10.2	12.4	11.2	17.4
3-4	35.8	45.1	35.7	32.1	54.0	37.8	35.2	47.1
5-6	40.8	24.1	39.7	29.0	10.5	21.6	42.3	23.7
7+	14.3	14.6	20.5	30.5	25.4	28.3	11.3	11.7
Quality of respondent								
Education of respondent								
Total percent	100	100	100	100	100	100	100	100
Less than 12 years	11.2	15.8	0.3	12.7	0	27.1	16.2	15.3
12 years	80.4	58.5	88.9	61.3	93.2	50.2	76.4	58.8
13-15 years	7.3	20.5	10.8	23.6	6.8	19.5	5.8	20.2
16+ years	1.1	5.2	0	2.4	0	3.2	1.6	5.7

Table 1.4 (continued)

Characteristics	Total		Black		Hispanic		White	
	Armed forces	Employed full-time	Armed forces	Employed full-time	Armed forces	Employed full-time	Armed forces	Employed full-time
Educational expectations[a]								
Total percent	100	100	100	100	100	100	100	100
Less than 12 years	3.1	6.5	0.4	2.2	0	11.5	4.3	6.6
12 years	14.5	42.4	21.1	35.9	12.0	31.3	11.9	44.0
13-15 years	40.1	27.9	35.7	29.1	44.1	31.1	41.8	27.6
16+ years	42.3	23.2	43.8	32.8	43.9	26.2	42.0	21.9
AFQT score								
Total percent	100	100	100	100	100	100	100	100
0-0.32	4.4	7.6	9.3	17.4	10.2	20.9	2.2	5.5
0.33-0.49	1.7	10.4	6.0	32.5	0	17.4	0	7.4
0.50-0.66	34.3	23.5	70.0	35.5	26.7	33.8	19.8	21.4
0.67-0.89	51.7	48.1	13.8	14.2	46.0	24.9	67.6	53.7
0.90-1.00	7.9	10.4	1.0	0.5	17.2	3.0	10.4	12.1
Other characteristics								
Marital status								
Total percent	100	100	100	100	100	100	100	100
Married	15.8	19.5	9.1	17.2	17.5	25.4	18.6	19.3
Not married	84.2	80.5	90.9	82.8	82.5	74.6	81.4	80.7
Health status								
Total percent	100	100	100	100	100	100	100	100
Does not affect work	95.0	93.2	99.1	94.1	100	97.2	93.1	92.8
Affects work	5.0	6.8	0.9	5.9	0	2.8	6.9	7.2

[a]The information is based upon 1979 survey data.

[b]Years of school completed by parent in the household with the highest educational attainment.

[c]One-digit occupation group of father's job. If father is absent from household and mother is present, then occupation group of mother's job.

[d]One is added to include respondent herself.

forces personnel and full-time employed youth.[5]

Socioeconomic Status Comparing military and civilian males, we do not find that service members disproportionately represent the lower socioeconomic segment of the population when socioeconomic status is measured by parental education and occupation.[6] In fact, among minority males, more full-time employed youth than service members come from families whose parents did not finish high school.

Education Looking at the educational attainment of male respondents, we find racial differences. Among minority males, a much lower proportion of service personnel than of their civilian counterparts are high school dropouts; however, among white males, a slightly higher percentage of military personnel are high school dropouts.[7] Generally, the proportion of those who have had some college training is lower among service members than among full-time employed civilian youth.

Ability Minority male service personnel score much better on the Armed Forces Qualifying Test (AFQT) than do their civilian counterparts.[8] Among

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[5]For detailed comparisons of selected characteristics between service members and full-time employed civilian youth as of the first interview in Spring 1979, see Kim et al., (1980).

[6]For definitions of variables, see glossary in the Appendix.

[7]The percentage of high school dropouts is particularly high among Hispanic males: over one-half of full-time employed civilians and a third of armed forces personnel are high school dropouts. The proportion of high school dropouts is lowest for white males among full-time employed civilians, while it is lowest for black males among military youths.

[8]The AFQT score is not designed to measure an individual's inherent intellectual ability but to capture an individual's overall degree of knowledge. Thus, the test score should not be considered a proxy for IQ but rather a test of achievement: in other words, the score is not only a function of intellectual ability but is also dependent upon age, labor market, and schooling experiences, among other things. We also compared the mean values of AFQT and Knowledge of World of Work (KOWW) scores for total NLS Youth sample members (11,914 cases). We found remarkable similarity between the two scores. The mean scores by race and sex, for AFQT and KOWW transformed to range between zero and one, and the Pearson correlation coefficients between

black males, less than 15 percent of service men score lower than 0.33 on a one-point scale, while 30 percent of their civilian counterparts do.[9] The differences are even greater among Hispanic males: whereas 8 percent of the service personnel score lower than 0.33, the corresponding figure for civilians employed full-time is almost 35 percent. In contrast, about 9 percent of white youths, both service members and civilian full-time employed, score below this level. Finally, almost 40 percent of military youth expect to be college graduates; the comparable figure for full-time employed is 20 percent.[10]

Females

By and large, we find similar results among the young women. Fewer military than full-time employed civilians have parents who did not complete high school and, with the exception of Hispanics, more of the military's parents were in white collar occupations. Female minorities in the service include fewer high school dropouts than did the civilian minority group. As with males, the proportion of those who have had some college training is lower among military than among civilians. The percentage of females who scored above 0.5 on the AFQT is higher among service members than among the full-time employed. Contrary to the case of males, but as expected, fewer

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the two variables (r^2) are as follows: (AFQT vs KOWW: r^2); (0.68 vs 0.69: 0.63) for total males; (0.47 vs 0.53: 0.55) for black males; (0.55 vs 0.57: 0.55) for Hispanic males; (0.71 vs 0.72: 0.58) for white males; (0.68 vs 0.67: 0.61) for total females; (0.50 vs 0.54: 0.52) for black females; (0.53 vs 0.54: 0.54) for Hispanic females; and (0.72 vs 0.70: 0.58) for white females. An extensive study of the Armed Services Vocational Aptitude Battery is found in Profiles of American Youth, Office of the Assistant Secretary of Defense, 1982.

[9]The raw AFQT score, which ranges between 0 and 105, is divided by 105.

[10]A slightly higher percentage of male service members are married as compared to their civilian peers. For Hispanic males, a somewhat lower percentage of service personnel than full-time employed civilians are married.

young women service personnel are married than their full-time civilian counterparts.

INTERSERVICE COMPARISONS

The question of parity among the services with respect to enlistees' selected individual characteristics is of considerable interest to policy makers. Comparisons of mean values of selected variables among the civilian full-time employed, the total armed forces, and the respective branches appear in Table 1.5. The expectation that the ground forces--the Army and Marines--recruit individuals from the lower end of the ability spectrum among the available enlistment pool, while the more technical branches -- the Air Force and Navy -- attract individuals from the higher end of the quality spectrum is generally borne out. Among both males and females, quality and socioeconomic status of personnel in the Army and Marines are somewhat lower than in the Navy and Air Force. Interestingly, the mean characteristics of the full-time employed civilian youth serve as a dividing point which distinguishes the characteristics of enlistees in the Army and Marines from those in the Air Force and Navy.[11] On these indices of quality the Army and Marines score slightly lower than the comparable civilian population while the Air Force and Navy score somewhat higher.

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[11]Although the above statement is generally true, there are some exceptions: parents' education for males serving in the Marines is about the same as that of those serving in the Air Force and Navy, which in turn is higher than that of the full-time employed; the educational attainment for females serving in the Air Force is about the same as those for females serving in the Army; the AFQT score of males serving in the Air Force is substantially higher than those of males serving in other branches, while the score of females serving in the Air Force is much lower than those of females serving in the Navy or Marines.

Table 1.5 Comparison of Mean Values for Selected Characteristics of Youth in Armed Forces and Full-Time Employed in Civilian Sector, by Sex and Branch: 1980

(Standard deviations in parentheses)

	Full-time employed	Armed forces	Branch			
			Army	Navy	Air Force	Marines
	Male					
Education of parent	12.02	12.17	11.52	12.57	12.75	12.48
	(2.95)	(2.80)	(3.07)	(2.70)	(2.22)	(2.60)
Education of respondent	11.79	11.74	11.66	11.76	12.03	11.53
	(1.57)	(1.09)	(1.39)	(0.75)	(0.74)	(0.87)
Educational expectations	13.11	14.08	13.91	14.39	14.27	13.81
	(2.17)	(2.14)	(2.18)	(2.15)	(2.10)	(1.97)
AFQT score	65.78	67.13	63.33	69.49	75.90	61.92
	(26.53)	(26.34)	(23.63)	(28.16)	(22.18)	(31.83)
	Female[a]					
Education of parent	12.16	12.58	11.79	14.39	12.60	12.09
	(2.81)	(2.35)	(2.06)	(2.24)	(2.15)	(2.07)
Education of respondent	12.19	12.01	11.97	12.17	11.91	12.17
	(1.54)	(0.72)	(0.64)	(0.92)	(0.68)	(0.47)
Educational expectations	13.38	14.53	14.47	14.50	14.67	14.35
	(2.00)	(1.74)	(1.75)	(1.36)	(1.99)	(1.69)
AFQT score	70.03	73.06	66.60	87.55	72.10	83.15
	(22.92)	(21.27)	(17.38)	(13.44)	(27.10)	(11.09)

[a]The number of female Marines in the sample is very small (N=20); therefore the statistics may not be reliable.

SUMMARY OF FINDINGS AND POLICY IMPLICATIONS

Our findings do not support the hypothesis that the military recruits its service members disproportionately from the lower socioeconomic status segment of the population or from the lower end of the ability spectrum. When compared with the characteristics of those employed full-time in the civilian economy, the individual attributes of the service members with respect to measures of socioeconomic status and quality are at least equal to those of the reference group, and the characteristics and quality of female and minority male service personnel are superior.[12]

On the other hand, inter-service comparisons indicate disparities among the four services: as compared with civilians employed full-time, the higher ability of individuals in the Air Force and Navy compensates for the lower ability of individuals in the Army and Marines. This finding bears a significant policy implication: it suggests that military manpower policy makers should pay more attention to the substitutability among different branches. It would be useful to understand whether the quality differences among different branches are primarily attributable to inter-service competition for recruits or to other factors inherent in specific branches, such as availability of specific training opportunities. If young people view military service broadly as an alternative to civilian employment, then across-the-board pay increases would attract higher-ability enlistees for all services equally. However, if youths regard the specific services as

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[12]It should also be noted that the definition of full-time employment in this analysis excludes full-time college students who, on the average, have the highest quality among the civilian youth. However, the exclusion of this group does not introduce any meaningful bias because the military is not regarded as competing directly with college education: it competes with the full-time civilian job. On the other hand, the quality of full-time employed civilian youth is thought to be higher than that of the part-time employed, the unemployed, or those out of the labor force who are not enrolled in school.

independent of each other, then service-specific bonus incentives can be expected to increase the average quality of a specific branch.

Chapter II

Enlistment in the Armed Forces

Recruiting high ability enlistees is necessary to maintain the all-volunteer force, so it is important to see what, if any, changes develop among enlistees over time. The first section of this chapter describes the individual attributes of the youths who joined the active armed services in the year prior to the 1980 interviews, and compares their individual characteristics with those of youths who enlisted in the armed forces in the year prior to the 1979 interviews. Next, differences in the reasons for enlistment given by these two entering cohorts are presented, and finally, we identify important factors which distinguish those eligible youths who enlist from those who do not enlist.

COMPARISONS OF 1978 AND 1979 ENLISTEES

About 400,000 youth age 17-23 joined the active armed services between the 1979 and 1980 interviews (hereafter these will be called 1979 enlistees).[1] Table 2.1 presents these accessions by race, sex and age:[2] females comprise about 15 percent of the total procurements; and minorities make up 30 percent of males and 47 percent of females; and the median age for all enlistees is 19 years.[3] Table 2.2 compares their individual

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[1]For an explanation of the partial (but not biased) representation in our sample of the 23 year old age group, see footnote 3 in Chapter I.

[2]Individuals who entered the Delayed Entry Program (DEP) for duty in the active forces are also counted as new accessions.

[3]Due to small cell sizes for race-specific female groups and for Hispanic males, the discussion in this chapter is confined to total males and females, and black and white males.

Table 2.1 Enlistments in the Armed Forces (in thousands) Between the 1979 and 1980 Interview Dates, by Race, Sex, and Age[a]

(Unweighted sample cases in parentheses)

		Male				Female			
Age	Total	Total	Black	Hispanic	White	Total	Black	Hispanic	White
17	34	29	10	5	13	5	3	1	1
	(20)	(16)	(7)	(5)	(4)	(4)	(2)	(1)	(1)
18	124	104	19	1	83	21	6	1	14
	(42)	(33)	(14)	(1)	(18)	(9)	(4)	(1)	(4)
19	132	111	27	7	77	22	7	2	14
	(51)	(44)	(21)	(6)	(17)	(7)	(4)	(1)	(2)
20	58	57	13	4	40	1	1	0	0
	(23)	(22)	(8)	(4)	(10)	(1)	(1)	(0)	(0)
21	22	17	12	0	6	6	6	0	0
	(11)	(8)	(7)	(0)	(1)	(3)	(3)	(0)	(0)
22	24	19	5	0	15	6	3	0	3
	(10)	(5)	(2)	(0)	(3)	(5)	(1)	(0)	(4)
23	6	6	0	0	6	0	0	0	0
	(2)	(2)	(0)	(0)	(2)	(0)	(0)	(0)	(0)
Total	400	342	86	17	240	58	24	3	31
	(159)	(130)	(59)	(16)	(55)	(29)	(15)	(3)	(11)

[a]Sum of column or row numbers may not add up to total due to rounding.

Table 2.2 Comparison of Selected Characteristics Between 1978 Enlistees Age 17-22 and 1979 Enlistees Age 17-23 by Race and Sex

(percentage distribution)

	Total		Female		Male					
					Total		Black		White	
	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979
Total number (000s)	225	400	23	58	202	342	49	86	138	240
Education of parents[a,b]										
Total percent	100	100	100	100	100	100	100	100	100	100
Less than 12 years	19.2	30.5	18.8	21.6	19.3	32.0	33.5	39.3	13.0	27.1
12 years	48.9	50.9	59.7	51.0	47.6	50.8	38.8	43.9	52.6	54.8
13-15 years	12.5	13.5	11.1	14.0	12.7	13.5	17.4	15.2	10.6	13.8
16+ years	19.4	5.1	10.4	13.4	20.4	3.7	10.3	1.6	23.8	4.2
Mean value	12.60	11.53	12.25	12.04	12.64	11.45	12.02	11.16	12.96	11.65
Occupation of parent[a,c]										
Total percent	100	100	100	100	100	100	100	100	100	100
Professional or managerial	22.0	20.0	42.6	26.5	19.4	18.9	8.5	8.5	21.5	22.0
Sales or clerical	31.7	33.9	23.6	14.6	32.7	37.4	26.6	25.6	34.4	41.7
Blue collar	35.4	32.6	23.1	36.8	36.8	31.9	42.4	29.4	38.1	33.1
Service	10.5	11.7	8.8	22.0	10.7	9.9	20.9	29.2	6.2	2.9
Labor or farm	0.4	1.6	1.4	0	0.3	1.9	1.3	7.5	0	0.2
Number of siblings[a,d]										
Total percent	100	100	100	100	100	100	100	100	100	100
1-2	9.6	12.8	13.7	0	9.2	14.9	4.2	11.2	10.4	16.5
3-4	41.4	42.4	30.0	53.9	42.7	40.5	33.3	25.5	46.9	47.4
5-6	33.0	29.1	43.5	33.7	31.8	28.4	39.1	28.5	29.8	28.1
7+	15.9	15.7	12.6	12.5	16.3	16.2	23.5	34.8	12.9	8.0
Mean value	4.75	4.48	4.74	4.80	4.75	4.43	5.35	5.64	4.55	3.88
Education of respondent										
Total percent	100	100	100	100	100	100	100	100	100	100
Less than 12 years	17.1	41.5	3.0	44.8	18.7	41.0	9.6	40.9	19.9	39.1
12 years	73.0	50.7	89.0	50.7	71.2	50.7	78.1	55.7	70.2	50.6
13-15 years	9.4	4.6	8.0	3.2	9.6	4.9	9.9	3.3	9.9	5.4
16+ years	0.5	3.1	0	1.3	0.6	3.4	2.4	0.	0	4.8
Mean value	11.85	11.41	12.05	11.37	11.83	11.41	12.10	11.21	11.76	11.54
Educational expectations[a]										
Total percent	100	100	100	100	100	100	100	100	100	100
Less than 12 years	1.1	8.9	0.8	0	1.1	10.4	0	6.8	1.6	11.0
12 years	23.1	49.5	17.1	26.6	23.7	53.3	15.2	56.2	26.9	53.1
13-15 years	24.8	15.4	43.3	30.8	22.7	12.8	27.4	14.4	21.3	12.7
16+ years	51.0	26.2	38.7	42.6	52.4	23.4	57.4	22.7	50.1	23.1
Mean value	14.72	13.33	14.53	14.33	14.74	13.16	15.00	13.25	14.61	13.13
AFQT score[e]										
Total percent	100	100	100	100	100	100	100	100	100	100
0-0.32	9.6	14.3	4.9	3.7	10.1	16.1	15.7	16.6	9.2	17.0
0.33-0.49	6.7	15.5	4.9	12.3	6.9	16.0	19.0	40.9	2.7	6.9
0.50-0.66	20.6	25.9	15.0	44.8	21.3	22.7	32.5	34.6	15.7	16.9
0.67-0.89	56.1	37.1	67.2	37.7	55.4	37.0	32.8	6.7	63.2	47.9
0.90-1.00	6.5	7.2	7.9	1.5	6.3	8.2	0	1.2	9.2	11.2
Mean value	0.66	0.59	0.72	0.63	0.65	0.58	0.53	0.47	0.69	0.62

[a,b,c,d] See footnotes in Table 1.3

[e] AFQT score (0-105)/105.

characteristics with those of calendar year 1978 enlistees.[4]

Socioeconomic Status The socioeconomic status of respondents is proxied by education and occupation of parents, and number of siblings. The educational attainment of parents for the 1979 enlistees is a little lower than that for the 1978 enlistees, particularly among males. Whereas less than 20 percent of the 1978 enlistees have parents who did not finish high school, 30 percent of the 1979 enlistees' parents did not; the proportion whose parents are college graduates is about 20 percent for the 1978 enlistees, but only 5 percent for the 1979 enlistees. The decline in parental education is most obvious among white males, who comprise about 60 percent of total enlistments in both years: 24 percent of the 1978 white male enlistees' parents are college graduates and only 13 percent are high school dropouts; the corresponding figures for 1979 enlistees are 4 percent and 27 percent, respectively. Among females, however, we do not find substantial differences in parental education between 1978 and 1979 enlistees, and there is only a slight decline in average parental education among black males.

Differences do not appear in parental occupation between 1978 and 1979 male enlistees, but a somewhat lower percentage of the 1979 female enlistees' parents work in white-collar occupations--professional, managerial, sales, and clerical occupations--than did 1978 female enlistees' parents.[5]

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[4]The substantially larger number of new accessions in 1979 than in 1978 are primarily due to the inclusion of those in DEP for 1979 accessions but not for 1978 accessions (see footnote 1 in Chapter I).

[5]We do not find differences between 1978 and 1979 enlistees with respect to number of siblings. This finding is somewhat unexpected because family size is generally known to be closely correlated with socioeconomic status. We find an inverse relationship between these two variables throughout most of the other chapters. Particularly for the case of white males, we observe an opposite pattern than expected. A relatively higher proportion of 1979 enlistees come from small size families as compared to 1978 enlistees.

Educational Attainment Perhaps the most remarkable difference between 1978 and 1979 enlistees is the proportion of high school dropouts: whereas only about one in six 1978 enlistees did not graduate from high school, more than four in ten 1979 enlistees did not. The difference is particularly large among females: only 3 percent of the 1978 recruits, but 45 percent of the 1979 recruits, were dropouts. The higher percentages of high school dropouts for all race and sex groups is associated with the number of new accessions; as accessions increased, the quality of the enlistees went down. Even though the absolute number of high school graduates entering the military was higher for all race and sex groups in 1979[6] than in 1978, the mean level of education was lower.

Educational Expectations The findings of lower educational expectations among 1979 male enlistees than among their 1978 male counterparts is rather consistent with their lower average educational attainment. About one-fourth of 1979 male enlistees said they expect to attain a college degree, while about half of 1978 males said so. No differences in educational expectations emerge between white and black males, but we find a somewhat confusing result for females. Among 1978 enlistees, of whom 3 percent are high school dropouts, 39 percent said that they expect to finish college, while among 1979 enlistees, of whom 45 percent are high school dropouts, about 43 percent said

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[6]As noted in footnote 2, we count those who are on DEP as enlistees; this inclusion raises a suspicion that if youths on DEP are currently enrolled in high school, by the time they begin their active duty, these youths may have graduated. However, this suspicion is not supported, because only one respondent in the DEP with 11 years of education is still in school. On the other hand, it should also be noted that 36 percent, i.e., 30,000 out of 84,000 (27 out of 37 respondents) of those who are on DEP have not attained 12 years of schooling. Therefore, the percentage of high school dropouts among total enlistees declines from 42 percent to 34 percent when we exclude those on DEP from total enlistees: the corresponding percentage drops from 41 percent to 35 percent for males and from 45 percent to 26 percent for females.

that they expect to finish college. These discrepancies are not readily explainable.

The lower quality of the 1979 enlistees as compared with their older counterparts is further demonstrated by the AFQT scores.[7] The raw score is transformed so that the score ranges between zero and one. The 1979 enlistees have a lower mean score (.59 vs. .66) and a wider dispersion of scores than do the 1978 enlistees. While about 30 percent of 1979 enlistees score less than 0.5, only about 16 percent of 1978 enlistees do so. The decline in the test score is particularly apparent among black males: nearly 58 percent of 1979 enlistees, as contrasted to 35 percent of 1978 enlistees, score below 0.5.

REASONS FOR ENLISTMENT: 1978 VS. 1979 ENLISTEES

Each respondent was asked to give his or her main reason for enlistment,[8] and Table 2.3 presents the 1978 and 1979 enlistees' responses. The most often cited reason, given by 28 percent of both 1978 and 1979 enlistees, was "training opportunities in the military." The next three most common reasons are "money for college," "to better myself in life," and "to travel." For both cohorts about 75 percent of all enlistees give one of the above four

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[7]For a detailed discussion about the Armed Forces Qualifying Test (AFQT), see Chapter I. As this score serves as a measure of individual achievement rather than intellectual ability, a caveat in comparing the scores between the two cohorts is that the age effect should be controlled for. In other words, because the 1978 enlistees are older than the 1979 enlistees by one year, on the average, we should discount the differences in the scores between the two cohorts to a certain extent.

[8]The twelve reasons for enlistment in the questionnaire include: (1) I was unemployed and couldn't find a job, (2) to give myself a chance to be away from home on my own, (3) the military will give me a chance to better myself in life, (4) I want to travel and live in different places, (5) to get away from a personal problem, (6) I want to serve my country, (7) I can earn more money than I could as a civilian, (8) it is family tradition to serve, (9) to prove that I can make it, (10) to get out, (11) to obtain retirement and fringe benefits, and (12) I can get money for a college education.

Table 2.3 Comparison of Main Reason for Enlistment Between 1978 Enlistees and 1979 Enlistees, by Race and Sex

(percentage distribution)

	Total		Female		Male					
					Total		Black		White	
	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979
Total	100	100	100	100	100	100	100	100	100	100
Training for civilian job	28.4	28.3	23.1	15.0	28.9	30.5	29.1	26.9	30.2	30.4
Better myself in life	12.8	19.5	17.5	35.5	12.3	17.0	4.4	25.9	13.8	14.3
Money for college education	18.7	14.8	18.3	14.7	18.7	14.8	28.0	15.4	13.7	14.8
Travel	15.0	9.3	8.1	10.4	15.7	9.1	2.6	10.4	20.4	9.3
Was unemployed	3.4	7.6	7.2	0	3.0	8.8	6.3	12.0	2.2	7.9
Serve my country	3.1	7.1	2.3	2.4	3.2	7.8	4.4	0	3.1	10.9
Get away from home	9.6	6.1	16.5	10.5	9.0	5.4	12.1	4.6	9.0	4.9
Prove myself	4.7	5.1	1.6	10.1	5.0	4.4	8.6	2.5	3.8	5.1
Earn more money than on civilian job	0.1	1.2	0.8	0	0	1.3	0	0	0	1.9
Get away from personal problem	2.6	0.6	3.1	0	2.5	0.7	4.5	1.1	2.1	0.6
Family tradition to serve	1.2	0.2	0.5	1.4	1.2	0	0	0	0.7	0
Retirement/fringe benefits	0.6	0.2	1.0	0	0.5	0.3	0	1.1	0.8	0

answers as their main reason for enlistment. It is interesting to note that a relatively few of each year's recruits (12.2 percent in 1978 and 6.7 percent in 1979) enlist to get away from home or personal problems.[9]

1978 vs. 1979 Cohorts There were also differences between the 1978 and 1979 cohorts in reasons for enlisting. Among female 1978 enlistees, "training opportunities," "money for college," "to better myself in life," and "to get away from home" are the most frequently cited reasons; these are cited by 17 to 23 percent of the respondents. However, proportionately twice as many 1979 female enlistees cited "to better myself in life" (36 percent as compared to 18 percent among 1978 enlistees),[10] and the proportion seeking "to prove myself" increases from 2 to 10 percent. On the other hand, the proportion seeking to get away from home or personal problems falls from 17 to 11 percent. Among males, the changes are not as dramatic; in 1979 more enlisted to improve themselves, to serve the country or because they were unemployed, and fewer enlisted to travel, get away from home or for college money, but the differences were seven percentage points or less.

1979 Males vs. Females Some striking differences appear between 1979 males and females in reasons for enlisting. Among males, 31 percent cite "training opportunities," while only 15 percent of females do so. Although no female enlistees cite "unemployment" as the main reason, nine percent of males

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[9]Gottlieb (1979) reports that among the respondents in his sample of 115, about 50 percent said that their enlistment motivations were to get away from personal and family problems (parental conflict).

[10]It is rather ambiguous what the respondents specifically have in mind for the factors in military service that will enable them to better themselves in life. Because these people do not choose "training opportunities," or "educational benefits" as their main reason for enlistment, it may well be that the "discipline" which they can learn from military life or the "credential effects" which they can earn from accomplishing military service are the factors which positively influenced their enlistment decisions.

say they enlisted primarily because they could not find jobs in the civilian economy. On the other hand, proportionately twice as many women as men enlistees cite "to better myself" (36 and 17 percent, respectively), and "to prove myself" (10 and 4 percent, respectively) as their main reason for enlisting.

Overall, then, while both male and female 1979 enlistees joined the military service for self improvement, males tend to enlist to take advantage of training opportunities while females cite the more general desire "to better myself." The interesting differences between 1978 and 1979 enlistees among females are the diminution of "training opportunities" and the increase of the desire "to better myself" as the main reason for enlistment.

DETERMINANTS OF ENLISTMENT IN THE MILITARY

In the all-volunteer force environment, whether or not to serve in the military is an individual decision: if an individual expects both pecuniary and non-pecuniary returns from joining the armed forces over the life cycle to be greater than those from not joining the armed services, such a person is likely to participate in the military. Military service, however, competes directly with the civilian economy, and military recruiters are faced with a constrained maximization problem--that is, they must try to maximize the quality of enlistees subject to fulfilling the assigned quota.

Here we develop an enlistment model in order to distinguish those individuals who are likely to enlist from those who are not. For this analysis we focus on male youths aged 17 to 22 at the 1980 interview, who have never served in the active armed forces, have attained 10 to 12 years of

education, and were not enrolled as full-time students[11] at four year colleges as of the 1979 interview date.[12] The model is specified in Appendix II-A.

Descriptive Statistics About 7.7 million males fall in this group, and of them about 276,000, or about 4 percent, enlisted in the military between the two survey dates.[13] Table 2.4 compares some important individual characteristics of those who enlisted and those who did not. We find that the mean AFQT score of enlistees is substantially lower than that of the control group; a higher percentage of enlistees were enrolled in high school, indicating that a majority of enlistees come directly from high school; a relatively higher proportion of enlistees were not living with both natural parents at age 14; and enlistees are disproportionately black. In terms of educational attainment and aspirations, we do not find differences between enlistees and nonenlistees. Finally, an extremely large difference is observed in the mean value of the intention to serve indicating that the intention during the previous year may serve as a strong indicator of future behavior.[14]

Empirical Results: Logit Estimates Table 2.5 presents four

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[11]Full-time first year college students are excluded from the analysis because the enlistment rate among them is known to be very low, and moreover, the military service is considered to compete with civilian employment rather than educational institutions.

[12]Due to a very small sample size, females are excluded from the analysis.

[13]Universe restrictions (i.e., age, educational attainment, and college enrollment status) reduced the sample of respondents who enlisted from 130 (see Table 2.1) to 103.

[14]We did not have information about intention to serve for the one quarter of new enlistees who were on DEP in 1979. Thus, we assigned the highest value for the scale of the intention to serve (+2) for those on DEP.

Table 2.4 Comparison of Mean Values of Selected Variables Between Those Who Enlisted Between 1979 and 1980 Interviews and Those Who Did Not[a]

Selected variables	Total	Enlistees	Non-enlistees
AFQT score	67.63	58.60	67.96
	(25.25)	(29.33)	(25.02)
Education of respondent	11.08	10.83	11.08
	(0.82)	(0.67)	(0.82)
Enrolled in high school	0.47	0.70	0.46
	(0.50)	(0.46)	(0.50)
Single parent family	0.23	0.36	0.22
	(0.42)	(0.48)	(0.41)
Parental education[b]	0.70	0.65	0.77
	(0.42)	(0.48)	(0.41)
Educational aspirations	14.15	13.76	14.16
	(2.13)	(2.28)	(2.12)
State unemployment rate, 1979	5.50	5.95	5.49
	(2.69)	(2.81)	(2.68)
Enlistment intentions	-0.89	0.46	-0.94
	(1.16)	(1.20)	(1.13)
Problem finding a job	0.15	0.13	0.15
	(0.36)	(0.33)	(0.36)
Desires training	0.71	0.87	0.70
	(0.45)	(0.33)	(0.46)
Black	0.13	0.23	0.13
	(0.34)	(0.42)	(0.33)
Hispanic	0.05	0.05	0.05
	(0.23)	(0.21)	(0.23)
Population (000s)	7693	276	7416
Sample size	2369	103	2266

UNIVERSE: Males aged 17 to 22 in 1980, not full-time student at a four-year college, with educational attainment between 10 and 12 years, and who never served in the military.

[a]Numbers in parentheses are standard deviations.

[b]Parental education is a qualitative variable = 1 if parental education >= 12 years.

Table 2.5 Logit Estimates for Enlistment in the Military Among Male Youths

(Numbers in parentheses are asymptotic t-statistics)

Variables	Equation 1	Equation 2	Equation 3	Equation 4
Constant	-6.7853**	-8.4493**	-7.7788**	-8.1647**
	(-3.40)	(-4.14)	(-3.72)	(-3.69)
Education of respondent[a,b]	0.2222	0.3930**	0.4765**	0.3534**
	(1.31)	(2.26)	(2.45)	(1.96)
Enrolled in high school[b]	1.0692**	0.9467**	1.0111**	3.7777**
	(3.82)	(3.31)	(3.55)	(2.54)
Single parent family	0.5859**	0.5045**	0.4674**	0.4540**
	(2.75)	(2.30)	(2.16)	(2.04)
AFQT score	-0.00798*	-0.00382	-0.00046	-0.00886
	(-1.82)	(-0.80)	(-0.09)	(-1.06)
(AFQT score)*(in HS)				0.00505
				(0.54)
Problem finding a job[b]	0.1286	0.1637	0.1913	0.1752
	(0.43)	(0.53)	(0.62)	(0.56)
Desires training[b]	0.9540**	0.7898**	0.7695**	0.7138**
	(3.03)	(2.46)	(2.39)	(2.20)
Parental education			-0.2926	-0.2826
			(-1.27)	(-1.22)
Educational aspirations[b]			-0.0768	0.06160
			(-1.41)	(0.70)
(Educ. aspir.)*(In HS)				-0.2277**
				(-2.05)
Unemployment rate, state[b]				-0.02439
				(-0.57)
Hispanic	-0.2046	-0.4013	-0.4461	-2.1599*
	(-0.61)	(-1.16)	(-1.24)	(-1.81)
(Hispanic)*(AFQT score)				0.03048*
				(1.80)
Black	0.3803	0.09213	0.1093	-0.3066
	(1.58)	(0.36)	(0.42)	(-0.49)
(Black)*(AFQT score)				0.00956
				(0.89)
Enlistment intentions[b]		0.7137**	0.6980**	0.6904**
		(8.16)	(7.95)	(7.81)
Log of likelihood function	-398.02	-360.11	-358.06	-353.95
N	2369	2369	2369	2369

UNIVERSE: Males aged 17 to 22 in 1980, who never served in the military, were not enrolled as a full-time student in a four-year college, and have educational attainment between 10 and 12 years as of 1979 interview.

[a]For variable explanations, see the glossary.

[b]Information is relevant to respondent's 1979 status.

**Significant at the 0.025 level, one-tailed test.

* Significant at the 0.050 level, one-tailed test.

equations.[15] The results of equation (1) show that the AFQT score is inversely associated with enlistment behavior. Assuming that the AFQT score captures success in the civilian labor market, we infer that those individuals who are expected to be more successful in the civilian labor market are less likely to enlist in the military.[16] Youths who desire additional occupational training are more likely to enlist in the military, and, other things being equal, youths enrolled in high school and those who had not lived with both natural parents at the age 14 are more likely to enlist than their respective counterparts.[17]

Equation 2 adds intention to serve to the list of variables. The intention to serve turns out as expected to be a strong predictor of enlistment.[18] However, when the effect of the intention to serve is taken

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[15]Due to the qualitative nature of the dependent variable, logit estimation is performed to constrain the predicted probability of the dependent variable to a range between zero and one.

[16]In Table 2.3, we showed that only 1 percent of enlistees cited "to earn more money than civilian job" as the main reason for enlistment. Based upon this result, we conjecture that the relative pay level between a military and civilian job may not be the most important factor in the enlistment decision among those who actually enlisted; alternatively, enlistees know a priori that their expected wages in the armed forces may not be as high as they may earn in alternative civilian jobs. In this regard, the negative and significant coefficient on AFQT in equation (1) may be interpreted as reflecting that youths do not participate in the armed services because of lower expected pay in the military than in the civilian economy, while some youths join the military for other reasons such as training and travel opportunities.

[17]For the hypothesis on the single parent family variable, see footnote 9.

[18]It was suspected that the assignment of the highest value of intention index (+2) for those on DEP in 1979, as indicated in footnote 15, might have biased the relationship between intention and actual enlistment behavior. Thus, we reestimated the logit equation by deleting the enlistees who were on DEP in 1979 (29 out of 103 enlistees were on DEP). The reestimation produced qualitatively the same results; when those on DEP were excluded the coefficient on intention to enlist was 0.8170 with an asymptotic t-statistic of 7.83. The t-test statistic for the statistical equivalence between this coefficient and the one presented in equation (2) turns out to be 0.7584; thus, we cannot reject the null hypothesis that the two estimated coefficients

into account, the impact of expected civilian labor market performance (as shown by the AFQT score) on the decision to enlist becomes negligible.[19] On the other hand, education becomes significant.[20]

Equation (3) adds two more variables--a measure of socioeconomic status and the educational aspirations of the respondent. The first tests whether or not enlistments come disproportionately from the lower socioeconomic status segment of the population, and the second shows whether or not enlistment is positively correlated with possible post-service educational benefits. The results suggest that individuals from higher socioeconomic status backgrounds or with higher educational aspirations are less likely to enlist, but these relationships are not statistically significant.

Finally, equation (4) adds the state unemployment rate and some interaction terms. We saw earlier that the AFQT score differs among races, so we introduce the interaction terms between AFQT and race. We suspect that among high school students the role of the AFQT score may differ between those

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are statistically the same.

[19]Although a decrease in the significance of the coefficient by the inclusion of an additional variable may be generally attributable to the collinearity between the two variables, it appears that the above reason may not be relevant for this case. The simple correlation coefficient between intention and AFQT is -0.1876 and between AFQT and education is 0.0967. While the two-way simple correlation coefficients may not suffice to indicate the collinearity, the shift in the significance of the coefficient might be due to the composite nature of the AFQT variable. In other words, due to the missing components captured by the intention to enlist in equation (1), the interpretation of the coefficient of AFQT as simply representing the expected civilian earnings might be an overstatement.

[20]It is also conceivable that education is a supply side variable in the sense that a more educated individual is more likely to succeed in the civilian labor market: under this interpretation a negative sign is expected. However, because the AFQT variable is expected to better capture the component of future civilian labor market performance, we consider the effect of education net of the impacts captured by AFQT as a demand side variable whereby military recruiters screen the military applicants; thus, a positive coefficient is the expected sign in our analysis.

who are college bound and those who are going to work in the labor market without going on to college, so we add an interaction term between AFQT and a dummy variable indicating high school enrollment status, and using similar reasoning, we include an interaction term between high school enrollment status and educational aspirations. The results indicate that enlistment goes down among those high school youth with high educational aspirations, and among Hispanic males enlistment propensities rise with the level of AFQT. The local unemployment rate and the other interactions did not significantly affect the enlistment probability.[21] Thus enlistment is shown to be positively associated with the intention to serve, education of the respondent, the desire for occupational training, the absence of at least one natural parent in the home at the age of 14, and with lower educational aspirations among high school students.

Empirical Results: Partial Derivatives Another way to view the results is to see, for example, how the probability of enlistment differs between a high school student and a non-high school youth when all other individual characteristics are the same.

Here we present a "typical" individual who has the mean characteristics of the respondents under study: this individual is a high school senior, has lived with both natural parents at age 14, has a parent(s) whose educational attainment is less than 12 years, scored 60 on the AFQT, desires to receive

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[21]We also experimented with interaction terms between educational aspirations and race in order to inspect the argument that minority youth who have higher educational aspirations are more likely to enlist; the interaction terms were not statistically significant. Also, we tested the hypothesis that youths who perceive civilian labor market discrimination against race, sex and age are more likely to enlist, but failed to find any significant association. Finally, we were not successful in finding a signficant relationship between enlistment and inter-generational occupational transfer: i.e., whether or not individuals whose parents are working in the military occupations are more likely to enlist.

occupational training, aspires to attain 14 years of schooling, lives in an area with a local unemployment rate of 6 percent, does not have a problem in finding a job, and has a neutral intention toward enlisting in the armed forces (enlistment intention = 0).[22] Table 2.6 reports changes in enlistment probabilities with respect to some important individual characteristics, using the coefficients of equation 4, for such typical persons dependent on whether they are assumed to be black, Hispanic, or white.

Given these "typical" characteristics, the probability of enlisting in the military is predicted to be 8 percent for a black, 4 percent for a Hispanic, and 6 percent for a white male. If all other characteristics remain the same, and a high school junior rather than a senior applies to the military, the probability of being accepted is reduced by 29 percent. If the hypothetical young man is a high school graduate who has not gone on to college,[23] the probability changes turn out to be negative for all races, indicating that the predicted probability would decrease by 40 percent. Although education exerts a positive impact on enlistment, due to a considerably negative effect of a non-high school enrollment status (as shown below), the combined overall effect becomes negative. These findings imply that the probability of enlisting during the next year is higher for a high school senior than for a high school junior or a high school graduate.

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[22]Note that enlistment intention ranges between -2 (definitely do not intend to enlist) and +2 (definitely intend to enlist), and home environment has a value one if the respondent did not live with both natural parents at age 14.

[23]Naturally, a question arises how the predicted probability would differ between college students and noncollege students among high school graduates. Because our universe includes only those who have attained 10 to 12 years of schooling but not enrolled in a 4-year college as a full-time student, the attempt to introduce a dummy representing part-time college enrollment status was not successful due to an extremely small number in the cell--the logit coefficient did not converge.

Table 2.6 Partial Derivatives of Enlistment with Respect to Some Important Individual Characteristics

Characteristics		Black	Hispanic	White
Predicted probability of enlistment,	$\Delta\hat{p}$	0.0757	0.0431	0.0590
Educational attainment decreases from 11 to 10 years,	$\Delta\hat{p}$	-0.0213	-0.0124	-0.0168
	%	(-28.1)	(-28.8)	(-28.5)
Educational attainment increases from 11 to 12 years,	$\Delta\hat{p}$	-0.0301	-0.0175	-0.0237
	%	(-39.8)	(-40.6)	(-40.2)
Enrollment status changes from in high school to not enrolled,	$\Delta\hat{p}$	-0.0432	-0.0250	-0.0340
	%	(-57.1)	(-58.0)	(-57.6)
Single parent family changes from having both parents in household at age 14 to having one or more parents missing,	$\Delta\hat{p}$	0.0385	0.0231	0.0308
	%	(50.9)	(53.6)	(52.2)
AFQT score increases from 60 to 66,	$\Delta\hat{p}$	0.0025	0.0071	-0.0013
	%	(3.3)	(16.5)	(-2.2)
Training status changes from desired to not desired,	$\Delta\hat{p}$	-0.0371	-0.0215	-0.0292
	%	(-49.0)	(-49.9)	(-49.5)
Educational aspirations increase from 14 to 16 years,	$\Delta\hat{p}$	-0.0202	-0.0118	-0.0160
	%	(-26.7)	(-27.4)	(-27.1)
Enlistment intention changes from neutral to might enlist,	$\Delta\hat{p}$	0.0647	0.0393	0.0521
	%	(85.5)	(91.2)	(88.3)

Further, the predicted probability of enlisting is twice as large for a high school student as for a non-high school student, for the youth who did not live with both natural parents as for one who lived with both natural parents at age 14, and for an individual who desires occupational training as for an individual who does not desire training.[24] For Hispanics, a 10 percent increase in the AFQT score increases the enlistment probability by 17 percent. A two year increase in educational aspiration (e.g., from junior college to four year college) decreases enlistment probability by 27 percent for all races.[25] Finally, a very powerful role in enlistment is played by the intention to serve. For the typical person, the enlistment probability increases by 86 to 91 percent when the youth has previously indicated some willingness to join the armed forces.[26]

SUMMARY OF FINDINGS AND POLICY IMPLICATIONS

Since the last survey, about 400,000 youth age 17 to 23 years old have been sworn into the active forces, but their levels of parental education, educational attainment, and AFQT scores are lower than those of 1978

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[24]Because the variables are qualitative indicators, strictly speaking, we should not call them partial derivatives: they indicate the changes in predicted probabilities due to a change in the value of an indicator, for example from 0 to 1.

[25]The negative impact is due to our assumption that the typical person is enrolled in high school. Because the coefficient on the educational aspiration variable is positive in Table 2.5, had we assumed the typical person not to be enrolled in high school, we might have a positive partial derivative for educational aspiration. However, since the coefficient is not statistically significant, we do not report the result for this case.

[26]Our computation is based upon the change in enlistment intention from "a neutral position" (i.e., neither try to enlist nor not to try to enlist) to "probably try to enlist." If we assume that the person would definitely try to enlist, the predicted probability increases by nearly 250 percent for all races.

enlistees.

A very small proportion of enlistees join because they expect to receive higher wages in the military than in the civilian economy; thus, military pay relative to expected civilian earnings may not be the most important factor in the enlistment decision or the pay differential is not sufficiently high to make pay an issue. "Training opportunities" for subsequent civilian jobs, "money for college," and a desire "to better myself in life" are the three most frequently cited reasons for enlistment. These findings imply that for youth entering military jobs, as in the civilian economy, an individual's decision is made in view of long-run benefits rather than because of short-run pecuniary returns. In this regard, the impacts of pay increases on aggregate enlistment may not be great.

We find the following determinants of enlistment by comparing male enlistees with other eligible young men. Enlistment is positively associated with education of the respondent, perhaps indicating that a more educated person is more likely to be accepted. Individuals who did not live with both natural parents at age 14 are more likely to enlist in the military, partly supporting the argument that some youths join the armed forces to escape from familial conflict. Most enlistees come directly from high school or with very little civilian labor market experience. The desire for occupational training other than regular schooling plays a significant role in enlistment decision. The intention to enlist as of the previous year serves as a strong indicator of future enlistment behavior. Enlistment probability is higher for high school seniors than for other groups including high school graduates. The AFQT score that proxies the degree of success the youth might expect in the civilian labor market did not produce a significant coefficient except for Hispanic males.

These results further support our inferences regarding the small effects of the short-run pecuniary incentives. In particular, the fact that a majority of enlistees come directly from high school with very little civilian labor market experience suggests the importance of directing recruiting efforts toward high school students rather than toward those who are not enrolled.

Appendix II-A. A Specification of the Model

The enlistment model is specified as follows:

$$ENL_i^S = f(MP_i, CP_i, UR_i, PHYS_i, Z_{ji}; a_k) \quad \ldots\ldots(1)$$

$$ENL_i^D = g(MP_i, EDUC_i, PHYS_i; b_k), \text{ subject to } \Sigma_i ENL_i^D >= K \quad \ldots\ldots(2)$$

$$ENL_i^S = ENL_i^D \quad \ldots\ldots(3)$$

where ENL stands for enlistment; superscripts S and D represent supply and demand, respectively; MP and CP are military pay and civilian pay, respectively; UR represents the local unemployment rate; PHYS indicates physical condition; EDUC denotes educational attainment; and Z_j is a set of other explanatory variables. K is a scalar representing an assigned quota, and a_k and b_k are vectors of parameters to be estimated. Equation (3) indicates an equilibrium condition.

Several comments regarding the specification of the model are in order. First, military pay, civilian pay and unemployment rate have been the key variables in studies of enlistment supply.[1] Within the framework of human capital theory, many economists were successful in determining a significant association between enlistment supply and the pay variables, while most studies fail to show any significant impact of local labor market conditions on enlistment supply. However, for the case of cross-section studies, the expected civilian pay is basically unobservable, and the expected military pay at the entry level is more or less the same for all enlistees. Moreover, the military pay variable may be regarded as an endogenous variable rather than as an exogenous variable: the level of military pay varies according to the size of the desired manpower procurement (quota), relative to the expected

[1]Extensive enlistment studies are found in the President's Commission on an All-Volunteer Armed Forces, Studies I (1970).

enlistment supply: that is, MP = h(estimate of ENLS).

Second, and more important, the NLS data set does not contain sufficient information to identify the supply of enlistment. We cannot identify the applicants who are rejected by the military: although the NLS data provide information about those who failed the physical examination, they do not furnish information about those who failed the mental examination; therefore, the total supply of enlistees cannot be identified.

Third, although the demand for enlistment is specified as a function of the requirements for acceptance, due to the constraint of fulfilling the quota, the demand function below the level of quota may not be observable, or it may not exist. An interesting point to note is that the quota-fulfilling constraint should hold as an aggregate relationship, thus, the constraint is not directly binding on each individual's demand schedule.

Finally, the NLS data do not provide appropriate information regarding the physical condition of the respondent; thus, one of the screening criteria for acceptance into the military--physical requirements--is not observed.

Although a complete model should estimate the supply and demand functions simultaneously and then compute the equilibrium points based upon the estimated supply and demand equations, as the above discussions indicate, we are not able to gather all the necessary information from the NLS data set to perform the simultaneous equation estimation approach. Because we observe only a realized equilibrium condition, we adopt a reduced-form estimation technique: equation (2) is solved for MP_i and enters into equation (1) to yield the following specification:

ENL = e(EDUC, AFQT, UR, SES, EDASP, TRAIN, HOME, INTENT, X_i).....(4)

where EDUC=educational attainment of respondent, AFQT=the AFQT score as a measure of the expected civilian pay, UR=local unemployment rate, SES=a

measure of socioeconomic status, EDASP=educational aspirations, TRAIN=an indicator of a desire for occupational training other than regular schooling, HOME=a home environment variable, INTENT=an index of intentions to enlist, and X_i=a set of other control variables such as race and enrollment status.

Estimation of the reduced-form equation (4) also needs to be qualified. First, we still lack two pieces of information in equation (4)--civilian pay and a measure of physical condition. Rather than attempting to impute the civilian pay for each individual, which cannot be done without substantial measurement errors resulting, we elect to introduce the AFQT score as a proxy for it. The status of physical condition of an individual may be partly reflected in the intention to serve: an individual who perceives his physical condition to be inappropriate to perform military tasks may be less likely to intend to enlist. In this regard, this variable enters into both the supply and demand equations.[2] Second, in order to show that equation (4) is a reduced-form equation, we need to identify the demand and supply side variables: that is, the variables whose coefficients are restricted to be zero in the other equation. Although many variables may enter into both equations, we particularly consider EDASP, TRAIN, and SES variables as a set of supply side variables, which exert significant impacts on one's career choice. We

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[2]The intention to serve is basically a composite measure; we expect this variable to capture the effects of some missing information including physical condition and taste for the military service. In fact, the intention to serve may be inherently an endogenous variable rather than an exogenous variable: that is, this variable may have to be explained by other individual characteristics. For example, the comparison of expected civilian and military earnings might have played a significant role in formulating one's intention to serve. However, since we specifically include other important factors in the enlistment decision, we interpret the coefficient of this variable as representing the effects net of the impacts of other included exogenous variables. Regarding the endogeneity issue, because the information of intention to serve is for the 1979 interviews (i.e., the previous year), we consider this one of the predetermined variables.

regard the education of a respondent as a demand side variable: military recruiters use this as a screening device or as a way of maximizing the quality of enlistees.

Chapter III

The Potential Supply of Armed Forces Personnel: Enlistment Intentions and Main Reasons for Nonenlistment

Understanding the individuals who express some interest in serving in the armed forces is very important. Concentrating recruitment efforts on those who have a greater propensity to join the military service will make it possible to achieve desired quotas more efficiently.

The NLS gathers information about respondents' intentions to serve and their specific efforts to learn about military service. This chapter analyzes the important individual characteristics that are closely associated with enlistment intentions and the specific reasons why youth who made efforts to gather information about the armed services, such as talking to recruiters or taking the ASVAB, did not enlist.

AGGREGATE CHARACTERISTICS OF YOUTH WHO EXPRESSED INTEREST IN SERVING

The universe for this analysis includes individuals age 17-21 who have attained 10 to 14 years of education, have never served in the armed forces, and are not full-time college students. Those age 15 and 16 are excluded because they are age-ineligible for enlistment. Because the enlistment rates for those who have attained 15 or 16 years of education or who are 22 or 23 years old are very low, they too are excluded.

Males

Table 3.1 presents the proportions of youth, by enrollment status, who have positive attitudes toward military service, who have positive intentions to serve, who talked to recruiters, or who took the ASVAB (see the glossary for the definitions of variables). The total universe represents 6.9 million

Table 3.1 Proportion of Male Youth Who Have Positive Attitudes Toward Military Service, Have Positive Intentions to Serve, Talked to Recruiters, or Took the ASVAB, by Race and Enrollment Status: 1980[a]
(Numbers in thousands)

	Total		Black		Hispanic		White	
	Total number	Percent positive	Total number	Percent positive	Total number	Percent positive	Total number	Percent positive
Attitude	6945	73	931	71	415	79	5599	73
Enrolled	2784	76	404	69	177	76	2203	77
High school	2518	77	374	70	152	77	1992	78
College	266	63	30	63	24	71	212	62
Not enrolled	4162	72	527	72	239	82	3396	71
High school dropout	880	72	183	78	85	80	612	69
High school graduate	3280	72	342	68	154	83	2784	72
Intentions	6945	22	931	39	415	31	5599	19
Enrolled	2784	29	404	43	177	35	2203	26
High school	2518	31	374	46	152	33	1992	28
College	266	11	30	15	24	48	212	7
Not enrolled	4162	18	527	35	239	28	3396	14
High school dropout	880	29	183	51	85	35	612	21
High school graduate	3280	15	342	27	154	25	2784	13
Talked to recruiters	6945	21	931	29	415	22	5599	19
Enrolled	2784	23	404	27	177	27	2203	22
High school	2518	24	374	27	152	25	1992	23
College	266	13	30	16	25	40	212	10
Not enrolled	4162	20	527	32	239	19	3396	18
High school dropout	880	30	183	42	85	18	612	27
High school graduate	3280	17	342	26	154	19	2784	16
Took ASVAB	6945	10	931	14	415	14	5599	9
Enrolled	2784	11	404	13	177	20	2203	10
High school	2518	12	374	13	152	21	1992	11
College	266	5	30	8	25	14	212	3
Not enrolled	4162	9	527	14	239	10	3396	8
High school dropout	880	14	183	20	85	12	612	13
High school graduate	3280	8	342	11	154	8	2784	7

[a]Male youth 17 to 21 years of age with 10 to 14 years of education who are not full-time college students and who have never served in the armed forces.

males: 2.5 million of these are enrolled in high school and 0.3 million in college; of 4.2 million nonenrolled males, 79 percent are high school graduates.

Positive Attitudes About three quarters of male youth stated that serving in the military is definitely or probably a good thing.[1] The percentage with positive attitudes toward serving is highest among Hispanics (79 percent), and lowest among blacks (71 percent). The proportion with positive attitudes is slightly lower among black high school students (70 percent) than among Hispanic (77 percent) and white high school students (78 percent); it is higher among Hispanic college students (71 percent) and nonenrolled high school graduates (83 percent) than among their black (63 and 68 percent, respectively) and white counterparts (62 and 72 percent, respectively).

Positive Intentions Although the proportion with positive attitudes toward military service provides a general view of the size of the future enlistment pool, still more useful information can be obtained from the NLS: about 1.5 million or slightly more than one-fifth of the males in this universe said that they would definitely or probably try to enlist in the armed forces in the future. A higher proportion of minority males (39 percent of blacks and 31 percent of Hispanics) than white males (19 percent) expressed positive intentions to serve. Considering that minority youth face more adverse civilian labor market conditions than white youth, this result is not surprising. The groups with the highest proportion of positive intentions are black high school students (46 percent), black dropouts (51 percent) and

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[1]The percentages who have positive attitudes or positive intentions are somewhat conservative estimates in the sense that those who did not respond to these questions (e.g., those who refused to respond, or responded for a "don't know" category) are counted in the denominator.

Hispanic college students (48 percent). On the other hand, only 7 percent of white (part-time) college students indicated an intention to join the military, while about 48 percent of Hispanic (part-time) college students did so. Among nonenrolled high school graduates, the percentage with positive intentions is twice as large among minorities (27 percent of blacks and 25 percent of Hispanics) as it is among white males (13 percent).

Talked to Recruiters About one-fifth of males in the 17-21 age group with 10-14 years of education who are not full-time college students talked to military recruiters in the year between the 1979 and 1980 interviews.[2] The percentage who talked to recruiters is higher among blacks (29 percent) than among whites (19 percent) and Hispanics (22 percent).[3]

Took ASVAB About 10 percent of males in this universe (or 700,000 youth) took the ASVAB between the two interviews. A somewhat higher percentage of minority males (14 percent) took the ASVAB than white males (9 percent). Among enrolled males, the proportion is highest among Hispanics (20 percent); among the nonenrolled, the percentage is highest for blacks (14 percent).

Females

The statistics for females in Table 3.2 correspond to those for males in Table 3.1. It is interesting to find that the proportion who have positive attitudes toward serving in the military is higher among females (81 percent)

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[2]Although the total number of respondents who talked to recruiters is about the same as those who have positive intentions, they do not represent the same persons. Among those who talked to recruiters, only 41 percent of males and 39 percent of females have positive intentions to enlist. Therefore, many who say they intend to enlist have not talked to recruiters and many who have talked to recruiters do not intend to enlist.

[3]The gaps between races among those who talked to recruiters are smaller than they were among those who had positive intentions to serve.

Table 3.2 Proportion of Female Youth Who Have Positive Attitudes Toward Military Service, Have Positive Intentions to Serve, Talked to Recruiters, or Took the ASVAB, by Race and Enrollment Status: 1980[a]
(Numbers in thousands)

	Total		Black		Hispanic		White	
	Total number	Percent positive	Total number	Percent positive	Total number	Percent positive	Total number	Percent positive
Attitude	7267	81	982	80	418	84	5868	81
Enrolled	2635	78	394	79	163	82	2077	78
High school	2299	78	361	78	147	82	1791	78
College	336	79	33	89	17	88	286	77
Not enrolled	4633	82	588	80	255	85	3790	82
High school droput	800	84	149	81	65	83	586	85
High school graduate	3833	82	439	80	189	85	3205	82
Intentions	7267	11	982	23	418	19	5868	8
Enrolled	2635	15	394	28	163	19	2077	12
High school	2299	16	361	28	147	21	1791	14
College	336	3	33	25	17	5	286	0.4
Not enrolled	4633	8	588	20	255	19	3790	6
High school dropout	800	17	149	35	65	25	586	11
High school graduate	3833	7	439	15	189	17	3205	5
Talked to recruiters	7267	10	982	18	418	10	5868	9
Enrolled	2635	13	394	25	163	7	2077	11
High school	2299	13	361	24	147	7	1791	11
College	336	11	33	37	17	7	286	8
Not enrolled	4633	9	588	13	255	12	3790	8
High school dropout	800	14	149	13	65	8	586	15
High school graduate	3833	8	439	13	189	13	3205	7
Took ASVAB	7267	6	982	10	418	9	5868	5
Enrolled	2635	9	394	18	163	12	2077	7
High school	2299	10	361	17	147	14	1791	8
College	336	3	33	26	17	0	286	0
Not enrolled	4633	4	588	5	255	7	3790	4
High school dropout	800	4	149	1	65	1	586	5
High school graduate	3833	4	439	6	189	8	3205	4

[a]Female youth 17 to 21 years of age with 10 to 14 years of education who are not full-time college students and who have never served in the armed forces.

than among males (73 percent). We find that, as with males, a somewhat higher proportion of Hispanic than black or white females have positive attitudes (84, 80 and 81 percent respectively). The proportions of females who have positive intentions to serve (11 percent), who talked to recruiters (10 percent), and who took the ASVAB (6 percent) are about half of those for males. We find an almost identical pattern of racial differences for females as for males: higher percentages of minority females have positive intentions to serve or took the ASVAB, and a higher percentage of black females talked to recruiters.

INDIVIDUAL CHARACTERISTICS OF YOUTH WHO HAVE POSITIVE INTENTIONS TO SERVE

Age The percentages of youth with positive intentions to serve in the military by important individual characteristics for each race and sex group are shown in Table 3.3.[4] We find that intentions to serve are inversely associated with age for both sexes: among 17 year old youths, 32 percent of males and 16 percent of females said that they would try to enlist in the military in the future, but among 21 year olds, 10 percent of males and 6 percent of females said they would do so.[5]

Background The socioeconomic and family background of respondents

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[4]We find that intentions to serve are not constant over time for many youths. Among youths who reported positive intentions to serve in 1979, over one-half of females and forty percent of males changed from positive to nonpositive intentions between 1979 and 1980. Since intentions may vary with age and other socioeconomic and environmental conditions, the changes in intentions are expected. A more thorough study of intentions to serve based on 1979 data is contained in Chapter 6 in Kim et al. (1980).

[5]The proportion of females with positive intentions seems particularly high as compared with their actual enlistment rates in the armed forces. The percentage of females with positive intentions is about half that of males, although the number of female enlistees was about 17 percent of that of male enlistees in 1979 (see Table 2.1 in Chapter II).

Table 3.3 Percent with Positive Intentions to Serve, by Race, Sex and Selected Characteristics[a]

	Total	Female				Male			
		Total	Black	Hispanic	White	Total	Black	Hispanic	White
Total	16	11	23	19	8	22	39	31	19
Age									
17	24	16	26	23	14	32	50	43	29
18	19	11	25	13	9	26	40	33	23
19	15	10	23	27	6	20	35	34	16
20	13	8	25	17	5	19	37	27	15
21	8	6	15	14	4	10	28	15	8
Education of parent									
Less than 12 years	23	16	22	23	12	31	46	34	25
12 years	15	10	26	17	7	20	33	25	18
13-15 years	17	12	25	14	11	22	32	25	21
16+ years	9	4	17	6	3	13	33	31	11
Occupation of parent									
Professional or managerial	9	6	7	12	5	12	20	23	11
Sales or clerical	16	10	17	25	9	22	24	38	21
Blue collar	17	10	21	15	8	24	40	33	21
Service	21	13	25	17	8	28	38	24	24
Other	22	16	30	25	11	27	58	36	19
NA	25	19	29	24	12	31	42	29	27
Number of siblings									
1-2	14	8	20	2	7	20	30	29	19
3-4	14	9	22	19	7	19	36	27	17
5 and over	20	14	25	24	10	27	42	34	22
Education of respondent									
10-11 years	23	16	29	21	13	30	46	36	26
12 years	10	7	19	17	4	14	29	24	12
13-14 years	8	6	7	15	5	10	16	25	8
Educational expectations									
Less than 12 years	16	11	22	30	8	20	58	40	14
12 years	18	11	29	20	8	25	50	34	21
13-15 years	13	9	17	19	7	18	26	20	17
16+ years	16	11	20	16	9	20	26	31	18

Table 3.3 (continued)

	Total	Female				Male			
		Total	Black	Hispanic	White	Total	Black	Hispanic	White
AFQT (percent)									
0-32	42	30	37	42	9	51	56	49	41
33-49	25	16	25	24	8	34	42	42	29
50-65	18	12	18	16	11	26	33	37	24
67-89	11	16	11	8	7	7	18	15	16
90-100	7	7	0	0	7	8	0	0	8
Region									
Northeast	14	12	27	27	8	17	26	34	14
North Central	13	8	23	17	6	18	22	20	18
South	21	13	23	17	10	30	50	33	22
West	17	10	17	16	8	25	35	30	23
Marital status									
Married	4	2	14	7	1	7	21	19	5
Not married	19	13	25	23	10	24	39	32	20
Health status									
Does not affect work	17	11	23	20	8	22	39	30	19
Affects work	13	7	24	12	3	28	38	47	24
Home environment									
Lived with both parents	14	9	23	19	7	20	38	26	18
Did not live with both parents	22	17	24	20	13	28	40	41	21
Poverty status									
Poor	28	19	29	34	9	38	51	35	27
Nonpoor	15	9	19	14	8	20	33	28	18
Employment status									
Employed	14	10	20	21	8	19	34	28	16
Unemployed	26	17	27	20	13	35	52	37	30
Not in labor force	17	11	25	16	6	28	39	36	24
Intentions to enlist in 1979									
Positive	55	48	50	56	45	58	68	56	55
Negative	9	6	15	9	5	12	22	17	11

[a]Youth 17 to 21 years old with 10 to 14 years of education who are not full-time college students and who have never served in the armed forces.

appears negatively related to intentions to enlist. The percentage of youth with positive intentions is higher among those whose parents are high school dropouts than among those whose parents are high school graduates, among those whose parents are working in occupations other than white-collar jobs and among those from large families. These relationships hold for all race and sex groups.[6]

Education The educational attainment of the respondent also appears to be inversely associated with positive enlistment intentions. A much higher proportion of high school dropouts than high school graduates express positive intentions to enlist.[7] Racial differences appear in the relationship between positive enlistment intentions and expected educational attainment for both males and females: although positive intentions are not correlated with expected educational attainment among white youths, among minorities, higher educational expectation is inversely related to enlistment intentions.[8]

AFQT Scores We also find a strong inverse relationship between the percentage with positive intentions and the Armed Forces Qualifying Test (AFQT) score; the higher the AFQT score the lower the percentage indicating an intention to enlist except for white females. This relationship holds true

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[6]The inverse relationship between parental education and positive intentions is less apparent among minority males, although it is very strong among white males.

[7]However, due to the high correlation between age and educational attainment, it is not clear how strong the relationship between education and positive enlistment intentions would be after controlling for the effect of age.

[8]This finding seems to be contradictory to our earlier inferences in Chapter II that youths, particularly minority youths, who may anticipate difficulties in financing higher education are more likely to intend to enlist in order to take advantage of the post-service educational benefits. One possible explanation for these apparently conflicting findings between intentions to serve and enlistment is that disproportionately more youths with lower educational expectations may fail the screening criteria for enlistment in the military.

for all race and sex groups.[9]

Region Our data support the findings of other studies that, particularly among males, individuals who reside in the South have a higher propensity to serve than those who live in other areas. The percentage of males residing in the South with positive intentions to serve was 30 percent, compared with 25 percent of those living in the West, 17 percent in the Northeast, and 18 percent in the North Central states. However, these variations are primarily due to the extremely high propensity among black males who reside in the South: half of them have positive intentions to serve.

Higher proportions of females living in the South also intended to enlist, but among black females, the percentage with positive intentions is slightly higher among those living in the northeast region (27 percent) than among those residing in the South (23 percent). Likewise for Hispanic females, the proportion with positive intentions is highest among those living in the Northeast.

Marital Status Military service is viewed more favorably by nonmarried (19 percent) than married youths (4 percent). Family responsibilities may make it more difficult for married youths to join the military, but this correlation may also be partly explained by the fact that married youth are likely to be older.

Health Somewhat surprisingly, we find a positive relationship between poor health status and positive intentions to serve among male respondents; a higher percentage of male youths who said that the kind or amount of work that they can do is limited by their health status express positive intentions to

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[9]It should also be noted that since AFQT is expected to be highly correlated with age and educational attainment, it is not clear whether we will find such a strong inverse relationship between positive intentions and the AFQT score when the effects of age and/or education are controlled.

serve than their counterparts. We do not know the nature of these health problems, and since the problems were reported as of the interview week they may be temporary. Thus, health may or may not be directly related to intentions to serve.

Family structure We examine whether or not youth with family problems are more likely to enlist in the military.[10] Among all race and sex groups, those who did not live with both their natural parents at age 14 have a higher propensity to serve. The difference in the percentage with positive intentions is particularly large among white females and Hispanic males.

Poverty Status We also find a close association between poverty status (based upon family income) and positive enlistment intentions. A substantially higher proportion of youths from poor families intend to serve (28 percent) than from nonpoor families (15 percent); this finding holds true for all race and sex groups.

Unemployment Enlistment intention is expected to be positively correlated with unemployment status in the civilian labor market, i.e. the unemployed, who have fewer alternatives in the civilian economy would more likely consider a military job. Except for Hispanic females, the data support our conjecture; the unemployed show much higher intentions to serve than those who are employed or not in the labor force.

Changes in Intentions Finally, the stability of positive intentions to serve is examined. Of those who expressed positive intentions to enlist on the 1979 interview 55 percent still show positive intentions in 1980; the percentage of those who maintained positive intentions is highest among black males (68 percent) and lowest among white females (45 percent). Change also

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[10]See Gottlieb (1979).

went in the other direction, however: 22 percent of black males, 17 percent of Hispanic males, and 15 percent of black females who did not want to pursue a military life as of the last interview now say that they will try to enlist in the military in the future.[11]

INDIVIDUAL CHARACTERISTICS OF YOUTHS WHO TALKED TO RECRUITERS

Some individuals made specific efforts to enter the military by talking to military recruiters. Although those who talked to recruiters are a distinct group of persons from those who have positive intentions to serve, they had generally similar characteristics (Table 3.4).[12]

Although, as we have seen, youth from lower socioeconomic status families were more likely to express positive intentions, no apparent differences appear among various socioeconomic status segments of the population in the proportion who talked to recruiters. These results indicate that although higher proportions of the lower socioeconomic status segment of the population have intentions to serve, those who talked to recruiters represent a cross-section of the total population. Similarly, we do not find an inverse relationship between expected educational attainment and talking to recruiters.

While the proportion with positive intentions is particularly higher among black males residing in the South, a higher proportion of black males

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[11] In future reports, we will investigate the determinants of enlistment intention changes.

[12] As indicated in footnote 3, only about 40 percent of those who talked to recruiters since the last interview date show positive intentions as of the 1980 interview date. The percentages of those who have positive intentions among those who talked to recruiters are significantly higher among minorities than among whites. They are: for the case of males, 62 percent for blacks, 59 percent for Hispanics, and 34 percent for whites; for females, 50 percent for blacks, 57 percent for Hispanics, and 34 percent for whites.

Table 3.4 Percent Who Talked with Recruiters, by Race, Sex and Selected Characteristics[a]

	Total	Female				Male			
		Total	Black	Hispanic	White	Total	Black	Hispanic	White
Total	16	10	18	10	9	21	29	22	19
Age									
17	17	12	22	8	11	22	22	24	22
18	22	16	24	16	14	28	44	32	25
19	18	11	19	15	9	24	33	20	22
20	12	8	13	2	7	17	26	29	14
21	8	4	8	8	4	13	19	4	12
Education of parent									
Less than 12 years	17	12	15	12	10	23	29	18	21
12 years	15	10	21	6	8	20	30	22	19
13-15 years	16	14	18	14	13	19	19	39	18
16+ years	15	7	19	4	6	23	37	32	21
Occupation of parent									
Professional or managerial	13	9	20	0	8	17	27	14	16
Sales or clerical	16	12	24	10	11	21	24	11	21
Blue collar	16	10	17	8	10	23	29	26	21
Service	17	10	13	11	8	25	35	22	21
Other	15	9	19	19	4	20	30	24	18
NA	16	13	19	11	9	20	28	21	17
Number of siblings									
1-2	15	10	16	3	10	18	18	22	18
3-4	15	10	17	13	9	21	35	26	19
5 and over	16	11	18	9	9	23	29	20	21
Education of respondent									
10-11 years	19	13	20	7	12	25	32	23	24
12 years	13	9	15	16	8	17	27	23	16
13-14 years	7	5	13	5	4	10	16	15	9
Eduational aspirations									
Less than 12 years	17	6	14	23	4	26	45	16	23
12 years	16	10	17	10	9	21	29	24	19
13-15 years	13	9	16	5	8	18	31	14	17
16+ years	17	12	20	10	11	22	28	24	21

Table 3.4 (continued)

	Total	Female				Male			
		Total	Black	Hispanic	White	Total	Black	Hispanic	White
AFQT (percent)									
0-32	23	16	15	18	18	28	30	27	26
33-49	18	13	18	12	9	24	32	26	20
50-66	16	11	18	9	10	23	32	27	21
67-89	14	10	20	6	9	18	20	18	18
90-100	13	6	0	0	6	19	14	0	19
Region									
Northeast	14	12	23	7	10	17	23	32	15
North Central	14	8	15	13	7	20	23	25	20
South	17	11	17	9	10	23	33	27	20
West	17	11	18	9	11	23	42	16	24
Marital status									
Married	6	3	3	4	3	13	36	7	12
Not married	17	12	19	12	11	22	29	24	20
Health status									
Does not affect work	15	10	18	10	9	21	30	21	19
Affects work	18	14	18	0	14	27	27	54	25
Home environment									
Lived with both parents	14	9	16	9	8	19	29	18	18
Did not live with both parents	21	15	19	11	13	27	30	30	26
Poverty status									
Poor	20	17	18	16	17	24	29	34	17
Nonpoor	15	9	18	8	8	21	30	19	20
Employment status									
Employed	14	10	18	11	9	19	30	21	17
Unemployed	23	16	27	15	13	30	34	25	29
Not in labor force	14	9	12	6	9	24	24	23	24
Intentions to enlist in 1979									
Positive	35	33	33	25	34	36	45	37	32
Negative	12	8	13	6	7	17	20	14	17

[a]Youth 17 to 21 years old with 10 to 14 years of education who are not full-time college students and who never served in the armed forces.

living in the West talked to recruiters as compared with other race-sex-region groups. Finally, poverty status appears to be a relevant factor in determining who talked to recruiters among Hispanic males, Hispanic and white females.

INDIVIDUAL CHARACTERISTICS OF YOUTH WHO TOOK THE ASVAB

Youth who took the ASVAB constitute the core group for enlistment. Although some youth take the ASVAB without talking to recruiters, those young people who took the test are to a great extent a subset of those who talked to recruiters, and the characteristics of the two groups are very similar.[13] The proportion of youth who took the ASVAB by selected individual characteristics are presented in Table 3.5. One interesting finding is that among females, the proportion who took the ASVAB is highest for those who expect to receive some college training, particularly for those who expect to be college graduates.

MAIN REASONS FOR NOT ENLISTING AMONG YOUTHS WHO WERE INTERESTED AND ELIGIBLE

About 2.3 million civilian youth age 17-23 talked to recruiters and 1.2 million took the ASVAB between the 1979 and 1980 interviews.[14] About 82,000

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[13]Two thirds of males and forty percent of females who took the ASVAB also talked to recruiters between the 1979 and 1980 interviews; among males, 80 percent for blacks, 71 percent for Hispanics, and 62 percent for whites; among females, 59 percent for blacks, 34 percent for Hispanics, and 35 percent for whites. Among those who took the ASVAB, the percentages of those who also have positive intentions are: among males, 59 percent for blacks, 60 percent for Hispanics, and 42 percent for whites; among females, 42 percent for blacks, 23 percent for Hispanics, and 18 percent for whites.

[14]The universe for this section is somewhat differently defined from that for the earlier sections. All youth age 17 - 23 who talked to recruiters are included. Respondents younger than 17 years old are excluded for the obvious reason that they are not age-eligible for enlistment as are those who failed physical examinations. Further, no restrictions on educational attainment are

Table 3.5 Percent Who Took ASVAB, by Race, Sex, and Selected Characteristics[a]

	Total	Female				Male			
		Total	Black	Hispanic	White	Total	Black	Hispanic	White
Total	8	6	10	9	5	10	14	14	9
Age									
17	10	8	13	6	8	12	10	17	12
18	10	11	18	14	9	10	20	18	8
19	9	5	7	11	5	13	17	10	12
20	6	2	6	1	2	9	12	21	8
21	3	2	4	14	1	4	8	3	3
Education of parent									
Less than 12 years	9	7	6	11	6	12	13	15	11
12 years	7	5	14	4	4	9	14	8	8
13-15 years	10	8	15	6	8	11	12	22	10
16+ years	7	5	12	11	4	9	12	24	8
Occupation of parent									
Professional or managerial	7	6	16	0	6	8	8	14	8
Sales or clerical	8	5	14	20	3	11	7	12	11
Blue collar	7	5	8	7	5	9	14	13	8
Service	8	5	5	9	4	12	18	11	9
Other	10	6	14	11	3	14	10	21	14
NA	11	9	12	10	7	12	15	11	11
Number of siblings									
1-2	9	7	12	2	7	10	8	9	10
3-4	8	5	10	13	4	10	16	14	9
5 and over	8	6	10	8	5	10	13	15	8
Education of respondent									
10-11 years	10	8	12	9	7	12	15	17	11
12 years	6	5	8	7	4	8	13	11	7
13-14 years	3	3	6	13	1	3	3	5	3
Educational aspirations									
Less than 12 years	6	1	5	0	0.3	11	18	26	9
12 years	7	5	8	8	4	10	14	10	9
13-15 years	7	6	13	13	5	9	16	15	7
16+ years	9	7	11	8	7	10	12	17	10

Table 3.5 (continued)

	Total	Female				Male			
		Total	Black	Hispanic	White	Total	Black	Hispanic	White
AFQT (percent)									
0-32	10	8	10	4	5	12	14	13	7
33-49	9	5	8	11	2	12	15	16	10
50-66	9	7	12	5	7	10	12	15	10
67-89	7	5	13	10	5	9	14	15	9
90-100	6	3	0	0	3	8	0	0	8
Region									
Northeast	5	3	11	2	2	6	13	16	5
North Central	7	4	8	11	4	10	10	8	10
South	9	8	10	13	8	10	14	18	8
West	10	7	13	7	6	14	23	12	14
Marital status									
Married	3	3	3	7	3	5	3	13	4
Not married	9	7	11	9	6	10	14	14	9
Health status									
Does not affect work	8	6	10	9	5	10	14	13	9
Affects work	8	6	16	6	4	11	6	29	11
Home environment									
Lived with both parents	7	5	9	10	5	9	13	13	8
Did not live with both parents	10	8	11	8	7	13	14	16	11
Poverty status									
Poor	11	9	9	15	9	12	17	14	8
Nonpoor	7	5	11	7	5	9	11	13	9
Employment status									
Employed	7	5	10	11	4	9	14	12	9
Unemployed	10	9	12	3	8	12	18	20	9
Not in labor force	8	7	9	8	6	10	8	16	10
Intentions to enlist in 1979									
Positive	18	17	16	15	18	18	23	27	15
Negative	6	5	8	7	4	8	8	7	8

[a]Youth 17 to 21 years old with 10 to 14 years of education who are not full-time college students and who never served in the armed forces.

passed both mental and physical requirements for entrance to the armed forces but did not enlist. More youth talked to Army recruiters (44 percent) than to the other branches (Navy, 35 percent; Air Force, 33 percent; and Marines, 21 percent).[15]

Although females comprise less than 15 percent of the current armed forces personnel for the comparable age groups, the proportion of females who talked to recruiters or took the ASVAB is substantially higher. About 780,000 females talked to recruiters (33 percent of the total), and about 430,000 took the ASVAB (37 percent of the total). About the same proportions of minorities talked to recruiters or took the ASVAB: 26 percent for males and 31 percent for females.

Youths Who Talked to Recruiters

Table 3.6 shows the distributions of the main reasons for not enlisting among those who talked to recruiters.[16] About one half of the youth who talked to recruiters (50 percent of the females and 54 percent of the males) cited "no decision yet," "would not like the military," or "decided to go to school" as the main reason for not enlisting. "Going to school" was the most

imposed.

[15]Some individuals talked to more than one recruiter from different branches.

[16]Each individual is asked to choose the one main reason. The exact phrases of the sixteen items are: (1) Job I wanted was not available when I wanted it, (2) Did not qualify for job I wanted, (3) Was not eligible for the service I wanted, (4) Specific bonus program filled, (5) Have not decided yet, (6) Did not think I'd like the military, (7) Decided to go to school, (8) Got a better civilian job, (9) Failed the ASVAB, (10) Family responsibilities/ pregnancy, (11) Still considering joining, (12) Length of obligation, (13) Did not want to leave home, (14) Parents or friends opposed it, (15) Insufficient pay or benefits, (16) Other. On the average, about 10 to 15 percent of the respondents gave 'other specific reason' as the main reason for not enlisting. The item "Other" in the table includes all the residual items that are not presented in the table.

Table 3.6 Main Reason Given for Not Enlisting in the Armed Forces by 17 to 23 Year Old, Civilian Youth Who Talked to Recruiters, by Race, Sex, and Selected Characteristics: 1980

	Total	Male				Female				In school	
		Total	Black	Hispanic	White	Total	Black	Hispanic	White	Total	High school
Total percent	100	100	100	100	100	100	100	100	100	100	100
Go to school	19.2	20.2	21.1	19.3	20.1	17.1	12.8	13.9	18.8	34.6	33.5
No decision yet	17.5	19.2	18.3	13.0	19.9	14.2	16.0	33.9	12.0	20.7	21.4
Would not like military	16.3	15.0	10.3	7.5	16.8	18.8	20.8	21.5	17.9	13.0	13.1
Still considering joining	6.3	6.4	6.1	7.8	6.3	6.1	4.6	2.0	7.0	9.9	10.4
Better civilian job	5.8	7.7	9.7	7.1	7.2	2.1	1.6	0.0	2.4	0.7	0.4
Want to stay home	3.9	2.7	2.6	5.1	2.5	6.3	5.7	0.0	7.1	4.2	3.3
Length of obligation	3.5	3.8	0.7	2.1	4.8	2.8	0.0	0.0	3.9	1.8	1.9
Failed ASVAB	3.2	4.0	8.4	9.3	2.5	1.5	5.3	0.0	0.3	1.0	1.0
Other[a]	24.4	21.1	22.8	28.9	20.0	31.0	33.3	28.7	30.4	14.2	14.9

	Not in school						Branch of service desired[b]			
		Educational status		Employment status						
	Total	High school dropout	High school graduate	Employed	Unemployed	Not in labor force	Army	Navy	Air Force	Marines
Total percent	100	100	100	100	100	100	100	100	100	100
Go to school	8.1	6.0	9.0	8.6	7.7	5.7	18.0	24.6	17.7	20.2
No decision yet	15.2	18.2	14.1	15.3	19.4	7.1	14.6	17.0	20.0	18.9
Would not like military	18.6	8.8	22.2	18.6	19.0	17.7	18.4	16.9	15.2	16.4
Still considering joining	3.7	4.9	3.3	3.4	4.6	4.1	5.9	8.1	8.6	8.8
Better civilian job	9.5	7.3	10.4	10.3	8.7	6.0	4.3	4.3	5.9	7.1
Want to stay home	3.7	2.7	4.1	4.0	2.6	4.1	4.4	2.7	3.7	2.3
Length of obligation	4.7	5.9	4.3	5.0	3.9	4.1	3.4	2.2	3.0	1.9
Failed ASVAB	4.8	9.2	3.0	3.9	6.7	6.9	3.1	3.0	2.7	2.6
Other[a]	31.7	37.1	29.7	30.9	27.5	44.3	27.8	21.2	23.1	21.7

[a]For the sub-items of the "Other" category, see the text.

[b]Due to the multiple responses for desired branch, the percentage distribution of the total may not be bounded by the percentage distributions of branches.

frequently cited reason for not enlisting by males (20 percent) and the second most frequently cited by females (17 percent), indicating that schooling is an alternative to military service for many youth.[17] Another large group has not rejected military service; 18 percent said they had not made up their minds and another 6 percent are still considering joining. Relatively few did not enlist due to a civilian job, failing the ASVAB[18] or the length of the obligation.

Among those enrolled in school, over one third cite "schooling" as their main reason for not enlisting and 30 percent said that they had not made a decision or that they were still considering joining. Among high school dropouts, "failing the ASVAB" was the second most frequently cited reason for not enlisting (9 percent) which, as expected, was much more than for high school graduates (3 percent) and students (1 percent). About 10 percent of high school graduates say that they did not enlist because they found better civilian alternatives; 7 percent of dropouts and 1 percent of students gave this as the main reason. In contrasting high school dropouts and graduates, we find that only about 9 percent of dropouts but 22 percent of graduates believed they would not like military service.

No noticeable differences appeared in reasons for non-enlistment among those who are employed, unemployed, and not in the labor force. A somewhat

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[17]As of the 1980 interview date, about 41 percent of those who talked to recruiters were enrolled in school. Of these, about 93 percent were in high school.

[18]Less than thirty percent of the respondents who talked to recruiters had taken the ASVAB (30 percent of males and 22 percent of females). The low percentage for "failing the ASVAB" is not because only a lower proportion of in-school youth took the ASVAB. Actually, about the same percentage of students and nonstudents among those who talked to recruiters took the ASVAB (25 percent of males and females each). However, a lower percentage of citation does not necessarily indicate a lower percentage of failure in the ASVAB because those who failed can give other reasons.

lower percentage of the not-in-the-labor-force group claim that they have not made their decisions yet. Likewise, we do not observe many differences by desired branches of service except that youths who desired to enlist in the Navy cite "going to school" more frequently (25 percent) than youths who desired to enlist in the Army, Air Force, or Marines (18, 18, 20 percent, respectively).

Youths Who Took the ASVAB

Among those who talked to recruiters during the period between the 1979 and 1980 interviews, about 30 percent of males and 22 percent of females took the ASVAB. Table 3.7 reports percentage distributions for the main reasons cited for not enlisting by these youth. The major difference for this group as compared to all of the youth who talked to recruiters (discussed in the previous section) is that one in nine, as contrasted to 3 percent of the total group, referred to "failure of the ASVAB" as the main reason. High percentages of males (13 percent), high school dropouts (27 percent), nonenrolled graduates (12 percent), black females and males (15 percent and 21 percent, respectively), and Hispanic males (19 percent) attribute their not enlisting to failure of the ASVAB.[19]

About a third of the youth who took the ASVAB state that they are still considering joining or have not decided yet. We find race and sex differences among those who are still making up their minds: a higher proportion of males (36 percent) than females (23 percent) have not decided. Further, Hispanic male and female youth show two extreme cases: whereas 19 percent of black and

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[19]It should be noted that these percentages do not necessarily represent the percent who failed the ASVAB. Respondents who failed the examination can claim other reasons for not enlisting.

Table 3.7 Main Reason Given for Not Enlisting in the Armed Forces by 17 to 23 Year Old, Civilian Youth Who Took ASVAB, by Race, Sex, and Selected Characteristics: 1980

	Total	Male				Female			
		Total	Black	Hispanic	White	Total	Black	Hispanic	White
Total percent	100	100	100	100	100	100	100	100	100
No decision yet	21.2	22.9	19.4	11.5	25.5	16.5	12.5	47.3	14.2
Go to school	14.8	13.8	23.4	20.1	9.7	17.8	15.4	15.6	20.0
Would not like military	14.6	14.3	6.1	5.7	18.3	15.2	18.3	15.5	12.9
Still considering joining	11.5	13.4	4.8	7.3	17.1	6.0	6.4	0.0	6.8
Failed ASVAB	11.2	12.9	20.6	18.9	9.6	6.3	15.2	0.0	0.9
Desired job unavailable	3.9	2.8	0.9	0.0	3.9	7.0	1.8	0.0	12.0
Length of obligation	3.8	4.1	0.0	2.3	5.7	3.0	0.0	0.0	5.7
Other[a]	19.0	15.8	24.8	34.2	10.2	28.2	30.4	21.6	27.5

	Enrollment					Employment			
	In school		Not in school						
	Total	High school	Total	High school dropout	High school graduate	Total	Employed	Unemployed	Not in labor force
Total percent	100	100	100	100	100	100	100	100	100
No decision yet	27.5	26.2	16.8	12.3	18.9	21.2	22.6	17.9	20.2
Go to school	25.4	24.4	7.5	10.7	6.0	14.8	11.2	26.6	13.5
Would not like military	12.3	13.4	16.2	9.1	19.5	14.6	14.3	18.8	10.4
Still considering joining	16.7	18.2	7.8	10.7	6.4	11.5	11.2	5.1	19.7
Failed ASVAB	3.3	3.2	16.7	27.1	11.7	11.2	10.2	14.2	10.9
Desired job unavailable	0.4	0.5	6.4	0.0	9.4	3.9	4.6	1.6	4.3
Length of obligation	3.7	4.0	3.9	0.0	5.7	3.8	4.9	0.0	4.5
Other[a]	10.7	10.1	24.7	30.1	22.4	19.0	21.0	15.8	16.5

[a]For the sub-items of the "Other" category, see the text.

21 percent of white females respond that they have not made up their minds yet, 47 percent of Hispanic females do so; in contrast 19 percent of Hispanic males claim that they have not decided yet, while 24 and 43 percent of black and white males, respectively, do so.

We also observe interesting race and sex differences in the proportion of youth who cite the distaste for the military service as the main reason for not enlisting. Eighteen percent of white males claim "would not like military" as the main reason for not enlisting while only 6 percent of minority males do so. On the other hand, among females, a higher percentage of minority youth (18 percent of black and 16 percent of Hispanic females) cite it as the main reason than do young white women (13 percent).

Youths Who Passed Mental and Physical Examinations

Finally, Table 3.8 displays the distribution of main reasons for not enlisting among youth who report meeting the mental and physical requirements for enlistment. Due to small cell sizes, only the distributions for the total universe and males are shown. Of those who definitely decided not to join, the largest group of youth cite "length of obligation" as the main reason (27 percent for the total, and 32 percent for males).[20] About 10 percent claim having found better civilian jobs as the main reason for not enlisting, 7 percent say they did not join because they believed they would not like military service.

[20]About a fourth respond that they have not decided yet. Ten percent of males claim that they did not enlist because they failed the ASVAB. This answer is obviously contradictory to their earlier responses that they passed both mental and physical requirements. We cannot yet verify which of the above two answers is misrecorded.

Table 3.8 Main Reason That They Did Not Enlist in the Armed Forces Among 17 to 23 Year Old, Civilian Youth Who Met the Physical and Mental Requirements, by Sex: 1980

(Percentage distributions)

Main reason	Total	Male
Total	100	100
Desired job unavailable	3.9	4.4
No decision yet	25.1	28.5
Would not like military	5.2	5.9
Better civilian job	7.8	8.9
Failed ASVAB	8.9	10.1
Length of obligation	20.2	23.0
Other[a]	28.9	19.2

[a]For the sub-items of Other, see text.

SUMMARY OF FINDINGS AND POLICY IMPLICATIONS

Youths generally have favorable attitudes toward armed services; 73 percent of males and 81 percent of females said that serving in the military is definitely or probably a good thing; the proportion with positive attitudes is slightly higher among Hispanic males and females than other races. On the other hand, lower proportions, 22 percent of males and 11 percent of females, indicated that they would try to enlist in the military in the future. The percentage with positive intentions to serve was particularly high among black males (39 percent) and for all race and sex groups except Hispanic college males, proportionally more high school students and dropouts intended to enlist in the military than did college students and high school graduates. We also found that 21 percent of males and 10 percent of females talked to recruiters, and 10 percent of males and 6 percent of females took the ASVAB.

Among youths 17 to 21 years old, the proportions who have positive intentions to serve, who talked to recruiters, and who took the ASVAB are inversely associated with age, educational attainment, and the AFQT score. An inverse relationship appeared between having positive intentions and socioeconomic status, but no relationship appeared between having talked to recruiters or taking the ASVAB and socioeconomic status variables.

A particularly high percentage of black males living in the South have positive intentions to serve (50 percent), while the proportions who talked to recruiters or who took the ASVAB are higher among black males residing in the West than among other race-sex-region groups. Youths who are not married and those who did not live with both natural parents at age 14 as compared to those who lived with both natural parents at age 14, generally show more interest in the military service.

Chapter I showed that service members compare favorably with civilian

youths employed full-time in terms of socioeconomic status and individual ability. Although in this chapter we find an inverse relationship between the quality of individuals and the proportion with positive intentions, the screening process used in recruiting by the military apparently eliminates the less educated or those who score lower on the AFQT. Over a quarter of high school dropouts who took the ASVAB cite "failure of ASVAB" as the main reason for not enlisting. The finding of an apparent parity in socioeconomic status between those who talked to recruiters or took the ASVAB and their respective counterparts further supports the observation of representativeness. Thus, we conclude that military personnel will not overrepresent the lower socioeconomic segment of the population in the near future.

About a quarter of those who talked to recruiters, a third of those who took the ASVAB, and a quarter of those who met both mental and physical requirements for enlistment state that they are still considering joining or have not made up their minds yet. Among those who talked to recruiters, "going to school" was the most frequently cited reason for not enlisting by males and the second most frequently cited by females, indicating that schooling is an alternative to military service for many youth. On the other hand, we do not find noticeable relationships between reasons for non-enlistment and employment status or desired branch of service.

Surprisingly, a very small percentage of youth who talked to recruiters, took the ASVAB, or met the mental and physical requirements attribute their not enlisting to "insufficient pay or benefits."[21] Considering that the individuals in our analysis are those who made specific efforts to enlist in

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[21]Actually, 1.9 percent of those who talked to recruiters, 0.5 percent of those who took the ASVAB, and 0 percent of those who met mental and physical requirements cite "insufficient pay" as the main reason.

the military, these findings are somewhat unexpected. In other words, our results suggest implicitly that the military pay is sufficiently high that youth presently considering enlistment are not dissuaded by this factor. The small percentage citing "got better civilian jobs" as the main reason for not enlisting (even among those who met both the mental and physical requirements) further supports our conjectures.

"Length of obligation" is seldom given as the main reason for not enlisting among those who talked to recruiters or those who took the ASVAB (4 percent each) although it was cited by one-fifth of those who passed both mental and physical requirements. Policy recommendations for military pay increases or shortening of the length of obligation to induce more youth to join the military may be somewhat relevant for those who met mental and physical enlistment requirements but decided not to join, but pay does not seem pertinent to the decision making of those who have already talked to recruiters or taken the ASVAB.[22] Of course, higher military pay might enlarge the pool of potential enlistees, but our data do not bear directly on this question.

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[22]It is conceivable that specific factors such as length of obligation and better civilian jobs may be more relevant considerations for those who are about to decide their entrance to the armed forces than for those who are still in the process of searching for desired occupations (military or other occupations). In this sense, the effects of the above two factors on the enlistment decisions of those who talked to recruiters may be underestimated. The low response rates for "insufficient pay" may reflect that the youth who made specific efforts to enlist already knew the pay distributions in the miltary so that they were willing to accept the current pay level or that the monetary compensation was not the most important factor for their enlistment decision (e.g., obtaining occupational training may be the primary objective for enlistment).

Chapter IV

An Analysis of Reenlistment, Separation after Completing Initial Term of Duty, and Attrition from Military Service Among Youths Who Enlisted Between 1975 and 1977

Recent high separation rates among mid-career service personnel suggest that more attention should be directed toward enhancing reenlistment rates among first-term enlistees in order to prevent the loss of experienced personnel. It will thus be useful to see why some individuals choose to extend their initial term of service in the military (reenlistees), while others decide to leave the service before the end of their first tour of duty (here called "attriters") or to complete that tour but not reenlist ("veterans").

THE UNIVERSE

The universe for this analysis includes male and female youths who signed up for three or four years of duty in the active forces in 1975, 1976, or 1977. Pooling three years of entering cohorts is necessary to secure a

statistically adequate sample size.[1] It should be noted that respondents in our study only represent a segment of the enlistment cohorts of 1975-1977. Due to the age composition of the NLS--male and female youths age 14 to 21 as of January 1, 1979--the 1975 enlistment cohort in this study includes those who were 17 years old as of January 1, 1975, and the 1977 enlistment cohort includes those who were 17 to 19 years old as of January 1, 1977. Thus, this sample represents only the younger members of their respective enlistment cohorts.

AGGREGATE DIFFERENCES

The universe consists of 584 males, representing 545,000 service men, and 254 females, representing 64,000 service women (Table 4.1). Among males, 22 percent leave the service before completing their term of duty, 63 percent remain in the service until they fulfill their contract, and 15 percent decide to reenlist. Although attrition rates are similar across races, reenlistment

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[1] While necessary to achieve a statistically sufficient sample size, the inclusion of the 1977 enlisting cohort in the universe is problematic because a majority of the individuals are still serving their first term of duty without having made the reenlistment decision as of the 1980 interview date (275 males and 114 females). The average length of service as of the 1980 interview is 37 months for males and 36 months for females. Since the attrition probability is very small for a person who has served for three years, we categorize those serving their first term of duty as of the 1980 interview date into Reenlistee and Veteran status according to the strength of their intentions to reenlist: if a person's reenlistment intention is equal to or greater than 7 on a 10-point scale, this person is classified as a Reenlistee; otherwise, he or she is classified as a Veteran. The adequacy of reenlistment intention as a measure of actual reenlistment behavior was ascertained using information from 1979 interviews: among youths who said they would definitely or probably reenlist, had served for more than 34 months as of the 1979 interview, and were not still serving their first term of duty as of the 1980 interview, 23 reenlisted (82 percent) and 5 separated. Based upon the above criterion, 17 and 258 males are allocated to Reenlistee and Veteran categories, respectively; the corresponding figures for females are 17 and 97, respectively. This reclassification is necessary because the category--still serving without reenlisting--is not a terminal status, as are others in this study, but simply a transitory status.

Table 4.1 The 1980 Military Status of Those Who Enlisted Between 1975 and 1977, by Race and Sex[a]

Race-Sex	Total number	Percentage distribution			
		Total	Attriter	Veteran	Reenlistee
Male					
Total	545 (584)	100 (100)	21.5 (10.8)	63.1 (69.0)	15.4 (20.2)
Black	95 (114)	100 (100)	17.9 (11.4)	60.0 (62.3)	22.1 (26.3)
Hispanic	33 (35)	100 (100)	21.2 (17.1)	69.7 (74.2)	9.1 (8.6)
White	417 (435)	100 (100)	22.3 (10.1)	63.3 (70.3)	14.6 (19.5)
Female					
Total	64 (254)	100 (100)	53.1 (15.0)	26.6 (57.9)	21.9 (27.2)
Black	11 (42)	100 (100)	18.2 (14.3)	18.2 (47.6)	63.6 (38.1)
Hispanic	2 (15)	100 (100)	b	b	b
White	51 (197)	100 (100)	60.8 (15.7)	25.5 (58.9)	11.8 (25.4)

[a]Weighted numbers are in thousands, and unweighted sample sizes and corresponding percentage distributions are denoted in parentheses.

[b]Due to a too small cell size, percentage distributions are not reliable and hence are not reported.

rates are lowest for Hispanics, intermediate for whites, and highest for blacks. Different patterns are found for females: more than half of females did not complete their first tour of duty, but among those who do, almost half extend their service period (the reenlistment rate of females, 22 percent, is higher than that of males, 15 percent). The attrition rate is higher for white females (61 percent) than for black females (18 percent), and almost two thirds of black females reenlist.[2]

INDIVIDUAL CHARACTERISTICS

The mean values and standard deviations of important individual characteristics of the three groups are reported in Table 4.2. For both sexes, attrition is higher and reenlistment is lower in the Army and Marines than in the Air Force and Navy; the degree of job satisfaction is highest for reenlistees, intermediate for veterans, and lowest for attriters; and those youth with a parent in the military were more likely to reenlist and less likely to attrite. Likewise both males and females who participate in VEAP and have ever been married are more likely to complete their tour of duty.

Different patterns were observed between males and females on a number of variables. Male attriters receive an average of 10 weeks of schooling and on-the-job training, while reenlistees and veterans receive more than 20 weeks of training. Surprisingly, we do not find differences in length of training

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[2] As in other chapters, the sampling weights are introduced in computing univariate statistics such as means and percentage distributions. Due to the oversampling of military sample members, the percentage distributions are considerably different between weighted and unweighted distributions. On the other hand, sampling weights are not used in regression analyses. While the role of sampling weights from a stratified survey in regression analysis is not fully understood, some interesting analyses are found in Manski and Lerman (1977), and Holt, Smith, and Winter (1980).

Table 4.2 Means and Standard Deviations of Selected Characteristics by Military Status and Sex[a]

	Total	Attriter	Veteran	Reenlistee
AFQT				
Male	.71	.68	.72	.72
	(.15)	(.14)	(.16)	(.15)
Female	.82	.85	.79	.76
	(.12)	(.12)	(.12)	(.11)
Army/Marines				
Male	.59	.66	.59	.51
	(.49)	(.47)	(.49)	(.50)
Female	.61	.78	.50	.29
	(.49)	(.41)	(.50)	(.46)
Black				
Male	.17	.14	.17	.25
	(.38)	(.35)	(.37)	(.43)
Female	.17	.07	.13	.49
	(.38)	(.25)	(.34)	(.50)
Have a child				
Male	.22	.20	.19	.36
	(.41)	(.40)	(.39)	(.48)
Female	.39	.52	.23	.26
	(.49)	(.50)	(.42)	(.44)
High school graduate				
Male	.72	.63	.74	.74
	(.45)	(.48)	(.44)	(.44)
Female	.90	.96	.97	.65
	(.31)	(.20)	(.17)	(.48)
Hispanic				
Male	.06	.06	.07	.03
	(.24)	(.24)	(.25)	(.17)
Female	.03	.003	.08	.04
	(.17)	(.05)	(.27)	(.19)
Job satisfaction				
Male	2.42	2.30	2.39	2.71
	(.88)	(.92)	(.88)	(.71)
Female	2.64	2.46	2.64	3.07
	(.87)	(.87)	(.90)	(.67)
Length of training				
Male	19.73	10.43	21.66	24.71
	(22.31)	(14.86)	(22.70)	(25.16)
Female	17.85	17.29	18.78	18.11
	(16.42)	(17.49)	(17.87)	(10.87)

Table 4.2 (continued)

	Total	Attriter	Veteran	Reenlistee
Married				
Male	.19	0.0	.18	.50
	(.39)	(0.0)	(.39)	(.50)
Female	.20	.01	.38	.48
	(.40)	(.08)	(.49)	(.50)
Parent in military				
Male	.04	0.0	.04	.12
	(.20)	(0.0)	(.19)	(.32)
Female	.11	.01	.07	.40
	(.31)	(.09)	(.25)	(.49)
Traditional attitudes				
Male	-.60	-.66	-.59	-.53
	(1.11)	(1.12)	(1.11)	(1.12)
Female	-.16	.31	-.32	-1.14
	(1.27)	(1.02)	(1.31)	(1.16)
V.E.A.P.				
Male	.13	.03	.16	.10
	(.33)	(.18)	(.37)	(.30)
Female	.06	.01	.12	.12
	(.24)	(.09)	(.33)	(.33)
White				
Male	.77	.80	.76	.72
	(.42)	(.40)	(.43)	(.45)
Female	.80	.83	.79	.47
	(.40)	(.38)	(.41)	(.50)

[a]Standard deviations are denoted in parentheses.

among the three groups for females.[3] The mean AFQT score of attriters is lowest among male groups, and highest among female groups.[4] Females with traditional attitudes are more likely to leave the service sooner, while those with non-traditional attitudes are more likely to reenlist[5]; such patterns do not hold for males. Male high school graduates are less likely to be attriters; female graduates are less likely to reenlist. Finally, the presence of a child appears to be an important reason for early separation among females, but having a child increases the probability of reenlistment among men.[6]

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[3] The length of training period is closely correlated with the military occupation (i.e., MOS/Rating/AFSC) that each enlistee is assigned to. Differences in the length of training in the case of males may simply indicate that those who are assigned to occupations that require less specific skills (for example, non-technical combat duty) are more likely to leave the service. The similar mean values of training period among the three groups for females may reflect that they are assigned, by and large, to similar occupations (e.g., clerical) and thus they receive about the same amount of training.

[4] Why female attriters score higher than their counterparts is not readily explainable. Perhaps female attriters represent a self-selected group. We find a similar pattern in the analysis of post-service labor market performances of veterans and attriters (see chapter V).

[5] The NLS data include a set of questions about family attitudes. The question we use in this study is a four-point scale, "A working wife feels more useful than one who doesn't hold a job." We rescaled the response such that the most traditional response is assigned a value of +2, while the most non-traditional response is assigned a value of -2. The indeterminate response is assigned a value of 0. Since the military is predominantly male (males comprise about 90 percent of service members), the difference in the traditional attitude score is particularly interesting because the females under study are those who chose to serve in a non-traditional occupation.

[6] We also compared the age at the time of enlistment, the expected educational attainment, the perception of civilian labor market discrimination, the expectation of enrollment in school in 5 years, and the expected fertility among the groups, but we did not find differences.

LOGIT ANALYSIS OF ALTERNATIVE DECISIONS

Three mutually exclusive alternatives are possible--1) leaving the military before completing the initial tour of duty, 2' completing that term of service but not reenlisting, and 3) reenlisting. Using a multinomial logit model (described in the Appendix II to this chapter) we can test for the independent effects on these choices of the characteristics just discussed.

Males

Table 4.3 compares the probabilites of being a veteran rather than a reenlistee (column 1), being an attriter rather than a reenlistee (column 2) and being an attriter rather than a veteran (column 3). The coefficient of the log-odds equation indicates the percent changes in the ratio of percentages (or probability estimates) due to a small change in an explanatory variable.

The length of training turns out to be an important factor for the decision of early separation: the coefficients are statistically significant when attriter status is compared with reenlistee or veteran status.[7] We also find that the absolute size of the coefficient is larger when attriters are compared with reenlistee (-0.025) than when attriters are compared with veterans (-0.020). The ratio of the probability of being an attriter as contrasted to being a reenlistee declines by 2.5 percent as the length of training increases by one week; the corresponding figure of the probability

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[7] By definition, the length of training is upper-bounded by the length of service; thus, it is suspected that the shorter length of service may serve as a constraint for the length of training among attriters. However, the mean length of service (12 months for male attriters and 16 months for female attriters) is considerably longer than the mean length of training (as reported in Table 4.2) for both sexes. Therefore, the suspicion may not be relevant for most attriters.

Table 4.3 Multinomial Logit Estimates for Reenlistee, Veteran and Attriter Status Among Males Who Enlisted Between 1975 and 1977

(asymptotic t-statistics in parentheses)

	ln (veteran/ reenlistee)	ln (attriter/ reenlistee)	ln (attriter/ veteran)
Constant	3.2643**	3.4267**	.1624
	(4.19)	(2.92)	(.17)
Length of training	-.0057	-.0253**	-.0197**
	(-1.06)	(-2.44)	(-2.11)
Army/Marines	-.1834	-.7039*	-.5205
	(-.68)	(-1.67)	(-1.47)
Job satisfaction	-.4429**	-.6964**	-.2535
	(-3.00)	(-3.23)	(-1.46)
AFQT	-.5305	-1.4532	-.9227
	(-.60)	(-1.06)	(-.80)
High school graduate	.3991	.1147	-.2843
	(1.40)	(.28)	(-.84)
V.E.A.P.	.4290	.0293	-.3997
	(1.20)	(.05)	(-.79)
Married	-1.4631**	-16.2527	-14.7896
	(-5.41)	(-.05)	(-.05)
Child	-.2291	.9227**	1.1518**
	(-.81)	(2.08)	(3.00)
Hispanic	.9335	1.5898*	.6563
	(1.42)	(1.90)	(1.14)
Black	-.5561*	-.5506	.0055
	(-1.76)	(-1.09)	(.01)
Rho, squared	.3586		
Chi-squared (20)	109.637		
N	548		

**Significant at 0.025, one-tailed test.
* Significant at 0.05, one-tailed test.

ratio for being an attriter rather than a veteran declines by 2 percent.

As expected, as individuals become more satisfied with their jobs, they are less likely to be attriters. Job satisfaction is more important in the decision between being a reenlistee and attriter than in the decision between being a reenlistee and a veteran. Although the possible receipt of post-service educational benefits is frequently cited as the primary reason for enlistment (see Chapter II), we do not find any statistically significant evidence showing that those who participate in VEAP are more likely to be veterans than attriters or reenlistees. Moreover, no signficant differences are found among the three groups regarding the AFQT score; to the extent that the AFQT score captures the degree of a possible success in the civilian (and/or military) labor market, the non-significant results of the AFQT score reject the null hypothesis that individuals who will be more successful in the civilian economy are more likely to leave the service. Further, although Table 4.2 shows that attriters are more likely to be high school dropouts than high school graduates, high school graduation does not contribute to distinguishing the three statuses when other factors are controlled.

Marital status and the presence of child(ren) capture the effects of family responsibility on continuing service decisions.[8] Individuals who have

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[8] For those who still remain in the service, marital status is as of the 1980 interview date, while for those who have already separated from the military, marital status relates to the date of separation: the different dates are used for different groups because the issue is whether or not marital status significantly affects the decision to terminate or continue military service. Since the main concern is whether any (possible) family responsibility affects military status, we chose as a control group the never-married rather than the currently not-married group; thus, the marital status variable indicates whether or not an individual has ever been married. By the same reasoning, the presence-of-child variable is relevant as of the 1980 interview date for those who remain in the service, but it is as of nine months after the separation date for those who have already left the armed services (adding nine months will include those who left the service due to child expectancy). It is interesting to note that 32 percent of female

been married are more likely to reenlist than those who have never been married, a result which may reflect the job security aspect of the military service. On the other hand, the presence of child(ren) plays a very significant role in the decision of early separation: an individual with a child is more likely to be an attriter than a veteran or reenlistee. We can infer that those who have a child but have never been married are more likely to be attriters.[9] Finally, as compared to white males, Hispanics are more likely to be attriters, while among those who would complete their term of duty, blacks are more likely than other racial groups to reenlist.[10]

Females

The estimates for females appear in Table 4.4. The only differences in the specification of the model are the inclusion of the scale of traditional attitudes and the deletion of high school graduation status.[11]

attriters as compared to 5 percent of female veterans were pregnant at the time they separated from the military.

9 Twenty percent of male attriters have had a child without having been married (see Attriter in Table 4.2).

10 As explained in footnote 1, we reclassified those who are still serving their first term of duty into reenlistee or veteran status according to their reenlistment intentions. As a way of examining whether the results are sensitive with respect to the recategorization, we reestimated the multiple logit equations with four instead of three categories--still serving without reenlisting as a fourth category; we also estimated $\ln(p_4/p_1)$, where p_4 is the new category. The results in terms of the signs and significance of the coefficients and the subsequent inferences of the analysis are virtually the same. Some additional information from the four-category logit estimations are: while the presence of a child produced a (unexpected) negative and statistically non-significant coefficient in equation $\ln (p_2/p_1)$ for the three-category estimations, it yielded a positive and statistically significant coefficient in the four-category estimations. The coefficients for Army/Marines, job satisfaction and the presence of a child yield significant and negative coefficients, while high school graduation status displays a positive and significant coefficient.

11 In terms of unweighted sample sizes, 97 percent of female service members in our study are high school graduates. Thus, this variable is deleted

Table 4.4 Multinomial Logit Estimates for Reenlistee, Veteran and Attriter Status Among Females Who Enlisted Between 1975 and 1977

(asymptotic t-statistics in parentheses)

	ln (veteran/ reenlistee)	ln (attriter/ reenlistee)	ln (attriter/ veteran)
Constant	2.9569** (1.97)	3.8019 (1.51)	.8450 (.39)
Length of training	.0067 (.56)	.0056 (.29)	-.0011 (-.07)
Army/Marines	.2749 (.72)	.3954 (.62)	.1205 (.22)
Job satisfaction	-.9546** (-4.14)	-1.4291** (-4.26)	-.4745* (-1.81)
AFQT	2.1055 (1.35)	.0678 (.02)	-2.0377 (-.83)
Traditional attitudes	.2315 (1.59)	.3762* (1.73)	.1447 (.82)
V.E.A.P.	-.3387 (-.70)	-.3235 (-.39)	.0152 (.02)
Married	-1.6818** (-4.30)	-4.8397** (-5.26)	-3.1580** (-3.66)
Child	-.1383 (-.35)	2.7113** (4.36)	2.8496** (5.43)
Hispanic	.9700 (1.13)	-.4844 (-.34)	-1.4544 (-1.23)
Black	-.7058 (-1.34)	-1.9913** (-2.09)	-1.2855 (-1.50)
Rho, squared	.3869		
Chi-squared (20)	131.490		
N	241		

**Significant at 0.025, one-tailed test.
* Significant at 0.05, one-tailed test.

Overall the results for females are similar to those for males. Higher job satisfaction lowers the probability of attriting and raises the probability of reenlisting; moreover, the larger absolute magnitudes of the coefficients as compared with the corresponding coefficients of males indicate a relatively higher sensitivity of length-of-service decisions to job satisfaction among females. As was the case for males, females who have ever been married are more likely to remain in the service, while the presence of child inhibits the decision to stay.[12] Finally, like their male counterparts, female blacks are more likely to remain in the service longer than other females. As with males, the coefficients on AFQT and VEAP are not statistically signficant.

One area where males and females differed was in the effect of military training; for females it did not significantly alter the decision to complete the tour of duty or reenlist. The results also reveal that females with traditional attitudes are more likely to leave the service earlier; this pattern is particularly apparent when being an attriter is compared with being a reenlistee.[13]

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because of the high correlation with the constant term.

[12] Note also that, as with males, a substantially higher proportion of female attriters have a child without having been married (i.e., 52 percent of female attriters have a child, while only 1 percent have ever been married, see Table 4.2).

[13] We also reestimated the multiple logit equations with four categories for females. The fact that the four-category logit estimations for females show a positive coefficient on the presence-of-child variable for equation $\ln(p_2/p_1)$ further supports our conjecture that the presence of a child and length of service are strongly negatively correlated. Other than this difference, we obtain basically the same results with the three- and four-category estimations.

ESTIMATES OF THE DECISIONS FOR HYPOTHETICAL ENLISTEES

Another way of looking at the situation is to see how the probability estimates differ between individuals with slightly different individual attributes. For the computations of probability estimates and partial derivatives, a hypothetical person is configured: this person received 20 weeks of school and on-the-job training, serves in the Army or Marines, is somewhat dissatisfied with the military service (scores 2 points on a 4-point scale), scores 0.7 on the AFQT (on a 1-point scale), does not participate in VEAP, has never been married, does not have a child, and is white. We assume a male high school graduate, and a somewhat non-traditional female (attitude -1 on a scale between -2 and 2). The computed probabilities and partial derivatives of some selected variables (only those whose coefficients were statistically significant in earlier discussions) appear in Table 4.5.[14]

The hypothetical male has a 10 percent probability of being a reenlistee, an 81 percent probability of being a veteran, and a 9 percent probability of being an attriter. The length of training yields very small partial derivatives. That is, a 10 percent increase in length of training (from 20 to 22 weeks) increases the probability of being a reenlistee or veteran by one percent or less and decreases the probability of being an attriter by 4 percent. If the hypothetical male served in the Navy or Air Force rather than the Army or Marines, his probability of being an attriter increases by 61

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[14] Unlike ordinary least squares estimation, the partial derivatives of non-linear estimation are not constant. The effect of a unitary change in a given explanatory variable on the changes in the dependent variable is contingent upon the values where the derivatives are evaluated in terms of both the specific explanatory variable and all other explanatory variables. This statement is true because our estimation procedure restricts the sum of the predicted values of the dependent variables to be one. The terminology of partial derivative is used in this study simply to indicate the probability differences in the dependent variable due to a change in the value of a continuous or a discrete explanatory variable.

Table 4.5 Partial Derivatives and Percentage Changes (in parentheses) in Probability Estimates for Reenlistment, Completing the Inital Term Without Reenlisting and Not Completing the Initial Term for Some Important Variables, by Sex

Variables		Attriter	Veteran	Reenlistee
Male				
Predicted probability,[a]	$\hat{p}$	0.0910	0.8106	0.0984
Length of training,[b]	$\Delta\hat{p}$	-0.0033	0.0019	0.0014
	%	(-3.6)	(0.2)	(1.4)
Army/Marines,[c]	$\Delta\hat{p}$	0.0554	-0.0354	-0.0201
	%	(60.9)	(-4.4)	(-20.4)
Job satisfaction,[d]	$\Delta\hat{p}$	-0.0227	-0.0270	0.0497
	%	(-24.9)	(-3.3)	(50.5)
Married,[e]	$\Delta\hat{p}$	-0.0910	-0.1546	0.2456
	%	(-100.0)	(-19.1)	(249.6)
Child,[f]	$\Delta\hat{p}$	0.1445	-0.1474	0.0028
	%	(158.8)	(-18.2)	(2.8)
Female				
Predicted probability,[a]	$\hat{p}$	0.1622	0.7850	0.0528
Job satisfaction,[d]	$\Delta\hat{p}$	-0.0636	-0.0177	0.0813
	%	(-39.2)	(-2.3)	(154.0)
Married,[e]	$\Delta\hat{p}$	-0.1558	-0.0552	0.2111
	%	(-96.1)	(-7.0)	(399.8)
Child,[f]	$\Delta\hat{p}$	0.6060	-0.5698	-0.0362
	%	(373.6)	(-72.6)	(-68.6)
Traditional attitudes,[g]	$\Delta\hat{p}$	0.0226	-0.0111	-0.0115
	%	(13.9)	(-1.4)	(-21.8)

[a]The hypothetical person is configured to have the following characteristics: length of training = 20 weeks; Army/Marines = 1; Job satisfaction = 2; AFQT = 0.7; High school graduate = 1 (for males); VEAP = 0; Married = 0; Child = 0; Traditional attitudes = -1 (for females); Hispanic = 0; and Black = 0.
[b]Length of training increases by two weeks: from 20 to 22 weeks.
[c]Army/Marire changes from 1 to 0.
[d]Job satisfaction scale increases from 2 to 3.
[e]Marital status changes from never-married (0) to ever-married (1).
[f]The presence of child changes from 0 to 1.
[g]Traditional attitudes scale increases from -1 to 0.

percent, while his probability of being a reenlistee decreases by 20 percent. Given that the Air Force and Navy have lower attrition rates than the Army and the Marines, it seems clear that it is the characteristics of our hypothetical individual that account for this reversal of probabilities.[15]

A change in job satisfaction status from somewhat dissatisfied to somewhat satisfied increases reenlistment probability by 51 percent and decreases early separation probability by 25 percent. The most drastic impacts on the decision when to leave the service is produced by marital status: had he ever been married, the likelihood of reenlisting would increase by 250 percent, while the probability of attriting would decline to zero percent.[16] As contrasted to the one-direction positive effects of marital status on length of service, the presence of a child increases attrition probability by 159 percent; on the other hand, reenlistment probability is virtually unaffected by the presence of child(ren). Thus, although the presence of child(ren) exerts a negative impact on fulfilling the initial term of duty, it does not pose a problem in the decision to extend the length of service after the initial term.

As compared with her male counterpart, the hypothetical female has a

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15 In the case of males, the attrition rates by branch are: 26 percent for Army; 19 percent for Marines; 17 percent for Navy; and 18 percent for Air Force. Needless to say, if the individual characteristics of those serving in the Army or Marines differ from those serving in the Navy or Air Force systematically, and if these systematic differences are captured by the other explanatory variables, then it is possible to have unexpected signs on the coefficients of qualitative variables when the effects of other variables are controlled.

16 It is very interesting to note that the forecasting of a zero percent probability of being an attriter in case the person is figured to have never been married is consistent with the statistics reported in Table 4.2, where the percentage of male attriters who have ever been married is zero.

somewhat higher probability of being an attriter (16 percent), about the same probability of being a veteran (79 percent), and a somewhat lower probability of being a reenlistee (5 percent). The results generally indicate that females respond much more sensitively to changes in characteristics than do males. The impact of job satisfaction for a typical female is significantly greater than for a typical male; the change in the degree of job satisfaction from a somewhat dissatisfied to a somewhat satisfied status increases the reenlistment probability of a typical female by 154 percent and decreases her attrition probability by 39 percent. As with her male counterpart, marital status is also very important: a change from never-married to ever-married increases reenlistment probability by 400 percent and decreases attrition probability by 96 percent. On the other hand, we find an opposite pattern in the relationship between reenlistment and the presence of child between a female and male. As contrasted to the non-significant effect of the presence of child(ren) on the reenlistment decision for the typical male, a significant and negative effect is found for the female--for her, child(ren) lead to a 69 percent decrease in reenlistment probability. Her change in attitude from somewhat non-traditional to somewhat traditional increases attrition probability by 14 percent and reduces reenlistment likelihood by 22 percent.[17]

SUMMARY OF FINDINGS AND POLICY IMPLICATIONS

Both males and females with a higher degree of job satisfaction are more

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17 Both the typical male and female persons discussed in the text were configured to be white. The probability estimates of the dependent variables for a Hispanic or black are different due to the inclusion of race in the equations: the estimated probabilities for reenlistee, veteran, and attriter are, respectively, 4, 79 and 17 percent for a Hispanic male; 16, 76, and 9 percent for a black male; 2, 93, and 5 percent for a Hispanic female; and 11, 84, and 5 percent for a black female.

likely to extend their terms of service, while those with a lower degree of job satisfaction are more likely to separate at an earlier stage, but females are more affected by job satisfaction than males. This finding may seem trivial, but it suggests that the usual view of military service as a transitory rather than a permanent career-oriented job may not be relevant for most youths. Such an inference is supported by other findings: participation in VEAP did not significantly affect the separation decision for males or females--the expectation for further schooling does not necessarily induce separation from the military. Further, the possibility of a more successful civilian labor market performance as measured by the AFQT score did not display any significant impact on the decision for early separation.

Length of training and branch of service, on the other hand, are significant in deciding the length of service for males but not for females. Males who received longer periods of training are more likely to serve longer, although the effects are somewhat marginal. Unexpectedly, other things being equal, males serving in the Army or Marines as compared to those serving in the Navy or Air Force are more likely to reenlist and less likely to attrite.

This finding requires further investigation. Perhaps the most important factors for status changes for both sexes are family responsibility as measured by marital status and the presence of a child. As compared to individuals who have never married, those who have been married are more likely to remain in the service longer. On the other hand, those who have a child are likely to leave the service earlier than those who do not. We can infer from these results that the job security aspect of the military service may serve as a positive incentive for reenlistment but the presence of a child poses a problem in leading a military life.

Finally, females with non-traditional attitudes show a higher probability

of extending their term of service, while those with traditional attitudes are more likely to separate before completing their tour of duty. This finding underscores the non-traditional aspect of military service for female youths.

Appendix to Chapter IV

A. Theoretical Considerations: Specification of the Model A model for status changes is developed within the framework of the activity choice model: a decision maker is assumed to behave rationally, and the rational behavior leads to the maximization of the individual's utility function. The maximization process is constrained by the availability of alternative choices. In this study, we further assume that no two choices provide an equal amount of utility and that each individual is to choose one and only one alternative.[1] Therefore, the three categories in our study exhaust the population. Under this conceptual framework, we specify a multinomial logit model for status changes as follows:

$$DEP_i = f(\text{Training, Army/Marines, JSAT, AFQT, VEAP, } Z_j) \quad \ldots\ldots\ldots\ldots\ldots (1)$$

where DEP_i represents the set of alternatives; Training is the number of weeks received of formal schooling or on the job training in the military; Army/Marines indicates the ground forces including Army and Marines as compared to the technical forces Navy and Air Force; JSAT indexes the job satisfaction status with the branch; AFQT denotes the Armed Forces Qualifying Test score; VEAP indicates whether or not the enlistee participates in the Veteran Educational Assistance Program; and Z_j represents the set of other explanatory variables such as race, marital status, and high school graduation status at the time of entrance.

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[1] In other words, we assume that all alternatives are pairwise mutually exclusive and the utility function is well-defined and strictly quasi-concave. For a detailed discussion of the empirical implications of the assumptions, see Domencich and McFadden (1975).

In specifying a model for status changes, the following consideration is taken into account. A multinomial logit form is chosen as the functional specification of the model. Theoretically, a sequential logit model appears more appropriate for explaining the actual decision making process: first, individuals decide whether or not to complete their term of duty and, second, those who chose to complete their term of duty decide whether or not to reenlist.[2] However, one disadvantage of this approach is that, as Amemiya (1981) indicates, the estimated regression coefficient is sometimes difficult to interpret, particularly when the coefficient of a continuous variable varies in an unsystematic way with the different category. Moreover, a selectivity issue compounds the estimation problems in the second stage: individuals who decide to complete their duty may have systematically different unobserved individual characteristics from those who decide to terminate their duty before completing their contracted term. Thus, due to easier interpretation of the coefficients, a multinomial logit specification

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[2] For an empirical study of the sequential logit model, see, for example, Kahn and Morimune (1979).

is adopted for analysis.[3,4] Since the estimation procedure produces numerous coefficients due to conditional logit estimations for each pair of alternatives, rather than presenting the expected signs of the coefficients for all possible alternatives, we introduce below some important issues that will be discussed in the text.

Under the all-volunteer-force (AVF) environment, the three most frequently cited issues regarding enlistment in the military are: the availability of training in the military, the possibility of post-service educational benefits, and the military job as the last resort to employment for those who do not find civilian alternatives. The major difficulty in analyzing the factors for reenlistment as compared with those for enlistment is that many competing hypotheses emerge: the impact on the outcome is not uni-directional. For example, individuals who have been better trained in the military may find civilian alternatives more easily than those who have not

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[3] Discriminant analysis is frequently used in classifying a population into several categories. Because many studies show that the maximum likelihood estimates of logit estimation perform better than the estimates of discriminant analysis in correctly predicting the categories, we prefer logit to discriminant analysis. For detailed discussions, see Press and Wilson (1978), and Efron (1975).

[4] A major deficiency in using (unordered) multinomial logit analysis in this study may be that all categories are implicitly assumed to be substitutable with each other. In other words, individuals can freely choose one (and only one) category. Whether the sequential decision process discussed in the text is, in fact, true or not (for example, Reenlistee and Attriter status may not be considered alternatives to each other at a given point in time) is actually regarded in this study as a specification problem which should be tested empirically. In a later section, we perform a validation test to examine the predictability of the model. Another point to note is that, as in most choice studies, the demand side factors are ignored in the analysis: that is, the outcome is considered simply a reflection of the rational individual choice; thus, for example, attriters are considered as those who initiate separation from the military rather than as those whom the military authorities find unsuitable for training. The argument that the current high attrition rates are due to excessibly liberal discharge policies is found in the Senate Hearing (1977).

been well trained; thus, we may expect that these youths leave the service. On the other hand, these youths are apparently more in demand by the military; thus, a perception of better opportunities in the military life as compared to their counterparts may induce them to remain in the service. However, if the main reason for enlistment for a certain individual were to take advantage of post-service educational benefits, then he or she would be more likely to leave the service without reenlisting regardless of the receipt of occupational or other training.

Although many different motivations for enlistment may produce competing inferences for some key variables, an interesting issue to examine is how many of those serving in the service regard the military job as an alternative to civilian employment. As an indirect test of this question, we examine the impact of job satisfaction status with the military service on future status changes: that is, when other important factors are controlled, do those who are more satisfied with their jobs necessarily reenlist, while those who are more dissatisfied with their jobs necessarily separate?

In principle, under AVF circumstances, we treat the military service the same as employment in a civilian occupation. However, due to working environments specific to military as compared to civilian jobs, we also introduce some control variables such as marital status and the presence of a child, which may serve, particularly for female youths, as a barrier to continuing military duty.

B. Multinomial Logit Estimates We estimate the following log-odds equations for each sex group.[5]

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[5] Extensive theoretical discussions about the logit analysis are found in Cox (1970), and Theil (1970). The basic algorithm for computations of the maximum

estimations of a qualitative dependent variable, particularly in the sense that the scalar measure is normalized to range between zero and one. Below, we present two different measures to discuss the validity of the model.

(a). Predictability test: The criterion which is frequently employed in discrimination analysis is the proportion of correct predictions. For example, using 0.5 as a cutoff point of the probability estimates for a one-zero variable, the percentage of correctly predicted events is computed. A well-known disadvantage of this method is that the estimate of 0.49 is penalized the same as that of 0.01; furthermore, in the case of more than two categories, the absolute value of a cutoff point cannot be determined. On the other hand, this criterion appeals to analysts who forecast the expected manpower size. We use the relative size criterion: if the probability estimate of the actual choice is larger than those of the non-choice categories, then it is considered a correct prediction.

For males, 393 out of 548 cases (or 72 percent) are correctly predicted. The model generally predicts correctly for category 2 (veteran): that is, 97 percent of those in category 2 are correctly predicted. On the other hand, the predictability for categories 1 and 3 is very poor: only 22 percent of those in category 1 are correctly predicted, and no person in category 3 is correctly forecasted--instead, most of those are mispredicted as category 2. The female equations predict more successfully than the male equations. Overall, 170 of the 241 persons (or 71 percent) are correctly predicted. The percentages of correct predictions for each category are 48 percent for category 1, 82 percent for category 2, and 64 percent for category 3. An interesting point to note is that for both sexes, the cases of misprediction between category 1 (reenlistee) and category 3 (attriter) are very rare: in the case of males, the number of cases where a person in

$$\ln (p_2 / p_1) = Xa' \quad \text{.....(2)}$$

$$\ln (p_3 / p_1) = Xb' \quad \text{.....(3)}$$

where p_i represents the trichotomous dependent variable: p_1 = reenlistee, p_2 = veteran, and p_3 = attriter, a' and b' are column vectors of coefficients, and X indicates a set of explanatory variables. From equations (2) and (3), the ratios of the predicted probabilities can be estimated. The absolute value for each of the three probabilities are then determined by the condition that the sum of the predicted probabilities for each individual be equal to one. Because of the symmetry of the logistic distribution, the estimates are qualitatively invariant with respect to the choice of the denominator. On the other hand, we can easily derive an equation comparing choice "3" over choice "2" as follows:

$$\ln (p_3 / p_2) = \ln (p_3 / p_1) - \ln (p_2 / p_1) = X (b' - a') \quad \text{.....(4)}$$

In Table 4.3, the estimated coefficients for equations (2) and (3) appear in the first two columns, and the derived coefficients for equation (4) appear in the third column.[6] The log-odds equation, for example $\ln (p_2 / p_1)$, is called the conditional logit favoring the second choice relative to the first under the condition that the choice be either the first or the second.

C. Validation Test of Multinomial Logit Estimations In the standard regression model there are some useful scalar measures such as R^2 by which we can evaluate the overall performance of the model specification. However, such widely recognized measures are not generally available for non-linear

likelihood estimates for the case of a trichotomous dependent variable is found in Schmidt and Strauss (1975).

[6] The coefficients and standard errors for equation (4) are computed as follows. Let a_1, b_1, and c_1 denote the coefficients for a variable X_1 in each equation (2) to (4), V(.) indicate its variance, and Cov(.,.) represent the covariance of any two variables. Then, $c_1 = b_1 - a_1$, $V(c_1) = (V(b_1) + V(a_1) - 2 * Cov(b_1,a_1)) ** 0.5$; thus, an asymptotic t-statistic for the coefficient, c_1, is computed as $c_1 / (V(c_1) ** 0.5)$.

category 1 is predicted to fall in category 3, and vice versa, is zero, and for females, we find only two cases each; as a result, we infer that the model performs successfully in distinguishing between categories 1 and 3.

(b). R^2-like measures: Recently, several measures similar to R^2 have been developed in the analysis of a qualitative dependent variable (see, Amemiya, 1981). An intuitively appealing method is suggested by Domencich and McFadden (1975): $R^2 = 1 - (L(b_{mle}) / L(b_0))$, where $L(.)$ represents a log likelihood function, b_{mle} is the maximum likelihood estimator, and b_0 is zero or is zero except for coefficients of alternative dummies.[7] The statistics reported in Tables 3.3 and 3.4 under the name of rho-squared are computed using the above formulus. The squared coefficients are 0.36 for males and 0.39 for females.[8]

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[7] The ratio in the formulus is called the log likelihood ratio. Note also that if each outcome is predicted by the model specification with a probability 1, then the log likelihood function (i.e., the numerator of the ratio) will be zero, thus R^2 will be one. Domencich and McFadden find a relatively stable relationship between their R^2 and the R^2 from OLS.

[8] Another interesting measure is developed by Efron (1978): $R^2 = 1 - (\Sigma_i (y_i - \hat{F}_i)^2 / \Sigma_i (y_i - y)^2)$, where $\hat{F}_i$ is an estimated value, and y is the mean of y_i. This measure basically follows the logic of R^2: the proportion of the explained variance over the total variance. (Because the qualitative dependent variable model is a heteroskedastic, the concept of R^2 is different. For detailed discussions, see Efron 1978, and Amemiya 1981.) However, his

Chapter V

Labor Market Experience of Veterans and Attriters

This chapter analyzes the post-service labor market performance of two groups of former service personnel--those who separated after finishing their term of duty (veterans), and those who left before the end of their term of duty (attriters). During the period of the draft, military service was generally regarded as a career interruption. In the all volunteer force, however, the service period should be considered a continuation of one's expected life path, for the obvious reason that an individual chooses to serve. This new view of military service requires a new conceptual framework for evaluating the labor market achievements of those who serve. Under the threat of the draft, participation in the armed forces was not as strongly related to personal attributes as in the volunteer force.[1]

Many factors influence the subsequent civilian labor market employment and earnings of service personnel. On the positive side: some service members obtain specific vocational training, transferable to later civilian alternatives; some receive post-service training and educational benefits; and some individuals, especially those without high school diplomas, benefit from the so-called credential effects, whereby service experience is an indicator of reliability and accomplishments to the future employer.[2] On the negative side, poorer labor market performance may result from the fewer years of labor

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[1]Of course, it is well known that the probability of being drafted was not unrelated to individual characteristics in terms of intellectual ability and socioeconomic status. The more intellectually able person could take advantage of the student or occupational deferment system more easily than a less able person during the draft.

[2]Individuals who left the armed services before the end of their term of service may not be fully credited for this effect.

market attachment of service members and delay in completing their education due to the service.

Studies of the effects of military service on subsequent employability and earnings are inconclusive. Some found negative effects of the service on the future labor market activities, supporting the argument that service is a career interruption.[3] Others, however, found a positive relationship between military service and subsequent civilian earnings, especially among minorities.[4] Most previous studies dealt with the consequences of military service during the draft period, and their results depend on whether they look at short-run or long-run consequences.[5] Because the NLS data set includes individuals age 18-23, the analysis here necessarily focuses on short-run consequences.

Here we first investigate whether or not veterans and attriters are a self-selected group; we examine the differences in mean values of individual characteristics among these groups, and compare them to civilian youth who never served. Next, we test our a priori expectation that service in the military under the AVF does not negatively affect subsequent civilian

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[3]For example of studies that found negative relationships, see Oi (1967), Kassing (1970), and Cutright (1974).

[4]See, for example, Norrblom (1976), and Fredland and Little (1980).

[5]For example, suppose that we compare earnings between those who have served and those who have never served. It is likely that we will find relatively poorer performance for those who have served among the younger individuals. For these younger, as compared to older, individuals, factors such as (short) tenure and (insufficient) adjustment period in civilian life might contribute adversely to the earnings level, while some positive effects such as credential effects are not yet realized. This conjecture is partially supported by government survey data. The Employment and Training Report of the President (1980) reports that during the 1979 fiscal year, the jobless rates among 25 to 39 years old male veterans and their nonveteran counterparts were virtually the same (3.9 vs. 3.8 percent). On the other hand, the jobless rate for young male veterans aged 20 to 24 (11.5 percent) was higher than that for their nonveteran counterparts (7.8 percent).

earnings. We will show why the mean values of hourly rates of pay differ among the three groups, then describe how the predicted hourly rates of pay would differ if similar individuals were in each group.

COMPARISONS OF ATTRITERS, VETERANS, AND CIVILIANS WHO NEVER SERVED

The Universe Our universe represents about 432,000 male and female youth who served in the active forces: 160,000 are veterans and 271,000 are attriters (Table 5.1). About ten percent of females and over a third of males who served are veterans. It should be noted that the universe of this study underrepresents veterans relative to attriters. For example, an individual who enlisted in 1979 at age 19 may be included in our universe only if he or she became an attriter; however, other individuals of the same age-enlistment cohort who will be veterans cannot be included in our study because they are serving in the military as of the 1980 interview. Due to small cell sizes, black and Hispanic males are combined to constitute a minority male group and the race dimension is not introduced for females.[6]

Individual Characteristics Table 5.2 compares the individual characteristics of veterans, attriters, and those who never served (the reference group). As expected, male veterans are, on the average, 1.8 years older than those who never served and 0.6 years older than the attriters; female veterans are two years older than the reference group and one year older than the attriters. Attriters of both sexes are more likely to come from lower socioeconomic status backgrounds (as measured by parental education and the size of family) than the other groups, and the percentage of parents working in white-collar occupations is markedly lower for female attriters

[6]Except for black male attriters, the cell sizes for all minority youth are less than 25.

Table 5.1 Veterans and Attriters, by Race and Sex: 1980[a]

Sex and race	Total		Veterans		Attriters	
	Total[b] number (000s)	Sample size	Total number (000s)	Sample size	Total number (000s)	Sample size
Total	432	393	160	206	271	187
Male, total	373	270	155	156	219	114
White	290	190	118	115	173	75
Minority[c]	83	80	37	41	46	39
Female, total[d]	58	123	6	50	52	73

[a]Youth 18 to 23 years of age who have served in the active armed forces.

[b]Due to rounding, veterans and attriters may not sum up to total.

[c]Minority consists of blacks and Hispanics.

[d]Due to small cell sizes, racial breakdowns are not made for females.

Table 5.2 Mean Values and Standard Deviations (in parentheses) of Selected Characteristics Among Veterans, Attriters, and Civilians Who Never Served, by Sex: 1980[a]

Characteristics	Male			Female		
	Veterans	Attriters	Never served	Veterans	Attriters	Never served
Age	21.88 (.75)	21.25 (1.28)	20.08 (1.43)	22.09 (.59)	21.09 (1.18)	20.13 (1.40)
Education of parents	12.22 (2.71)	11.83 (2.91)	12.66 (3.18)	12.56 (2.52)	12.04 (1.59)	12.49 (3.15)
Number of siblings	4.56 (2.40)	5.13 (2.70)	4.28 (2.34)	4.24 (2.22)	4.85 (1.66)	4.48 (2.32)
Education of respondent	11.59 (1.31)	11.52 (1.30)	12.04 (1.73)	12.23 (.69)	12.01 (.51)	12.14 (1.67)
Educational expectations	14.70 (2.09)	13.58 (2.36)	14.03 (2.46)	15.11 (1.62)	14.58 (1.85)	13.93 (2.27)
AFQT[b]	77.43 (15.62)	68.81 (17.41)	73.42 (22.05)	83.83 (13.61)	86.35 (12.85)	72.74 (20.29)
White-collar occupation for parents	0.52 (0.50)	0.59 (0.49)	0.61 (0.49)	0.67 (0.48)	0.27 (0.44)	0.61 (0.49)
Sample size, N	156	114	3,077	50	73	3,612

[a]Youth 18 to 23 years old.

[b]See glossary for the definition of AFQT.

than for other groups.

Female veterans and attriters attained higher average levels of education than their male counterparts. Further, whereas the mean values of educational attainment are about the same among female veterans, attriters, and civilians who never served, male civilians who never served completed about one-half year more schooling than males who did serve. For both sexes, mean educational expectations are higher among veterans than among other groups.

The Armed Forces Qualifying Test (AFQT) score, which represents a composite index of overall individual achievement, reveals significantly different sex patterns.[7] The mean test score of females who served is substantially higher than that of their male counterparts (86 vs. 72 points), but we do not find sex differences in mean test scores among those who never served. Among youths who served, the substantially higher mean AFQT score of females than males is not surprising considering the significant differences in the distribution of educational attainment between males and females.[8] A second distinct sex difference is that among males, the mean test score is highest for veterans, intermediate for those who never served, and lowest for attriters; but among females, the mean score is highest for attriters,

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[7]See Chapter I for an explanation of this test score and the interpretation of this variable. Although the AFQT score may be highly correlated with educational attainment because of different quality of schooling and the different inherent intellectual ability of an individual AFQT may measure other things.

[8]Kim, et al. (1980) show that about a quarter of male service members as of 1979 are high school dropouts, while only 8 percent of female military personnel have not attained 12 years of schooling. However, the significantly higher mean AFQT scores of females who served and male veterans as compared with the mean scores of male and female civilians who never served are not readily explainable. The gaps of the mean scores between those who served and those who never served become even wider when we restrict the analysis by excluding college enrollees. Perhaps, the AFQT score may be an outcome variable rather than an input measure, where the service in the military contributed positively to this overall achievement test.

intermediate for veterans, and lowest for those who never served.

School Enrollment Rates Table 5.3 compares the school enrollment rates in 1980 among the three groups by sex. One fifth of the males and three tenths of the females who served are enrolled in college. Female college enrollment rates are about the same among the three groups. In contrast, only 17 percent of male attriters are enrolled in college as compared to 23 percent for veterans and 28 percent for the never served group. Considering that the mean educational attainment of males who served is lower than that of their female counterparts, the lower college enrollment rates for these groups than for the corresponding female groups are not surprising.[9] [10]

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[9]The college enrollment rates for those who served, particularly for veterans, may be somewhat underestimated because we did not control for an adjustment period: those who separated from the military just before their interview dates did not have sufficient time to go back to college. This suspicion is supported by the fact that only one third of male veterans who participated in VEAP were enrolled in college, while two thirds of male attriters who participated in VEAP were attending. The last column in Table 5.3 provides another piece of evidence of possible underestimation. Except for male attriters, a majority of males and females among those who served and are enrolled in colleges are attending their first year in college; thus, as the adjustment period becomes longer, a higher percentage of veterans may return to college.

[10]The lower college enrollment rates for male attriters than for male veterans may be attributable to different participation rates in the Veteran's Educational Assistance Program (VEAP). The participation rate in VEAP is 19 percent for male veterans, while it is only seven percent for male attriters; the corresponding figures for females are 17 and 12 percent, respectively.

Table 5.3 Proportion Enrolled in School Among Veterans, Attriters, and Civilians Who Never Served, by Sex: 1980[a]

Sex and veteran status	Total number (000s)	Percent enrolled			Percent with education >= 13
		Total	High school	College	
Male					
Veteran	155	23	0	23	16
Attriter	219	17	0	17	21
Never-served	9,975	38	10	28	29
Female					
Veteran	6	27	0	27	20
Attriter	52	29	0	29	4
Never-served	10,643	34	6	28	32

[a]Youth 18 to 23 years old.

Labor Force Status The labor force statuses on the interview date in 1980 are presented in Table 5.4. Because school enrollment may interrupt the labor market activities of youth, in the bottom panel of Table 5.4 we also present the same statistics excluding in-school youth from the universe. Except for female attriters, the labor force participation rates of those who served are higher than those of their civilian peers.[11] Among non-enrolled youth, in addition to female attriters, male veterans also show a slightly lower labor force participation rate.

Females who served experience particularly severe adverse labor market conditions in terms of employment/population ratios: only 54 percent of veterans and 37 percent of attriters are working in the labor market, while 62 percent of those who never served are employed. Males who served are, on the other hand, doing as well as their civilian counterparts; actually, the percentage employed is highest among veterans. Among those who are not enrolled in school, however, the employment/population ratios for both sexes are lower for those who served than for civilians who never served:[12] the percentage employed is higher for veterans, both males and females, than for attriters, and very similar patterns appear when we use a measure of full-time employment rather than total employment.

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[11]This finding is consistent with the Department of Labor statistics. The Employment and Training Report of the President (1980) shows a higher labor force participation rate for veterans than for non-veterans among 20 to 24 year old males during fiscal year 1979: 91 percent for veterans and 86 percent for non-veterans. The comparable figures from our data are: 89 percent for those who served and 82 percent for those who never served.

[12]As a corollary, this finding indicates that employment/population ratios among enrolled youth are much higher for those who served than for those who never served. As Table 5.3 shows, about ten percent of males and six percent of females who never served are enrolled in high school, while no veterans or attriters returned to high school. The exclusion of these high school students contributes significantly to the relative improvements of E/P ratios for civilians who never served.

Table 5.4 Comparison of Employment Status Among Veterans, Attriters, and Civilians Who Never Served, by Sex: 1980[a]

	Total number	% in labor force	% of population employed	% of population employed full time	% of population unemployed	Unemployment rate	% of population not in labor force
	Full universe						
Male							
Veterans	155	88.2	73.9	53.0	14.3	16.2	11.8
Attriters	219	89.7	67.7	54.4	22.0	24.5	10.3
Never-served	9,981	81.6	70.5	47.4	11.1	13.6	18.4
Female							
Veterans	6	75.1	53.9	41.7	21.2	28.2	24.9
Attriters	52	61.4	37.4	19.6	24.0	39.1	38.6
Never-served	10,649	72.1	62.0	36.8	10.1	14.0	27.9
	Those not enrolled in school						
Male							
Veterans	118	89.1	72.3	66.6	16.8	18.9	10.9
Attriters	181	97.3	71.7	59.9	25.6	26.3	2.7
Never-served	6,190	94.1	80.9	73.3	13.2	14.0	5.9
Female							
Veterans	4	82.8	56.4	53.5	26.4	31.9	17.2
Attriters	37	62.2	28.6	27.4	33.6	54.0	37.8
Never-served	7,074	76.7	65.1	52.3	11.6	15.1	23.3

[a]Youth 18 to 23 years old.

Veterans and attriters experience higher unemployment/population ratios than their civilian counterparts. Except for male veterans, unemployment/population ratios of those who served are more than twice as large as those of their civilian counterparts; among males, 11 percent of youth who never served are unemployed, while 14 percent of veterans and 22 percent of attriters are searching for jobs; among females, whereas 10 percent of the never-served cannot find jobs, 21 percent of the veterans and 24 percent of the attriters are looking for jobs. The unemployment rates of those who participate in the labor force, particularly among female attriters, are also higher. About four in ten female attriters and a quarter of male attriters are unemployed.

Thus, among males, the school (college) enrollment rates of those who served are generally lower than those of their civilian counterparts, while for females they are about the same for those who served and those who never served. The employment probabilities of male veterans and attriters are as high as those of never-served civilians. Much smaller proportions of female veterans and attriters than females who never served are employed, although the gap becomes somewhat smaller when we compare full-time employment rates. However, veterans and attriters of both sexes experience substantially higher

unemployment.[13] A somewhat higher percentage of males who served and a lower percentage of females who served participate in the labor force as compared to their civilian counterparts.

Labor Market Performance Among Non-enrolled Employed Youth

Next we restrict the universe to non-enrolled employed youth and compare the industry and occupational distributions, hourly wage rates, weekly hours of work, and job satisfaction among veterans, attriters, and civilians who never served.

Industry and Occupational Compositions Among males, we find similar distributions of industries among veterans, attriters, and those who never

[13]Although the unemployment rate may generally serve as a good proxy for labor market position, as indicated earlier, if the high unemployment rate for veterans and attriters is partially due to the fact that a higher proportion of veterans and attriters are eligible for unemployment insurance benefits, then the inference of a poorer labor market position for those who served as compared to those who never served needs to be qualified. As an indirect test, we compute the duration of unemployment (in weeks) and reservation wage rate of the unemployed (in dollars) and compare them among the three groups. The a priori expectation is that those who receive unemployment insurance may search longer periods and ask higher wages. As shown in the table, veterans

	Served			Never-served
	Total	Veterans	Attriters	
Male				
Duration	7.0	11.3	5.0	8.5
Reservation wage	6.04	5.47	6.30	4.46
Female				
Duration	2.6	9.6*	2.0*	6.7
Reservation wage	3.35	3.46*	3.34*	3.68

*May not be reliable due to small cell sizes.

have been searching for longer periods than other groups. Also, males who served ask higher wages than their civilian counterparts. While the above statistics may not provide sufficient information, they clearly indicate the need for careful interpretation of the inferences regarding the relative labor market positions.

served; trade and manufacturing are the two main industries (Table 5.5). On the other hand, we find dissimilar patterns among the three groups of females although the sample sizes are very small. Attriters are concentrated in trade and manufacturing, veterans are more diverse with the professions being the largest industry group, and the never-served are intermediate with more employed in trade and manufacturing than veterans and more in the professions than attriters.

Females are heavily concentrated in clerical and service occupations: about 43 percent of those who never served, 67 percent of veterans, and 54 percent of attriters are engaged in a clerical occupation, many of them presumably as secretaries. We do not observe such a disproportionate concentration of occupations among males, although we generally find similar occupational distributions among the three groups: crafts, operatives, laborers and services are the four principal occupations.

Earnings In evaluating labor market performance, perhaps the most important factors other than employment probability are the earnings and job satisfaction status of the employed. Earnings of the respondents are separated into two components: hourly wage rates and weekly hours of work. Table 5.6 presents the data for males. Both veterans and attriters earn lower hourly wages than the civilians who never served. On an hourly basis, veterans earn 18 cents (or three percent) less and attriters earn 49 cents (or nine percent) less than their civilian counterparts, who earn, on the average, $5.27.

While those who served earn lower wages, veterans usually work more hours per week than their civilian counterparts. Compared to those who never served, veterans work 2.1 more hours. Attriters, on the other hand, work three hours less per week than veterans. Therefore, in terms of weekly earn-

Table 5.5 Comparison of Distribution of Employment in One-Digit Industry and Occupation Among Veterans, Attriters, and Civilians Who Never Served, by Sex: 1980[a]

(Percentage distributions)

Industry and occupation	Male			Female		
	Veterans	Attriters	Never served	Veterans[c]	Attriters[c]	Never served
Industry						
Total percent[b]	100	100	100	100	100	100
Agriculture	1.0	1.2	4.7	0.0	0.0	0.7
Mining	1.4	4.3	1.3	0.0	0.0	0.4
Construction	7.4	10.1	13.4	0.0	0.9	1.5
Manufacturing	43.3	27.5	29.4	3.1	37.1	18.3
Transportation	6.0	2.6	5.0	15.2	1.2	2.7
Trade	16.2	20.9	26.4	4.8	55.3	29.5
Finance	1.9	0.7	2.4	2.4	0.6	11.4
Business	8.4	12.9	8.6	13.0	3.4	3.4
Personal services	1.2	4.9	1.9	13.3	0.9	6.5
Entertainment	9.8	0.0	0.9	5.1	0.0	0.8
Professional	2.6	8.8	3.9	28.0	0.0	21.2
Public administration	0.9	6.1	1.9	14.9	0.7	3.4
Occupation						
Total percent[b]	100	100	100	100	100	100
Professional	1.6	1.8	5.1	4.5	0.0	6.0
Managerial	10.6	0.0	5.6	0.0	0.8	3.6
Sales	5.0	0.6	2.6	6.5	0.6	5.5
Clerical	7.9	3.8	8.1	66.8	54.3	43.0
Crafts	27.3	28.2	23.5	0.0	0.9	1.4
Operatives	25.1	20.5	19.7	3.1	18.3	13.1
Transport	6.8	15.8	6.9	0.0	2.9	0.4
Laborers	11.0	13.2	15.9	3.1	17.8	1.9
Farmers	1.0	1.2	2.9	0.0	0.0	0.4
Services	3.6	15.0	9.4	16.0	4.4	24.3
Sample size, N	83	69	1,485	21	28	1,426

[a]Youth 18 to 23 years old, not enrolled in school.

[b]Due to a small number of NAs, the percentage distributions may not sum up to 100.

[c]Statistics may not be reliable due to small cell sizes.

ings, we do not find significant differences between veterans and civilians who never served; attriters earn less than these groups by about 12 percent. In sum, among non-enrolled employed males, if we focus only on short-run labor market consequences (i.e., earnings) of military service, we do not find that veterans are at a disadvantage relative to their civilian counterparts who never served, although the earnings of attriters are somewhat lower than those of other groups.

Table 5.6 also reports the mean values of selected variables generally considered to increase wage rates. Civilians who never served have longer tenure on their current jobs than those who served: the mean tenure is 17 months for civilians who never served, 13 months for attriters, and only five months for veterans. The longer tenure of attriters than veterans may be attributable to their considerably longer exposure in the civilian labor market. On average, as of the interview dates, veterans had returned to civilian life for about a year, while attriters had been back for two and one-half years. A higher percentage of attriters than other youth are covered by collective bargaining (probably a function of their concentration in manufacturing), the mean years of education are slightly lower for those who served as opposed to those who never served, and veterans had the highest AFQT scores.

Job Satisfaction Veterans and attriters are generally satisfied with their current jobs, but their degree of satisfaction is somewhat lower than that of civilians who never served.[14] A few notable differences among the three groups are that attriters are relatively less satisfied with the state-

[14]For a detailed description of the items of job satisfaction status, see the glossary. The discussion is also based upon the assumption that interpersonal satisfaction can be compared and that treating an ordinal scale as if it were a cardinal scale is appropriate.

Table 5.6 Mean Values and Standard Deviations (in parentheses) of Selected Characteristics Among Veterans, Attriters, and Civilians Who Never Served, Males: 1980[a]

	Veterans	Attriters	Never served
Hourly wages	5.09	4.78	5.27
	(2.05)	(1.69)	(2.31)
Weekly hours	43.20	40.04	41.14
	(13.07)	(14.56)	(9.90)
Tenure (in months)	5.30	12.68	16.51
	(5.59)	(21.58)	(18.26)
Experience[b]	12.49	30.80	28.52
	(9.09)	(18.32)	(19.36)
Education	11.37	11.29	11.77
	(1.39)	(1.37)	(1.63)
Age	21.81	21.32	20.48
	(.71)	(1.23)	(1.39)
Union	.27	.33	.27
	(.44)	(.47)	(.44)
AFQT	74.68	65.61	69.24
	(14.13)	(16.19)	(21.27)
Global job satisfaction	2.99	2.91	3.18
	(.76)	(.84)	(.70)
Best thing to do	3.04	2.85	3.12
	(1.02)	(.90)	(.85)
Pleasant surroundings	2.96	2.96	3.07
	(.99)	(.73)	(.88)
Learning skills	3.14	3.05	3.13
	(.80)	(1.01)	(.95)
Dangerous job	2.52	2.51	2.61
	(1.14)	(1.14)	(1.07)
Unhealthy conditions	3.04	3.04	3.03
	(1.09)	(1.18)	(1.04)
Good pay	2.73	2.77	2.93
	(.84)	(.86)	(.87)
Job security	2.67	2.95	3.18
	(1.11)	(.94)	(.88)
Friendly coworkers	3.61	3.50	3.66
	(.51)	(.60)	(.57)
Competent supervisor	3.43	3.52	3.53
	(.97)	(.75)	(.72)
Chance of promotion	2.78	2.86	2.90
	(1.02)	(1.05)	(.96)
Sample size, N	83	69	1,485

[a]Male youth 18 to 23 years old, not enrolled in school.
[b]Experience is the number of months since leaving the armed forces for veterans and attriters; for those who have never served, it is the number of months since leaving school.

ment "you are given a chance to do the things you do best," while veterans perceive that they have relatively less job security. Both veterans and attriters are less satisfied with their pay level than those who never served; this finding is consistent with the comparison of their current wage rates. With respect to the perceived chances of promotion, veterans are slightly less satisfied than their civilian counterparts.[15]

The results for females are significantly different from those for males (Table 5.7). Attriters are earning substantially more than veterans and those who never served. Not only do they earn higher wage rates, but they also work more hours per week than veterans and civilians who never served. The average hourly wage rate of attriters is 23 percent (or 94 cents) higher than the $4.03 of those who never served, and they work 41 hours per week as compared to 36 hours for the civilians. On the other hand, the hourly wage rate of veterans is four percent or 18 cents lower than that of those who never served, but the veterans are employed an average of 41 hours per week while employed civilians who never served work 36 hours. Consequently, veterans earn about 8 percent more and attriters 41 percent more than their civilian counterparts. One possible explanation for the disparity in wage rates between attriters and the other groups may be the heavy concentration of attriters in manufacturing, which typically pays high wages. More than a third of female attriters as opposed to three percent of veterans and 18 percent of civilians who never served (see Table 5.5) are employed in manufacturing.[16]

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[15]The reason that veterans are less contented with their chances of promotion may be because of their shorter job tenure and exposure period to civilian life.

[16]It is conceivable that self-selection may have played an important role in such consequences; that is, females who think that they can find such good

Table 5.7 Mean Values and Standard Deviations (in parentheses) of Selected Characteristics Among Veterans, Attriters, and Civilians Who Never Served, Females: 1980[a]

	Veterans[c]	Attriters[c]	Never served
Hourly wages	3.85	4.97	4.03
	(1.01)	(2.96)	(1.54)
Weekly hours	40.72	41.32	36.04
	(6.35)	(4.88)	(9.36)
Tenure (in months)	3.83	10.45	12.98
	(2.79)	(8.60)	(13.85)
Experience[b]	7.19	22.37	28.09
	(4.47)	(16.88)	(19.45)
Education	12.11	11.82	12.14
	(.32)	(.72)	(1.53)
Age	22.07	20.39	20.44
	(.67)	(1.41)	(1.43)
Union	.31	.22	.16
	(.47)	(.41)	(.37)
AFQT	82.77	71.82	72.38
	(12.70)	(15.70)	(18.23)
Global job satisfaction	2.89	2.74	3.26
	(.70)	(.88)	(.72)
Best thing to do	2.76	2.99	3.22
	(.88)	(.49)	(.82)
Pleasant surroundings	3.19	2.67	3.33
	(1.09)	(.84)	(.77)
Learning skills	2.61	2.73	3.17
	(1.08)	(.60)	(.93)
Dangerous job	3.50	3.14	3.38
	(.80)	(.63)	(.86)
Unhealthy conditions	3.83	2.58	3.41
	(.49)	(.91)	(.90)
Good pay	2.61	3.06	2.78
	(.88)	(.69)	(.89)
Job security	3.04	3.16	3.27
	(1.10)	(.59)	(.85)
Friendly coworkers	3.44	3.73	3.68
	(.87)	(.56)	(.58)
Competent supervisor	3.18	3.54	3.58
	(.97)	(.56)	(.69)
Chance of promotion	2.16	3.11	2.70
	(1.12)	(.72)	(1.03)
Sample size, N	21	28	1,426

[a]Female youth 18 to 23 years old, not enrolled in school.
[b]Experience is the number of months since leaving the armed forces for veterans and attriters; for those who have never served, it is the number of months since leaving school.
[c]Statistics may not be reliable due to relative small cell sizes.

An examination of the other variables presented in Table 5.7 provides other clues as to why attriters earn higher wage rates. The mean values for tenure and experience are substantially higher for attriters than for veterans, as was the case for males, but they are lower than those for civilians who never served.[17] More veterans and attriters are covered by collective bargaining, veterans have particularly high AFQT scores, and mean educational attainment is about the same for all three groups.

Although the women are generally satisfied with their jobs, the degree of job satisfaction is somewhat lower among veterans and attriters than civilians who never served. Attriters are more satisfied with the "pay" and considerably less satisfied with their "surroundings" and "unhealthy conditions" than their peers, which may imply that the high wage rates of attriters may be attributable to the components of compensating wage differentials for working in less pleasant physical surroundings. Veterans perceive less chance for promotion as compared to other groups, which may reflect their short tenure on the jobs; and both veterans and attriters are less certain than their civilian counterparts that the skills they are learning will be valuable in getting a better job.

A MULTIVARIATE ANALYSIS OF THE DETERMINANTS OF WAGES

Although the descriptive statistics presented above reveal important

civilian alternatives are more likely to leave the military before the end of their term of service. Among females, the average hourly wage rates of the nonenrolled employees in manufacturing are $7.69 for attriters, $5.50 for veterans, and $4.19 for those who never served. The comparable figures among males are $5.98, $5.38, and $5.66, respectively.

[17]Because of the different construction, the experience variable is not directly comparable between those who served and those who never served. That is, the experience variable is defined as number of months since leaving military service for veterans and attriters and number of months since leaving school for those who have never served in the armed forces.

differences in the characteristics of the three groups, the information is insufficient to explain what leads to differences in earnings. Here we examine, first, whether or not individuals with similar characteristics receive different wages if they served in the military and second, how the earnings paths of the three groups compare as the period of post-service civilian life increases. We use a multivariate least squares regression model to estimate the log of wages separately for nonenrolled employed males and females age 18-23.

A simple version of the equation is presented in Table 5.8. The explanatory variables include age, veteran status, AFQT score, educational attainment, coverage by collective bargaining, race, region of the country and living in an SMSA (see glossary).[18] Our purpose is to see whether or not significant wage differences appear among veterans, attriters, and those who never served.

We find that the estimated coefficients for Veteran are statistically non-significant at conventional significance levels for both males and females, while the coefficient for Attriter in the female equation shows, in contrast to our cross tabular data, a negative sign. Table 5.8 examines the sign and significance of the coefficients of Veteran and Attriter without controlling for important factors in wage determination such as experience and

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[18]Heckman (1979) shows that the conventional method of wage estimation yields a specification error because the expected value of disturbance terms conditional upon sample selection rules is not necessarily zero. In order to account for the selectivity bias, he suggests estimating a probit equation for the probability of being included in the sample. The censoring bias then may be corrected by including an additional explanatory variable, λ : $\lambda = f(z)/F(z)$, where $f(z)$ and $F(z)$, respectively, represent the standard normal density and cumulative distribution functions of the probit estimation. This λ (Lambda) is included in Tables 5.8, 5.9, and 5.10. The probit estimates for employment probability, which are used to compute λ, appear in Appendix Table 1.

Table 5.8 Least Squares Estimates of Log of Wage Equations for 18 to 23 Year Old, Non-Enrolled, Employed Youth, by Sex

Variable	Male		Female	
	Coefficient	t-stat.	Coefficient	t-stat.
Constant	5.1590	26.73**	4.8842	27.88**
Age	.0477	6.57**	.0348	4.82**
Education	.0033	.44	.0038	.39
AFQT score	.1119	1.63	.3481	4.65**
Union	.2114	9.75**	.1591	6.22**
South	-.0872	-3.57**	-.0529	-2.49**
SMSA	.0560	2.55**	.0560	2.49**
White	-	-	-	-
Hispanic	-.0025	-.09	.0410	1.38
Black	-.0358	-1.18	.0705	2.21**
Never served	-	-	-	-
Veteran	-.0558	-1.27	-.1023	-1.21
Attriter	-.0831	-1.70*	-.1561	-2.23**
Lambda	-.2886	-3.03**	-.0300	-.50
$\bar{R}^2$	.1651		.0868	
S.E.E.	.3552		.3505	
N	1373		1338	

**Significant at 0.025, one-tailed test.
* Significant at 0.05, one-tailed test.

tenure; these variables are omitted because, to a certain extent, they differentiate the three groups. In this scheme, the qualitative variables Veteran and Attriter capture the overall main effects which distinguish persons in these categories from those who did not serve. The coefficients of Veteran and Attriter are negative for both males and females, indicating that, other things being equal, veterans and attriters receive lower wages than civilians who never served. The larger coefficients of Veteran than Attriter further suggest that attriters receive lower wages than veterans.[19]

In order to examine whether or not those who served are at a disadvantage due to their short adjustment period in civilian life, we introduce an adjustment period variable (and its quadratic term). Since Attriters have longer adjustment periods than Veterans, these variables are entered separately (Table 5.9).

For males, we find a statistically significant negative coefficient for Veteran and a significant positive impact of the adjustment period on wage rates among veterans. The equation predicts that the wage rate of a male veteran who just left the military service is about 23 percent lower than that of a civilian who never served when the two individuals have identical characteristics. As the adjustment period grows, however, veteran's wages improve relative to those who never served. Parity in wage rates between male veterans and civilians who never served will be achieved after veterans have about ten months of civilian adjustment period. Further, the model predicts

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[19]The negative coefficients of λ (lambda) indicate that the imputed wages or shadow prices of time for those who are not working are lower than the wages of working persons. However, the coefficient is significant only for the male equation but not for the female equation, implying that (possible) differences in (unobserved) characteristics between those who are working and the non-working persons are statistically significant for males but are not statistically significant for females.

Table 5.9 Least Squares Estimates of Log of Wage Equations for 18 to 23 Year Old, Non-Enrolled, Employed Youth, by Sex

Variable	Male		Female	
	Coefficient	t-stat	Coefficient	t-stat
Constant	5.1545	26.67**	4.8934	28.00**
Age	.0479	6.58**	.0339	4.70**
Education	.0032	.43	.0044	.46
AFQT score	.1124	1.64	.3496	4.68**
Union	.2109	9.73**	.1543	6.04**
South	-.0889	-3.64**	-.0488	-2.30**
SMSA	.0556	2.53**	.0550	2.45**
White	-	-	-	-
Hispanic	-.0022	-.08	.0405	1.36
Black	-.0356	-1.17	.0633	1.98**
Never served	-	-	-	-
Veteran	-.2280	-2.12**	-.0163	-.05
Attriter	-.0785	-.79	.0690	.34
Adj-veteran	.0345	2.03**	-.0086	-.11
$(\text{Adj-veteran})^2$	-.0011	-2.19**	-.0004	-.09
Adj-attriter	.0018	.21	-.0382	-1.87*
$(\text{Adj-attriter})^2$	-.0001	-.42	.0010	2.76**
Lambda	-.2879	-3.02**	-.0269	-.45
$\bar{R}^2$		.1659		.0934
SEE		.3550		.3492
N		1373		1338

**Significant at .025, one-tailed test.
* Signifcant at .05, one-tailed test.

that the wage rate of a veteran who has 15.5 months of adjustment is higher than that of a comparable civilian who never served by about 4 percent. However, after that point, the wage growth rate of veterans slows so that another parity in wage rates between veterans and civilians is attained after 21 months of adjustment period.[20] On the other hand, neither Attriter nor the adjustment period variable produce statistically significant coefficients for the case of attriters, although the signs of the coefficients are the same as for veterans.

Unlike the estimates for veterans, the predicted wage rate for an attriter does not catch up with that of the civilian who never served. Initially, the attriter receives about 8 percent lower wage rate than the civilian and the gap narrows slightly as the adjustment period increases: after 14 months of adjustment period, the wage gap narrows to 6 percent but it rises to 7 percent at 25 months.

A remarkably different pattern is found for females: when they leave the service veterans and attriters do not have wage rates that are significantly different from those of civilians who never served. In contrast to the case for males, the adjustment period exerts a significant impact on the wage rate for female attriters but not for veterans. The wage rate of attriters declines relative to females who never served as the adjustment period increases. The initial seven percent wage rate premium of attriters relative to that of civilians dwindles to parity in wage rates after two months of adjustment period. In 18 months of adjustment period, the wage rate of attriters is lower than that of their civilian counterparts by about 25 percent, but from then on the wage rates of attriters grow faster, and another parity is

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[20]The projections are derived from the solutions of the quadratic equation of the adjustment period variable and the indicator variable for a veteran.

achieved in about three years.[21]

SUMMARY OF FINDINGS AND POLICY IMPLICATIONS

We find substantially higher mean AFQT scores for females who served, which may reflect the high standards for enlistment for females. Among males, the mean AFQT score of veterans is higher than that for civilians who never served, and the score of attriters is the lowest among the three groups.[22]

Among females, college enrollment rates are about the same among veterans, attriters, and civilians and among males it is lowest for attriters, intermediate for veterans, and highest for the never-served civilians. The relatively higher college enrollment rates of the females than of the males who served are regarded as consistent with the implications from the comparison of the AFQT scores.

The proportion of the population employed is lower for female attriters than for other groups, and a higher percentage of female attriters is unemployed or out of the labor force. Among males, the unemployment rate for attriters is higher than for other groups.

Comparisons of the labor market performances among the nonenrolled show that the weekly earnings of male veterans are about the same as those of

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[21]On the other hand, as compared with civilians who never served, veterans receive about 2 percent lower wage rates at the time they left the armed services. As the adjustment period increases, the wage gap between a veteran and a civilian who never served does not converge. None of these effects are statistically significant, however.

[22]Also, the AFQT findings leads to the conjecture that the reasons for attrition differ between males and females; the argument that attriters are "misfits" who presumably cannot adequately perform the assigned military tasks due to their lower quality may be relevant for males but not for females. Female attriters may be those who left the armed services due to personal problems like pregnancy, or those who initiated separation from the military because they perceived better civilian alternatives.

civilians who never served, while the earnings of attriters are somewhat lower. Male veterans receive slightly lower wage rates than their civilian counterparts, but they work slightly more hours. Female attriters earn substantially more than veterans and those who never served. Not only do they earn higher wage rates but they also work more hours per week than other groups. Like males, female veterans earn a slightly lower wage rate but work more hours than their civilian counterparts.

In order to examine whether or not veterans and attriters are treated differently from civilians who never served with similar characteristics, a log wage equation was estimated. We find that male veterans are at a disadvantage relative to other male groups; but no significant differences in wage rates appear between female groups. When a post-service adjustment period is introduced into the equation, it predicts that the initial deficit in wage rates for male veterans decreases and parity will be achieved as the adjustment period increases to ten months. For female attriters, the wage growth pattern is significantly different. Initially, at the time of separation from the military, female attriters earn non-significantly higher wages than civilian peers. However, as the adjustment period increases, their wage rates grow more slowly for about 18 months and they fall behind the civilians but then recover so their wage rates are predicted to be at parity in about three years.

To conclude, male veterans are earning about the same as never-served civilians, while male attriters earn less than other groups: this finding implies that service in the military does not serve as a career interruption if enlistees fulfill their contracted terms of duty. It also indicates that the argument that attriters are "misfits" is, to a certain extent, relevant for males.

Appendix Table 1 Probability of Employment for 18 to 23 Year Old, Non-Enrolled Youth, by Sex

Variable	Female		Male	
	Coefficient	t-stat.	Coefficient	t-stat.
Constant	-2.0795	-9.89	-.8895	-4.11
Education	.1677	8.45	.0812	3.84
AFQT score	1.1034	5.72	.5314	2.76
Parental education	-.0101	-.96	.0048	.43
Health	-.6867	-7.16	-.5758	-4.43
Married	-.4843	-8.13	.4586	5.17
South	.0335	.52	.2353	3.35
SMSA	.0987	1.55	.0966	1.38
White	-	-	-	-
Hispanic	.1101	1.23	.0087	.09
Black	-.3501	-4.41	-.1931	-2.30
(-2.0)*log likelihood ratio		435.31		133.87
N		2349		1966
N (P = 1)		1338		1373
N (P = 0)		1011		593

Glossary

Adj-Attriter (Adj-Veteran)	Number of months since leaving military service for veterans and attriters.
AFQT	Is the sum of the respondent's correct scores for the arithmetic reasoning, word knowledge, paragraph comprehension, and (1/2) numerical operations sections of the Armed Service Vocational Battery: 0-105.
Age	Age (in years) of respondent.
Attitudes toward military service	Is equal to one if the respondent thinks that military service is definitely or probably a good thing for a young person; zero, otherwise.
Branch of service	Branch (Army, Air Force, Navy, Marines) of service in the active forces.
Educational aspirations	Number of years of regular schooling that the respondent desires to complete.
Educational expectations	Number of years of regular schooling that the respondent expects to complete.
Education of parent	Highest number of years of regular schooling completed by the respondent's mother or father.
Education of respondent	Number of years of regular schooling completed by the respondent.
Employment status	Employment status (employed, unemployed, not in labor force) of the respondent during the survey week.
Enlistment intentions	Is equal to -2 if respondent definitely will not try to enlist in the future; (-1) if he/she probably will not; (0) if indeterminant; (1) if he/she probably will try; and (2) if he/she definitely will try to enlist or if he/she is in Delayed Entry Program.
Full-time employed	Youth employed full-time but not enrolled as high school or full-time college students.
Health status	Is equal to one if a health problem limits the amount or kind of work that the respondent can perform; zero, otherwise.
Hourly wages	Respondent's hourly rate of pay (in cents) at current (1980) job.

Industry	One-digit industry code for the respondent's current (1980) job.
Intentions to enlist	Is equal to one if the respondent thinks that he/she will definitely or probably try to enlist in the future; zero, otherwise. (Chapter IV)
Job satisfaction	
Overall satisfaction with service	Response to question, "Now, taking all things together, how satisfied are you with the (branch)--(4) very satisfied, (3) somewhat satisfied, (2) somewhat dissatisfied, or (1) very dissatisfied?" (Chapter IV)
Global job satisfaction	Response to question, "How do you feel about the job you have now? Do you (4) like it very much, (3) like it fairly well, (2) dislike it somewhat, or (1) dislike it very much?" (Chapter V)
Other job satisfaction variables	Response to question, "Thinking of your present job, would you say this (statement) is (4) very true, (3) somewhat true, (2) not too true, or (1) not at all true?" (Chapter V)
Best thing to do	"You are given a chance to do the things you do best..."
Pleasant surroundings	"The physical surroundings are pleasant..."
Learning skills	"The skills you are learning would be valuable in getting a better job..."
Dangerous	"The job is dangerous..." (invert numbered ordering)
Unhealthy conditions	"You are exposed to unhealthy conditions..." (invert numbered ordering)
Good pay	"The pay is good..."
Job security	"The job security is good..."
Friendly coworkers	"Your coworkers are friendly..."
Competent supervisor	"Your supervisor is competent in doing the job..."
Chance of promotion	"The chances for promotion are good..."
Knowledge of the world of work	An ability measure based on scores that range from zero (lowest) to nine (highest) and indicate the respondent's understanding of occupational structure.

Length of formal school or on-the-job training	Number of months of formal training or on-the-job training that the respondent received for MOS/RATING/AFSC.
Main reason enlisted	The reason given by the respondent as the main reason for enlisting in the armed forces.
Main reason did not enlist	The reason given by the respondent as the main reason for not enlisting in the armed forces.
Marital status	Is equal to one if the respondent is married (spouse present) at the 1980 interview; zero, otherwise.
Married	Is equal to one if the respondent was ever married before leaving military service; zero, otherwise. (Chapter IV)
Military status	
Attriters	Youth who left the military service before completing their term of duty.
Veterans	Youth who left the military service after completing their term of duty.
Ever served	Youth who are attriters or veterans.
Never served	Youth who have never served in the active armed forces.
Occupation	One-digit occupation code for the respondent's current job.
Occupation of parent	One-digit occupation code (further condensed) for the job of the respondent's father or mother.
Parents in the military	Is equal to one if the respondent's mother or father is currently serving in the military or served when the respondent was age 14; zero, otherwise.
Poverty status	Is equal to one if the respondent's family income is below the poverty level, as determined by the standards devised by the Current Population Survey, or by the Office of Management and Budget if family income is not available; zero, otherwise.
Presence of a Child	Is equal to one if the respondent ever had a child before leaving military service; zero, otherwise.
Region	Respondent's region of residence at the 1980 interview.

Siblings	Number of siblings plus one to include respondent.
Single parent family	Is equal to one if the respondent did not live with both natural parents at age 14; zero, otherwise.
SMSA	Is equal to one if the respondent resides in an SMSA.
South	Is equal to one if the respondent resides in the South.
Talked to recruiters	Is equal to one if the respondent talked to a military recruiter to get information about a branch of the military since the 1979 interview; zero, otherwise.
Tenure	Number of months of tenure at current (1980) job.
Took the ASVAB	Is equal to one if the respondent took the three-hour written test called ASVAB that is required to enter the military since the 1979 interview; zero, otherwise.
Traditional attitude	Is the respondent's response to the statement, "A working wife feels more useful than one who doesn't hold a job." Strongly disagree (-2), disagree (-1), undecided (0), agree (1), strongly agree (2).
Training	Is equal to one if the respondent desires occupational or job training other than regular schooling; zero, otherwise.
Unemployment rate	Is the race-sex specific state unemployment rate for the respondent's residence.
Union	Is equal to one if the respondent's wages are set under a collective bargaining agreement; zero, otherwise.
V.E.A.P.	Is equal to one if the respondent participates in Veterans Educational Assistance Program; zero, otherwise.
Weekly hours	Number of hours per week that the respondent usually works.

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National Longitudinal Survey

Youth Questionaire: Military Section

1980

BEGIN DECK 06

10-13/R

SECTION 5: MILITARY

And now I'd like to ask some questions about military service.

1. INTERVIEWER: WAS R SERVING IN THE MILITARY AT TIME OF LAST INTERVIEW? SEE INFO SHEET, Item 6.

YES . (SKIP TO Q. 11, P. 5-3).	1	14/
NO	0	

---

2. Since (DATE OF LAST INTERVIEW) have you enlisted or been sworn into any branch of the Armed Services, including the National Guard, the Reserves, or a Delayed Entry Program, before entering active duty?

Yes . (SKIP TO Q. 38, P. 5-8)..	1	15/
No	0	

---

3. Since (DATE OF LAST INTERVIEW) have you taken the three-hour written test called the ASVAB that is required to enter the military?

Yes	1	16/
No	0	

---

4. Since our last interview, have you talked to a military recruiter to get information about a branch of the military?

Yes	1	17/
No . (SKIP TO Q. 10, P. 5-3).	0	

---

5. What branches of the armed forces did you talk to? CODE ALL THAT APPLY.

ARMY	01	18-19/
NAVY	02	20-21/
AIR FORCE	03	22-23/
MARINE CORPS	04	24-25/
ARMY RESERVES	05	26-27/
NAVY RESERVES	06	28-29/
AIR FORCE RESERVES	07	30-31/
MARINE CORPS RESERVES	08	32-33/
AIR NATIONAL GUARD	09	34-35/
ARMY NATIONAL GUARD	10	36-37/
COAST GUARD	11	38-39/
OTHER	12	40-41/

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6. Since (DATE OF LAST INTERVIEW), have you taken the physical examination required to enter the military?

Yes	1	42/
No .... (SKIP TO Q. 9) ...	0	

7. Which service were you trying to join when you took the physical exam? CODE ALL THAT APPLY.

ARMY	01	43-44/
NAVY	02	45-46/
AIR FORCE	03	47-48/
MARINE CORPS	04	49-50/
ARMY RESERVES	05	51-52/
NAVY RESERVES	06	53-54/
AIR FORCE RESERVES	07	55-56/
MARINE CORPS RESERVES	08	57-58/
AIR NATIONAL GUARD	09	59-60/
ARMY NATIONAL GUARD	10	61-62/
COAST GUARD	11	63-64/
OTHER	12	65-66/

A. When did you take the physical exam?

						67-68/
MONTH		DAY		YEAR		69-70/ 71-72/

8. Did you meet the physical requirements for enlisting in the (BRANCH FROM Q. 7/the service you were trying to join most recently)?

Yes	1	73/
No ... (SKIP TO SECTION 6)	0	

9. What is the main reason you did not enlist in the (BRANCH FROM Q. 5 OR Q.7/the service you were trying to join most recently)? PROBE: What is the one main reason? CODE ONE ONLY.

HAND CARD A

A. Job I wanted wasn't available when I wanted it	01	74-75/
B. Didn't qualify for job I wanted	02	
C. Wasn't eligible for the service I wanted	03	
D. Specific bonus program filled	04	
E. Have not decided yet	05	
F. Didn't think I'd like the military	06	
G. Decided to go to school	07	
H. Got a better civilian job	08	
I. Failed the ASVAB	09	
J. Family responsibilities/pregnancy	10	
K. Still considering joining	11	
L. Length of obligation	12	
M. Didn't want to leave home	13	
N. Parents or friends opposed it	14	
O. Insufficient pay or benefits	15	
P. Other (SPECIFY) _____	16	

10. A. Do you think for a young person to serve in the military is ...

definitely a good thing, ...	1	76/
probably a good thing, ...	2	
probably not a good thing, or ...	3	
definitely not a good thing?	4	
DON'T KNOW	8	

B. Do you think, in the future, that you will ...

definitely try to enlist, ...	1	77/
probably try to enlist, ...	2	
probably not try to enlist, or . (SKIP TO SECTION 6) ..	3	
definitely not try to enlist in the military? ..... (SKIP TO SECTION 6) ..	4	

C. In which service do you think you will be most likely to enlist?

Army	1	78/
Navy	2	
Air Force	3	
Marines	4	
Reserves (any component)	5	
National Guard (Army or Air)	6	
Coast Guard	0	

NOW SKIP TO SECTION 6

BEGIN DECK 07 10/R

11. Are you currently serving in (BRANCH FROM ITEM 7 OF INFO SHEET)?

Yes ..... (ANSWER A)	1	11/
No ..... (GO TO Q. 12)	0	

A. IF YES: INTERVIEWER, WAS R IN ACTIVE FORCES (ARMY, NAVY, AIR FORCE, MARINES) DURING THIS PERIOD OF SERVICE? (SEE ITEM 8 ON INFO SHEET.)

YES ... (DRAW A LINE ON ROW A OF CALENDAR FROM DATE OF LAST INTERVIEW TO NOW, AND . SKIP TO Q. 43, P. 5-9)	1	12/
NO ..... (SKIP TO Q. 43, P. 5-9)	0	

12. We'd like to ask you a few questions about your service in the (BRANCH) since (DATE OF LAST INTERVIEW).

In what month and year did you separate from the (BRANCH)?

MONTH AND YEAR 19 ☐☐ 13-14/ 15-16/

A. INTERVIEWER: WAS R IN ACTIVE FORCES (ARMY, NAVY, AIR FORCE, MARINES) DURING THIS PERIOD OF SERVICE? SEE ITEM 8 ON INFO SHEET.

YES ..... (ASK B)	1	17/
NO .... (GO TO Q. 13)	0	

IF YES TO A, ASK B:

B. On what day was that? ENTER DAY HERE AND RECORD DATE ON ROW A OF CALENDAR. DRAW A LINE FROM DATE OF LAST INTERVIEW TO DATE SEPARATED.

DAY ☐☐ 18-19/

13. What was your pay grade when you left the (BRANCH)?

E ☐☐
O ☐☐
W ☐☐ 20-22/

14. INTERVIEWER: WAS R SERVING IN ACTIVE FORCES AT TIME OF LAST INTERVIEW? SEE ITEM 8 ON INFO SHEET.

YES .... (SKIP TO Q. 19) .. 1
NO 0 23/

15. Since (DATE OF LAST INTERVIEW), how many drills were you paid for? By drill we mean a 4-hour period of training.

ENTER # OF DRILLS: ☐☐ 24-25/

16. How many weeks of active duty did you serve in the (Reserves/Guard) since (DATE OF LAST INTERVIEW), including initial training, annual training, and any mobilizations or call-ups?

ENTER # OF WEEKS: ☐☐ 26-27/

17. What type of discharge did you receive? RECORD VERBATIM AND CODE ONE ONLY.

HONORABLE 1 28/
GENERAL 2
UNDER OTHER THAN HONORABLE CONDITIONS 3
BAD CONDUCT (DCD) 4
DISHONORABLE 5
WAS NOT FORMALLY DISCHARGED. 6

18. Since (DATE OF LAST INTERVIEW), have you enlisted or been sworn into any other branch of the Armed Services?

Yes .. (SKIP TO Q. 38) 1 29/
No ... (SKIP TO Q. 108) 0

19. When you left the (BRANCH), what was your total monthly pay before taxes and other deductions? Please include basic pay and allowances for housing or food and any special pay.

$ ☐☐, ☐☐☐ 30-34/

20. A. FOR ARMY AND MARINE CORPS:

Since you left the (BRANCH), have you used any of the skills from your primary or secondary MOS in a civilian job?

Yes	1	35/
No	0	
IF VOLUNTEERED: No civilian job	2	

B. FOR NAVY:

Since you left the (BRANCH), have you used any of the skills from your primary or secondary rating in a civilian job?

Yes	1	36/
No	0	
IF VOLUNTEERED: No civilian job	2	

C. FOR AIR FORCE:

Since you left the (BRANCH), have you used any of the skills from your primary or secondary AFSC in a civilian job?

Yes	1	37/
No	0	
IF VOLUNTEERED: No civilian job	2	

---

21. Since (DATE OF LAST INTERVIEW), while you were in the (BRANCH), did you take any courses for which you received high school or college credit?

Yes	1	38/
No ....(SKIP TO Q. 25)	0	

---

22. Since (DATE OF LAST INTERVIEW), while you were in the (BRANCH), how many years of regular school did you complete and get credit for?

LESS THAN ONE	0	39/
ONE YEAR	1	
TWO YEARS	2	
THREE OR MORE YEARS	3	

---

23. Since (DATE OF LAST INTERVIEW), while you were in the (BRANCH), did you receive a diploma or degree?

Yes	1	40/
No ....(SKIP TO Q. 25)	0	

24. What type of diploma or degree did you receive? RECORD VERBATIM AND CODE ONE ONLY.

_____

_____

_____

HIGH SCHOOL DIPLOMA (OR EQUIVALENT) .	01	41-42/
ASSOCIATE/JUNIOR COLLEGE (AA)	02	
BACHELOR'S DEGREE	03	
MASTER'S DEGREE	04	
DOCTORAL DEGREE (PhD)	05	
PROFESSIONAL DEGREE (MD, LLD, DDS) .	06	
OTHER (SPECIFY): _____	07	

25. Since (DATE OF LAST INTERVIEW), while you were in the (BRANCH), did you participate in the Veteran's Education Assistance Program (VEAP)?

Yes	1	43/
No ....(SKIP TO Q. 28)	0	

26. When you left the (BRANCH), what was the total amount of VEAP benefits you had accumulated? Please include both your contribution and the government's.

$ ☐☐ , ☐☐☐ 44-48/

27. Are you currently using your VEAP benefits to pay for schooling?

Yes	1	49/
No	0	

28. Did you leave the (BRANCH) at the <u>end</u> of your term of service or <u>before</u> the end of your term of service?

Left at end (SKIP TO Q. 30)...	1	50/
Left before end	2	

29. What type of discharge did you receive? RECORD VERBATIM AND CODE ONE ONLY.

HONORABLE	1	51/
GENERAL	2	
UNDER OTHER THAN HONORABLE CONDITIONS	3	
BAD CONDUCT (DCD)	4	
DISHONORABLE	5	
WAS NOT FORMALLY DISCHARGED.	6	

BEGIN DECK 08

30. Which of the reasons on this card describe why you decided to leave the (BRANCH)? CODE ALL THAT APPLY.

HAND CARD B

A.	Low pay and allowances	01	10-11/
B.	Better civilian job opportunities	02	12-13/
C.	Reduction in military benefits	03	14-15/
D.	Decline in quality of military personnel	04	16-17/
E.	Unable to practice my job skills	05	18-19/
F.	Bored with my job or occupation	06	20-21/
G.	Don't like my job or occupation	07	22-23/
H.	Plan to continue my education or to use G.I./VEAP benefits	08	24-25/
I.	Not eligible to reenlist	09	26-27/
J.	Dislike location of my assignments	10	28-29/
K.	Didn't get desired type of training	11	30-31/
L.	Had to move too often	12	32-33/
M.	Dislike being separated from my family	13	34-35/
N.	My family wants me to leave the service	14	36-37/
O.	Disagree with personnel policies	15	38-39/
P.	Discrimination against military personnel based on race	16	40-41/
Q.	Discrimination against military personnel based on sex	17	42-43/
R.	Discrimination against military personnel based on rank	18	44-45/
S.	Other (SPECIFY) _____	19	46-47/
	DON'T KNOW	98	48-49/

31. At the time you left the (BRANCH), had you been offered a civilian job?

Yes	1	50/
No	0	

32. When you left the (BRANCH), were you at a military base in the U.S., at a U.S. port of entry from overseas, or someplace else?

U.S. military base	1	51/
U.S. Port of Entry	2	
Someplace else (SKIP TO Q. 34)	3	

33. What state was that in?

_____ STATE 52-53/

34. INTERVIEWER: DID R LEAVE BEFORE THE END OF TERM OF SERVICE? (IS Q. 28 CODED 2?)

YES (SKIP TO Q. 108, P. 5-22)	1	54/
NO	0	

35. At the end of your term of service, were you eligible to reenlist?

Yes	1	55/
No	0	
DON'T KNOW	8	

36. Did you consider reenlisting in the (BRANCH)?

Yes	1	56/
No	0	

37. Are you currently a member of the Selected Reserves and receiving pay for drill participation?

Yes .... (ASK A)	1	57/
No ..... (SKIP TO Q. 108)	0	

A. IF YES: In what month and year will your service in the Selected Reserves end?

MONTH ☐☐ 58-59/

AND

YEAR 19☐☐ 60-61/

38. Which branch were you sworn into? CODE ONE ONLY. (IF MORE THAN ONE, PROBE FOR MOST RECENT BRANCH.)

ACTIVE FORCES	ARMY ..... (ASK A)	01	62-63/
	NAVY ..... (ASK A)	02	
	AIR FORCE ..... (ASK A)	03	
	MARINE CORPS ..... (ASK A)	04	
RESERVES	ARMY RESERVES	05	
	NAVY RESERVES	06	
	AIR FORCE RESERVES	07	
	MARINE CORPS RESERVES	08	
GUARD	AIR NATIONAL GUARD	09	
	ARMY NATIONAL GUARD	10	
	COAST GUARD .... (SKIP TO SECTION 6)	11	
	OTHER (SPECIFY BELOW AND SKIP TO SECTION 6)	12	

IF CODES 01-04, ASK A:

A. Was that in the regular (BRANCH OF SERVICE), the (BRANCH) Reserves, or the (BRANCH) Guard?

Regular	1	64/
Reserves/Guard	2	
BOTH (PROBE FOR AND CODE Q. 38 FOR THE MOST RECENT BRANCH)	3	

INTERVIEWER: IF RESERVES OR GUARD, CHECK Q. 38, BE SURE THAT THE PROPER CODE IS CIRCLED ABOVE.

39. When you first enlisted [in the (MOST RECENT BRANCH)], how many years (of active duty) did you sign up for?

ENTER # OF YEARS: ☐☐ 65-66/

40. INTERVIEWER: SEE Q. 37 AND CODE BELOW:

Q. 37 IS CODED "YES" . (GO TO Q. 41)	1	67/
Q. 37 IS BLANK ..... (ASK A)	2	

A. IF CODED 2: Are you currently (on active duty/serving) in the (MOST RECENT BRANCH)?

Yes	1	68/
No . (SKIP TO Q. 99, P. 5-20)	0	

41. In what month and year did you enter the (MOST RECENT BRANCH)?

MONTH ☐☐ 69-70/

YEAR 19☐☐ 71-72/

A. INTERVIEWER: DID R ENTER THE ACTIVE FORCES? (Q. 38, CODES 01-04)

YES 1 73/

NO ... (GO TO Q. 42) 0

IF YES TO A, ASK B:

B. On what day was that? ENTER DAY HERE AND RECORD DATE ON CALENDAR, ROW A. DRAW A LINE FROM DATE ENTERED TO NOW.

DAY: ☐☐ 74-75/

---

42. In what month and year will your current enlistment end?

MONTH ☐☐ 76-77/

AND

YEAR 19☐☐ 78-79/

SKIP TO Q. 47

BEGIN DECK 09

---

43. Since (DATE OF LAST INTERVIEW), did you reenlist or extend your term of service?

Yes 1 10/

No ... (SKIP TO Q. 47) 0

---

44. How many years did you reenlist or extend for?

ENTER # OF YEARS: ☐☐ 11-12/

---

45. Did you receive a reenlistment bonus?

Yes 1 13/

No .... (SKIP TO Q. 47) 0

---

46. What was the total amount before taxes and deductions of the bonus you received?

$☐☐,☐☐☐.00 14-18/

---

47. INTERVIEWER: IS R CURRENTLY IN ACTIVE FORCES? [Q. 38 = CODES 01-04, OR ITEM 8 ON INFO SHEET WAS ACTIVE FORCE BRANCH AND Q. 11A = YES]

YES ... (SKIP TO Q. 63) 1 19/

NO 0

48. Since [(DATE OF LAST INTERVIEW)/you joined the (BRANCH)], how many drills were you paid for? By drill we mean a 4-hour period of training.

ENTER # OF DRILLS: ☐☐ 20-21/

---

49. How many weeks of active duty did you serve in the (Reserves/Guard) since [(DATE OF LAST INTERVIEW)/you joined the (BRANCH)], including initial active duty training, annual training or summer camp, and any mobilizations or call-ups?

ENTER # OF WEEKS: ☐☐ 22-23/

OR

NO WEEKS ..(SKIP TO Q. 55)... 00

---

50. OMITTED

---

51. What were you doing most of the time the month before you entered the most recent period of active duty in the (Reserves/Guard)? Were you working full time, working part time, going to school, or something else? RECORD VERBATIM AND CODE ONE ONLY.

Working full time	01
Working part time	02
WITH A JOB BUT NOT AT WORK BECAUSE OF TEMPORARY ILLNESS, VACATION, STRIKE	03
UNEMPLOYED, LAID OFF, LOOKING FOR WORK	04
Going to school	05
KEEPING HOUSE	06
Something else (SPECIFY)	07

24-25/

---

52. What were you doing most of the time the month after you completed your most recent period of active duty in the (Reserves/Guard)? RECORD VERBATIM AND CODE ONE ONLY.

WORKING FULL TIME		01
WORKING PART TIME		02
WITH A JOB BUT NOT AT WORK BECAUSE OF TEMPORARY ILLNESS, VACATION, STRIKE		03
UNEMPLOYED, LAID OFF, LOOKING FOR WORK	(SKIP TO Q. 55)	04
GOING TO SCHOOL	(SKIP TO Q. 55)	05
KEEPING HOUSE	(SKIP TO Q. 55)	06
OTHER (SPECIFY)	(SKIP TO Q. 55)	07

26-27/

OR

STILL IN TRAINING ..... (SKIP TO Q. 55) 00

53. INTERVIEWER: DID R HAVE A JOB THE MONTH BEFORE ENTERING ACTIVE DUTY FOR TRAINING? (Q. 51 = CODES 01-03)

YES 1 28/
NO ... (SKIP TO Q. 55) .. 0

---

54. After you completed your most recent period of active duty training for the (Reserves/Guard), did you return to work for the same employer you had prior to training?

Yes 1 29/
No 0

---

55. Have you received tuition assistance for your participation in the (Reserves/Guard) as part of the Educational Tuition Assistance Plan since [(DATE OF LAST INTERVIEW)/you joined]?

Yes 1 30/
No ... (SKIP TO Q. 57) ... 0

---

56. Since [(DATE OF LAST INTERVIEW)/you joined], what is the total amount of tuition assistance you received?

$ ☐ , ☐☐☐ .00 31-34/
DON'T KNOW 9998

---

57. Do you currently have a civilian job for pay?

Yes 1 35/
No ... (SKIP TO Q. 59) .. 0

---

58. INTERVIEWER: ASK A, B, OR C AS APPROPRIATE.

A. FOR ARMY, MARINE CORPS, AND NATIONAL GUARD AND THE RESERVES OF THESE BRANCHES:
Does your current civilian job use any skills from your current MOS?

Yes 1
No 0

B. FOR NAVY AND NAVY RESERVES:
Does your current civilian job use any skills from your current RATING? 36/

Yes 1
No 0

C. FOR AIR FORCE AND AIR FORCE RESERVES:
Does your current civilian job use any skills from your current AFSC?

Yes 1
No 0

59. On this card (HAND CARD C) are some reasons people have for joining the (Reserves/Guard). Please tell me if each one is true for you or not true for you. READ A-I AND CODE FOR EACH.

	TRUE	NOT TRUE	
A. I wanted to join my friends in the unit ..	1	0	37/
B. I wanted to earn extra income	1	0	38/
C. I wanted to serve my country	1	0	39/
D. I wanted to learn a new job skill	1	0	40/
E. I wanted to try the military way of life .	1	0	41/
F. I wanted to use educational benefits	1	0	42/
G. I couldn't get into the active force	1	0	43/
H. I wanted retirement or fringe benefits	1	0	44/
I. Service in the Reserves was part of my enlistment obligation for the Active Forces	1	0	45/

ASK Q. 60 IF MORE THAN ONE "TRUE" (CODE 1) IN Q. 59; OTHERWISE, GO TO Q. 61.

60. Which of these was your most important reason for joining the (Reserves/Guard)? ENTER LETTER CORRESPONDING TO LIST ABOVE.

LETTER: ☐ 46/

61. When you entered the (BRANCH), did you receive any enlistment bonuses?

Yes 1 47/

No .... (SKIP TO Q. 63) 0

62. What was the total amount before taxes and deductions of the bonus you received?

$ ☐☐ ☐☐☐ . 00 48-52/

63. At the time you decided to enter the (MOST RECENT BRANCH), had you considered joining the (Reserves/Active Force) instead?

Yes	1	53/
No	0	

64. Please look at this card. (HAND CARD D) Assuming that no Reenlistment Bonus Payments will be given, but that all other special pays which you currently receive are still available, how likely are you to reenlist at the end of your current term of service? CODE ONE ONLY.

(0 in 10)	No chance	(ASK A) ...	00	54-55/
(1 in 10)	Very slight possibility ..	(ASK A) ...	01	
(2 in 10)	Slight possibility	(ASK A) ...	02	
(3 in 10)	Some possibility	(ASK A) ...	03	
(4 in 10)	Fair possibility	(ASK A) ...	04	
(5 in 10)	Fairly good possibility ..	(ASK A) ...	05	
(6 in 10)	Good possibility	(ASK A) ...	06	
(7 in 10)	Probable		07	
(8 in 10)	Very probable		08	
(9 in 10)	Almost sure		09	
(10 in 10)	Certain		10	
	Don't know		98	

BEGIN DECK 10

A. IF CODES 00-06: Military personnel may have several reasons for leaving the Armed Forces. If you do leave the service at the end of your current term, which of these would be your most important reasons for doing so? CODE ALL THAT APPLY.

HAND CARD E

A.	Low pay and allowances	01	10-11/
B.	Better civilian job opportunities	02	12-13/
C.	Reduction in military benefits	03	14-15/
D.	Decline in quality of military personnel	04	16-17/
E.	Unable to practice my job skills	05	18-19/
F.	Bored with my job or occupation	06	20-21/
G.	Don't like my job or occupation	07	22-23/
H.	Plan to continue my education or to use G.I./VEAP benefits ..	08	24-25/
I.	Not eligible to reenlist	09	26-27/
J.	Dislike location of my assignments	10	28-29/
K.	Didn't get desired type of training	11	30-31/
L.	Had to move too often	12	32-33/
M.	Dislike being separated from my family	13	34-35/
N.	My family wants me to leave the service	14	36-37/
O.	Disagree with personnel policies	15	38-39/
P.	Discrimination against military personnel based on race	16	40-41/
Q.	Discrimination against military personnel based on sex	17	42-43/
R.	Discrimination against military personnel based on rank	18	44-45/
S.	Other (SPECIFY) _____	19	46-47/
	DON'T KNOW	98	48-49/

65. When you finally leave the (MOST RECENT BRANCH), how many total years of service do you expect to have (in your current branch)?

ENTER # OF YEARS: ☐☐ 50-51/

66. Now I'd like to ask you about military jobs and training in the (MOST RECENT BRANCH).

INTERVIEWER: IN MAKING ENTRIES FOR THIS QUESTION, ENTER LETTER "I" as "I," LETTER "O" as "Ø."

A. FOR ARMY, MARINE CORPS, AND NATIONAL GUARD AND THE RESERVES OF THESE BRANCHES:
What is your current Primary MOS? RECORD VERBATIM IN THE MARGIN. THEN ENTER IN THE BOXES THE FIRST FOUR NUMBERS OR LETTERS R GAVE YOU. FOR EXAMPLE, 11B20 WOULD BE ENTERED 11B2.

SKIP TO Q. 68
OR
DON'T KNOW .... (GO TO Q. 67) 9998
OR
NONE ..... (SKIP TO Q. 75) 0000

B. FOR NAVY AND NAVY RESERVES:
What is your current Primary RATING? RECORD VERBATIM IN THE MARGIN. THEN ENTER IN THE BOXES THE FIRST FOUR NUMBERS OR LETTERS R GAVE YOU. 52-54/R 55-58/

SKIP TO Q. 68
OR
DON'T KNOW .... (GO TO Q. 67) 9998
OR
NONE ..... (SKIP TO Q. 75) 0000

C. FOR AIR FORCE AND AIR FORCE RESERVES:
What is your current Primary AFSC? RECORD VERBATIM IN THE MARGINS. THEN ENTER IN THE BOXES THE FIRST FOUR NUMBERS OF R'S AFSC. DO NOT ENTER ANY LETTERS. FOR EXAMPLE, A43130C WOULD BE ENTERED AS 4313.

SKIP TO Q. 68
OR
DON'T KNOW .... (GO TO Q. 67) 9998
OR
NONE ..... (SKIP TO Q. 75) 0000

INTERVIEWER: IF R SAYS "DON'T KNOW" IN Q. 66A, B, OR C, ASK Q. 67. OTHERWISE, GO TO Q. 68.

67. A. What (is/was) the name of the job you were trained for? 59-61/

_____

B. What (are/were) your main activities or duties?

_____

_____

_____

_____

68. INTERVIEWER: WAS R IN ACTIVE FORCES ON DATE OF LAST INTERVIEW? (SEE ITEM 8 ON INFO SHEET)

YES 1
NO .... (SKIP TO Q. 70) 0

62/

---

69. Is this Primary (MOS/RATING/AFSC) the same as the Primary (MOS/RATING/AFSC) you had on (DATE OF LAST INTERVIEW/when you left active duty)?

Yes ... (SKIP TO Q. 75) 1
No 0

63/

---

70. Since [(DATE OF LAST INTERVIEW)/you joined the (BRANCH)], have you received any formal school training for your current Primary (MOS/RATING/AFSC)?

Yes 1
No .... (SKIP TO Q. 72) 0

64/

---

71. In all, how many weeks of formal school training did you complete for your current Primary (MOS/RATING/AFSC)?

ENTER # OF WEEKS: ☐☐

65-66/

---

72. Not counting basic training, [since (DATE OF LAST INTERVIEW)/you joined the (BRANCH)], have you received any on-the-job training for this (MOS/RATING/AFSC)?

Yes 1
No .... (SKIP TO Q. 74) ... 0

67/

---

73. Not counting basic training, [since (DATE OF LAST INTERVIEW)/you joined the (BRANCH)], how many weeks of on-the-job training for this (MOS/RATING/AFSC) have you received?

ENTER # OF WEEKS: ☐☐

68-69/

---

74. Not counting basic training [(and) OJT (and) formal school training], how many months have you actually worked in your current (MOS/RATING/AFSC) [between (DATE OF LAST INTERVIEW) and now/since you joined the (BRANCH)]?

ENTER # OF MONTHS: ☐☐

70-71/

---

75. What is your current pay grade?

E ☐☐
O ☐☐
W ☐☐

72-74/

---

76. What is your total monthly pay before taxes and other deductions? Please include basic pay and allowances for housing or food and any special pays.

$ ☐☐☐.☐☐

75-79/

77. INTERVIEWER: IS R CURRENTLY IN THE ACTIVE FORCES? (Q. 47 = YES)

YES 1 80/

NO ..(SKIP TO Q. 108, P. 6 - 22). 0

BEGIN DECK 11

78. In addition to your current Primary (MOS/RATING/AFSC), have you received training in another (MOS/RATING/AFSC) since [DATE OF LAST INTERVIEW)/you joined the (BRANCH)]?

Yes 1 10/

No .... (SKIP TO Q. 86) 0

79. Now I'd like to ask you about your military jobs and training for this other (MOS/RATING/AFSC).

INTERVIEWER: IN MAKING ENTRIES FOR THIS QUESTION, ENTER LETTER "1" AS "I," LETTER "0" AS "Ø."

A. FOR ARMY, MARINE CORPS:

What is this other MOS? RECORD VERBATIM IN THE MARGIN. THEN ENTER IN THE BOXES THE FIRST FOUR NUMBERS OR LETTERS R GAVE YOU. FOR EXAMPLE, 11B20 WOULD BE ENTERED 11B2.

SKIP TO Q. 81

OR

DON'T KNOW .. (GO TO Q. 80) .. 9998

11-13/R

B. FOR NAVY: 14-17/

What is this other RATING? ENTER ALL FOUR NUMBERS OR LETTERS OF R'S RATING.

SKIP TO Q. 81

OR

DON'T KNOW .. (GO TO Q. 80) .. 9998

C. FOR AIR FORCE:

What is this other AFSC? RECORD VERBATIM IN THE MARGINS. THEN ENTER IN THE BOXES THE FIRST FOUR NUMBERS OF R'S AFSC. DO NOT ENTER ANY LETTERS. FOR EXAMPLE, A43130C WOULD BE ENTERED AS 4313.

SKIP TO Q. 81

OR

DON'T KNOW .. (GO TO Q. 80) .. 9998

INTERVIEWER: IF R SAYS "DON'T KNOW" IN Q. 79, ASK Q. 80. OTHERWISE, GO TO Q. 81.

80. A. What is the name of the job you were trained for? 18-20/

_____

B. What are your main activities or duties?

_____

_____

_____

_____

81. Since [(DATE OF LAST INTERVIEW)/you joined the (BRANCH)], have you received any formal school training for this other (MOS/RATING/AFSC)? 21/

Yes 1

No .... (SKIP TO Q. 83) 0

82. Since [(DATE OF LAST INTERVIEW)/you joined the (BRANCH)], how many weeks of formal school training did you complete for this other (MOS/RATING/AFSC)? 22-23/

ENTER # OF WEEKS: ☐☐

83. Since [(DATE OF LAST INTERVIEW)/you joined the (BRANCH)], have you received any on-the-job training for this other (MOS/RATING/AFSC)? 24/

Yes 1

No .... (SKIP TO Q. 85) 0

84. Since [(DATE OF LAST INTERVIEW)/you joined the (BRANCH)], how many weeks of on-the-job training for this other (MOS/RATING/AFSC) did you receive? 25-26/

ENTER # OF WEEKS: ☐☐

85. Excluding basic training [(and) OJT (and) formal school training], how many months have you actually worked in this other (MOS/RATING/AFSC) between (DATE OF LAST INTERVIEW) and now? 27-28/

ENTER # OF MONTHS: ☐☐

86. During the last 7 days, how many hours did you work at a military job? Do not include any hours you were on call but not actually working. 29-30/

ENTER # OF HOURS: ☐☐

87. Certain military jobs carry a cash enlistment bonus. When you enlisted in the (BRANCH), did you sign up for a job which paid such a bonus? 31/

Yes 1

No .... (SKIP TO Q. 89) 0

88. What was the total amount before taxes and deductions of the bonus you (received/will receive)?

$ [ ][ ] , [ ][ ][ ] . 00 32-36/

89. INTERVIEWER: DID R ENLIST IN BRANCH SINCE LAST INTERVIEW? (YES TO Q. 41)

YES	1	37/
NO .... (SKIP TO Q. 91)	0	

90. At the time you entered the (BRANCH), how many years of regular school had you completed and gotten credit for? CODE ONE ONLY.

NONE	00	38-39/
1ST GRADE	01	
2ND GRADE	02	
3RD GRADE	03	
4TH GRADE	04	
5TH GRADE	05	
6TH GRADE	06	
7TH GRADE	07	
8TH GRADE	08	
9TH GRADE	09	
10TH GRADE	10	
11TH GRADE	11	
12TH GRADE	12	
1ST YEAR OF COLLEGE	13	
2ND YEAR OF COLLEGE	14	
3RD YEAR OF COLLEGE	15	
4TH YEAR OF COLLEGE	16	
5TH YEAR OF COLLEGE	17	
6TH YEAR OF COLLEGE	18	
7TH YEAR OF COLLEGE	19	
8TH YEAR OF COLLEGE	20	

91. Since [(DATE OF LAST INTERVIEW)/you joined the (BRANCH)] have you taken any courses for which you received high school or college credit?

Yes	1	40/
No .... (SKIP TO Q. 95)	0	

92. Since [(DATE OF LAST INTERVIEW)/you joined the (BRANCH)], how many years of regular school have you completed and gotten credit for?

LESS THAN ONE	0	41/
ONE YEAR	1	
TWO YEARS	2	
THREE OR MORE YEARS	3	

93. Since [(DATE OF LAST INTERVIEW)/you joined the (BRANCH)], have you received a diploma or degree?

Yes	1	42/
No .... (SKIP TO Q. 95)	0	

94. What type of diploma or degree did you receive? RECORD VERBATIM AND CODE ONE ONLY.

_____

_____

HIGH SCHOOL DIPLOMA (OR EQUIVALENT) .	01	43-44/
ASSOCIATE/JUNIOR COLLEGE (AA)	02	
BACHELOR'S DEGREE	03	
MASTER'S DEGREE	04	
DOCTORAL DEGREE (PHD)	05	
PROFESSIONAL DEGREE (MD, LLD, DDS) ...	06	
OTHER (SPECIFY):		
_____	07	

95. In the Veteran's Educational Assistance Program (VEAP), if you contribute to an education fund, the Veterans Administration will add to your contribution. Since [(DATE OF LAST INTERVIEW)/you joined the (BRANCH)], have you participated in the VEAP program?

Yes	1	45/
No .....(SKIP TO Q. 97).....	0	

96. How much money do or did you contribute to this program each month?

$ [ ][ ] .00 46-47/

97. On this card (HAND CARD F) are some reasons people have for enlisting in the military. Please tell me if each one is true for you or not true for you.

I enlisted because . . .

	TRUE	NOT TRUE	
A. I was unemployed and couldn't find a job	1	0	48/
B. To give myself a chance to be away from home on my own	1	0	49/
C. The military will give me a chance to better myself in life	1	0	50/
D. I want to travel and live in different places.	1	0	51/
E. To get away from a personal problem	1	0	52/
F. I want to serve my country	1	0	53/
G. I can earn more money than I could as a civilian	1	0	54/
H. It is a family tradition to serve	1	0	55/
I. To prove that I can make it	1	0	56/
J. To get trained in a skill that will help me to get a civilian job when I get out	1	0	57/
K. To obtain retirement or fringe benefits	1	0	58/
L. I can get money for a college education	1	0	59/

ASK Q. 98 IF MORE THAN ONE "TRUE" (CODE 1) IN Q. 97; OTHERWISE, GO TO Q. 108.

98. Which of these was your most important reason for enlisting in the military? ENTER LETTER CORRESPONDING TO LIST ABOVE.

LETTER: ☐ 60/

SKIP TO Q. 108, P. 6-22

99. Are you now in the Delayed Entry Program in the (BRANCH), that is, are you scheduled to enter basic training some time in the future?

Yes 1
No ... (SKIP TO Q. 102) 0 61/

100. When will you enter active duty?

MONTH ☐☐ 62-63/
AND
YEAR 19 ☐☐ 64-65/

101. OMITTED.

101. On this card (HAND CARD F) are some reasons people have for enlisting in the military. Please tell me if each one is true for you or not true for you.

I enlisted because . . .

	True	Not true	
A. I was unemployed and couldn't find a job	1	0	66/
B. To give myself a chance to be away from home on my own	1	0	67/
C. The military will give me a chance to better myself in life	1	0	68/
D. I want to travel and live in different places	1	0	69/
E. To get away from a personal problem	1	0	70/
F. I want to serve my country	1	0	71/
G. I can earn more money than I could as a civilian	1	0	72/
H. It is a family tradition to serve	1	0	73/
I. To prove that I can make it	1	0	74/
J. To get trained in a skill that will help me get a civilian job when I get out	1	0	75/
K. To obtain retirement or fringe benefits.....	1	0	76/
L. I can get money for a college education	1	0	77/

ASK Q. 103 IF MORE THAN ONE "TRUE" (CODE 1) IN Q. 102; OTHERWISE, GO TO Q. 104.

103. Which of these was your most important reason for enlisting in the military? ENTER LETTER CORRESPONDING TO LIST ABOVE.

LETTER: [ ] 78/

104. Did you serve any time on active duty in the (BRANCH)?

Yes ..... (ASK A) 1
No ..... (SKIP TO SECTION 6) 0 79/

A. On what date did you enter active duty in the (BRANCH)? ENTER DATE HERE. BEGIN DK 12

[ ][ ] [ ][ ] 19[ ][ ] 10-15/
MONTH DAY YEAR

B. INTERVIEWER: DID R ENTER THE ACTIVE FORCES? (Q. 38, CODES 01-04)

YES.(RECORD DATE IN ROW A OF CALENDAR) 1
NO 0 16/

105. And on what date did you separate from the (BRANCH)? ENTER DATE HERE.

[ ][ ] [ ][ ] 19[ ][ ] 17-22/
MONTH DAY YEAR

A. INTERVIEWER: WAS R IN THE ACTIVE FORCES?

YES. (RECORD DATE IN ROW A OF CALENDAR. DRAW A LINE FROM DATE ENTERED TO DATE SEPARATED) 1
NO 0 23/

106. While you were on active duty, did you complete training for an (MOS/RATING/AFSC)?

Yes ..... (ASK A) 1 24/

No 0

A. IF YES: What was that (MOS/RATING/AFSC)? RECORD VERBATIM IN THE MARGINS.

_____

(OFFICE USE) ☐☐☐☐ 25-27/R 28-31/

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107. What type of discharge did you receive?

HONORABLE 1 32/
GENERAL 2
UNDER OTHER THAN HONORABLE CONDITIONS 3
BAD CONDUCT (DCD) 4
DISHONORABLE 5
WAS NOT FORMALLY DISCHARGED 6

A. Which of the reasons on this card describe why you decided to leave the (BRANCH)? CODE ALL THAT APPLY.

HAND CARD G

A.	Low pay and allowances	01	33-34/
B.	Better civilian job opportunities	02	35-36/
C.	Reduction in military benefits	03	37-38/
D.	Decline in quality of military personnel	04	39-40/
E.	Unable to practice my job skills	05	41-42/
F.	Bored with my job or occupation	06	43-44/
G.	Don't like my job or occupation	07	45-46/
H.	Plan to continue my education or to use G.I./VEAP benefits ..	08	47-48/
I.	Not eligible to reenlist	09	49-50/
J.	Dislike location of my assignments	10	51-52/
K.	Didn't get desired type of training	11	53-54/
L.	Had to move too often	12	55-56/
M.	Dislike being separated from my family	13	57-58/
N.	My family wants me to leave the service	14	59-60/
O.	Disagree with personnel policies	15	61-62/
P.	Discrimination against military personnel based on race	16	63-64/
Q.	Discrimination against military personnel based on sex	17	65-66/
R.	Discrimination against military personnel based on rank	18	67-68/
S.	Other (SPECIFY) _____	19	69-70/
	DON'T KNOW	98	71-72/

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108. Taking all things together, how satisfied (are/were) you with the (MOST RECENT BRANCH)--very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?

Very satisfied 1
Somewhat satisfied 2 73/
Somewhat dissatisfied 3
Very dissatisfied 4

109. INTERVIEWER: IS R CURRENTLY ON ACTIVE DUTY IN THE ACTIVE FORCES? (Q. 47 = YES)

YES ..... (ASK A) 1 74/

NO ..... (GO TO SECTION 6) 0

A. IF YES: Now we would like to ask you some more specific questions about your current military job.

SKIP TO SECTION 6, Q. 20