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PATTERNS AND TRENDS IN PROPENSITY
TO ENLIST IN THE MILITARY:

FINDINGS FROM THE 1989
YOUTH ATTITUDE TRACKING STUDY II

Market Research Branch

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Dist. "A" per telecon Randy Lougee. Dept.
of Defense Manpower Data Center. 1600 N.
Wilson Blvd., Suite 400. Arlington, VA
22209-2593. VHG 11/09/90

by

Robert M. Bray
Thomas R. Curtin
Barbara J. York
Rick L. Williams
Robert F. Helms
Douglas L. Fountain

RTI/3624/46/03DR

August 1990

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EXECUTIVE SUMMARY

This report examines the expressed propensity of young people to enlist in the active Military Services and Reserve Components of the Armed Forces. Data were drawn primarily from the 1989 Youth Attitude Tracking Study (YATS), a 30-minute, computer-assisted telephone interview that is conducted each fall. Over 11,000 16- to 24-year-old American men and women, representing a population of nearly 14.8 million, were interviewed.

Because the purpose of the study was to track attitudes of youths most likely to enlist, more males than females were interviewed, and individuals who had more than 2 years of postsecondary education or who were already committed to military service were not included in the study. Thus, about 80% of the 16- to 17-year-olds were represented, while only 25% of the 22- to 24-year-olds were represented.

Key questions were asked about the likelihood that youths and young adults would be serving in the active Military Services and Reserve Components of each of the Armed Forces during the next few years. Enlistment propensity was reported as the percentage who indicated they would "definitely" or "probably" enlist in the next few years. The report describes enlistment propensity in terms of age, gender, scholastic and employment status, and aptitude.

As found in previous YATS surveys, enlistment propensity was highest for 16- and 17-year-olds and was inversely related to age. Among males, 43% of 16- and 17-year-olds indicated composite active propensity (i.e., propensity to enlist for active duty in at least one of the four Department of Defense [DoD] Services--Army, Navy, Air Force, Marine Corps), compared to 25% of 18- to 21-year-olds and 18% of 22- to 24-year-olds. Females showed a pattern similar to males, but at lower levels. Composite active propensity for females was expressed by 19% of 16- to 17-year-olds, 10% of 18- to 21-year-olds, and 6% of 22- to 24-year-olds.

Expressions of propensity for specific Services reflected the same pattern as composite propensity, with younger respondents indicating more frequently interest than older respondents, and males showing greater interest than females. Overall, men and women expressed enlistment propensity for the Air Force or Army more frequently than they did for the Navy or Marine Corps.

Propensity for the Reserve Components showed a similar, though lower, overall pattern than propensity to serve in the active military. Male composite Reserve propensity was 30% for 16- to 17-year-olds, 20% for 18- to 21-year-olds, and 17% for 22- to 24-year-olds. Female composite Reserve propensity was 14% for 16- to 17-year-olds, 8% for 18- to 21-year-olds, and 6% for 22- to 24-year-olds. For the National Guard components, propensity was generally higher for the Army National Guard than for the Air National Guard. For the Reserves, it was generally highest for the Army Reserve and Air Force Reserve and lowest for the Coast Guard Reserve.

Comparisons of 1988 and 1989 data showed an increasing pattern in both active and Reserve enlistment propensity. Expressed propensity was significantly higher in 1989 for 16- to 17-year-old males (active, 4% difference--borderline significance; Reserves, 7% difference), 16- to 17-year-old females (active, 4% difference; Reserves, 4% difference), and for 22- to 24-year-old males (active, 4% difference; Reserves, 4% difference).

Descriptive crosstabulations of all respondents showed that enlistment propensity was related to various sociodemographic characteristics. Those most likely to express active or Reserve enlistment propensity tended to be younger, Black or Hispanic, male, unmarried (except among males for Reserve propensity), still in high school, not employed but looking for a job, living in the South (and additionally in the Northeast for females), and of lower aptitude.

Multivariate analyses of active and Reserve propensity for 16- to 21-year-old males and females provided additional insight about the joint effects of sociodemographic variables (age, race/ethnicity, employment status, Census region, aptitude) and the interactions among them. The general pattern of results for the individual sociodemographic variables was generally consistent with those noted above for the marginal tabulations. Additionally, the results showed significant interactions across all of the analyses for age with race/ethnicity and for aptitude with race/ethnicity. The age by race/ethnicity interaction showed an overall declining pattern for propensity as age increased, but differing rates of decline among the race/ethnicity groups. In general, propensity for whites showed a steady decline with age, whereas propensity for Blacks and Hispanics showed more fluctuations with age.

The aptitude by race/ethnicity interaction indicated higher propensity among those with lower aptitude and a pattern of declining propensity as aptitude increased. The rate of decline was greater, however, for Blacks than for whites or Hispanics. Thus, Blacks with higher aptitude were less likely to be favorable toward military service than those from other race/ethnicity groups. Further examination of the effects of aptitude indicated little variation with age but substantial variation with race/ethnicity. For both males and females, whites were over two times more likely to score in the higher aptitude range than were Blacks and over one and a half times more likely than were Hispanics.

Analysis of active propensity data taken from the 1976 to 1989 administrations of YATS showed that propensity among 16- to 21-year-old males was higher during the 1980 to 1983 period than it was during the preceding years or follc ing years. The average composite propensities for these periods were: 1976-1979, 32%; 1980-1983, 35%; and 1984-1989, 32%. Trends in propensities for the Army, Air Force, and Marine Corps showed the same periodic shifts as composite active propensity, but the trend in enlistment propensity for the Navy showed a decline over the three time periods.

1. BACKGROUND AND APPROACH

A. Introduction

This report examines the expressed propensity of young people to enlist in the active Military Services and Reserve Components of the Armed Forces. Data were drawn primarily from the 1989 Youth Attitude Tracking Study (YATS), a 30-minute, computer-assisted telephone interview. Over 11,000 16- to 24-year-old American men and women, representing a population of nearly 14.8 million, were interviewed.

Because the purpose of the study, which has been conducted each fall, was to track attitudes of youths most likely to enlist, more males than females were interviewed, and individuals who had more than 2 years of postsecondary education or who were already committed to military service were not included in the study. Thus, about 80% of the 16- to 17-year-olds were represented, while only 25% of the 22- to 24-year-olds were represented.

Key questions were asked about the likelihood that youths and young adults would be serving in the active Military Services and Reserve Components of each of the Armed Forces during the next few years. This likelihood of serving, called enlistment propensity, was reported as the percentage who indicated they would "definitely" or "probably" enlist in the next few years.

Because attitudes and levels of interest for military service have been shown to vary in relation to variables such as age, aptitude, educational status, and employment status (Bray et al., 1989; Davis & Sheatsley, 1985; Hosek, Peterson, & Eden, 1986; Orvis & Gahart, 1989), this report describes enlistment propensity in terms of these factors. This report also builds on the research and analyses of previous YATS administrations.

B. Report Objectives

The 1989 wave of YATS II studies builds on established data bases of prior YATS surveys to provide scientific data for the background and attitudes of youths and young adults and their intentions to join the military. This report has the following objectives:

- Assess current levels of expressed propensity to enlist in the active Military Services and in the Reserve Components.

- Assess trends over time in expressed propensity for active military service.

- Examine the interrelationship of sociodemographic characteristics and enlistment propensity.

C. Organization of the Report

This report describes enlistment propensity of young men and women for military service. Findings are based primarily on data from the 1989 YATS II survey, but analyses on trends also draw on data from prior YATS surveys.

Chapter 2 describes characteristics of the YATS population included in the study. The characteristics considered are age, sex, race/ethnicity, marital status, employment status, school status, region, and aptitude. Chapters 3 and 4 examine enlistment propensity for the active Military Services and Reserve Components, respectively. These chapters are similar in organization and approach. Each includes a discussion of composite and Service-specific propensity, sociodemographic correlates of propensity, and the interrelationships of sociodemographic variables and expressed propensity.

Chapter 5 examines and describes trends in the level of interest to enlist in one of the active Military Services. Findings from the 1989 survey are contrasted with those from prior waves for four age groups of youths and young adults. In addition, trends are examined for propensity and unemployment rates for males and females aged 16 to 21.

Chapter 6 is a summary of the key findings from the report. Appendix A describes the methodology used for the YATS 1989 sampling, survey data collection, and measurement approach. Appendix B contains supplementary tables that present data for 16- to 21-year-old males and females; these may be useful in comparing data to past YATS reports, which grouped respondents in this manner. (Comparable data for 22- to 24-year-old males and females are also included in these tables.) Appendix C contains a technical discussion of the regression modeling used in this report.

2. CHARACTERISTICS OF YATS POPULATION

This chapter describes the sociodemographic characteristics of the YATS population to provide information about the characteristics of individuals available to the DoD for accessions in one of the active Military Services and Reserve Components. The characteristics considered include age, marital status, race/ethnicity, employment and school status, sex, geographical location, and aptitude level. The tables in this chapter generally provide separate estimates by three age groups: 16- to 17-year-olds, 18- to 21-year-olds, and 22- to 24-year-olds.

Table B.1 in Appendix B summarizes sociodemographic characteristics for 16- to 21-year-old males and females and for 22- to 24-year-old males and females.

A. Age Distribution and Estimated Population Counts

Table 2.1 presents the age distribution of YATS respondents and the estimated age distribution of the YATS population. The unweighted sample sizes indicate the

Table 2.1 Age Distribution of the YATS Survey Population

	Males			Females		
	Unweighted N	Estimated population		Unweighted N	Estimated population	
Age		Count[a]	Percent		Count[a]	Percent
Younger						
16	1,420	1,422	24.0	807	1,301	22.9
17	1,369	1,374	23.2	843	1,366	24.0
18	1,117	1,165	19.6	618	1,003	17.6
19	854	876	14.8	548	898	15.8
20	567	593	10.0	348	585	10.3
21	474	504	8.5	315	538	9.5
Total	5,801	5,933	100.0	3,479	5,691	100.0
Older						
22	428	557	38.8	386	587	33.8
23	387	464	32.4	354	549	31.6
24	363	413	28.8	377	602	34.6
Total	1,178	1,433	100.0	1,117	1,738	100.0

Note. The age distributions for each sex were developed from two complex samples of younger (16-21 years) and older (22-24) individuals. Consequently, totals and percentages across the age groups cannot be computed.

[a]Population counts are in thousands. Estimates are based on some variables for which there may be missing information.

Source. 1989 Youth Attitude Tracking Study.

number of interviews on which the estimates are based (5,801 16- to 21-year-old males; 3,479 16- to 21-year-old females; 1,178 22- to 24-year-old males; 1,117 22- to 24-year-old females). As shown, the estimated 1989 YATS population consisted of approximately 5.9 million males and 5.7 million females aged 16 to 21 years. Approximately one half of these males and females were 16 or 17 years old. The numbers decreased as age increased from 18 to 21 years due to the YATS eligibility criteria. Those beyond the second year of college or with military experience were not included in the survey.

The population was distributed more evenly across the ages for males and females in the age groups of 22 to 24 years (roughly one third for each year), although females outnumbered males. The estimated population counts were 1.4 million older males and 1.7 million older females.

Figure 2.1 shows the age distribution of the YATS population and the general youth and young adult populations and their relationship by dividing the general population into four subpopulations:

- YATS population: young men and women aged 16 to 24 who had not served in the military and were not beyond the second year of college (who had telephones),

- Non-YATS college population: young men and women aged 16 to 24 enrolled in college who were not in the YATS population,

- Military population: young men and women aged 16 to 24 not in YATS or the non-YATS college population who were enlisted in the military or in the Delayed Entry Program, and

- Others: young men and women aged 16 to 24 not in the other populations above such as those from Alaska and Hawaii, military veterans, those beyond the second year of college, and those without phones.

Data for Figure 2.1 were compiled from Census data (U.S. Bureau of Census, 1989), education data (Haggstrom, Shavelson, & Blaschke, 1989), military enlistment data, and 1989 YATS data. As shown, the size of the total population at each age was nearly constant for both males and females, but the relative proportions of the subpopulations changed as age rose from 16 to 24. As shown, the YATS population comprised the large majority of the total population for 16- and 17-year-olds (about 80%), but it became proportionately smaller from ages 18 to 20 and remained at relatively low levels from ages 21 to 24 (about 20% for males; 30% for females). The non-YATS college age population was proportionately largest for 20- and 21-year-olds. The size of the military population was very small but relatively constant for each age (excluding 16- and 17-year-olds). The "other" population was very small for younger ages and became larger as age increased.

Figure 2.1 Counts of Males and Females in YATS, Enlisted Military, College, and Other Subpopulations

Males

Females
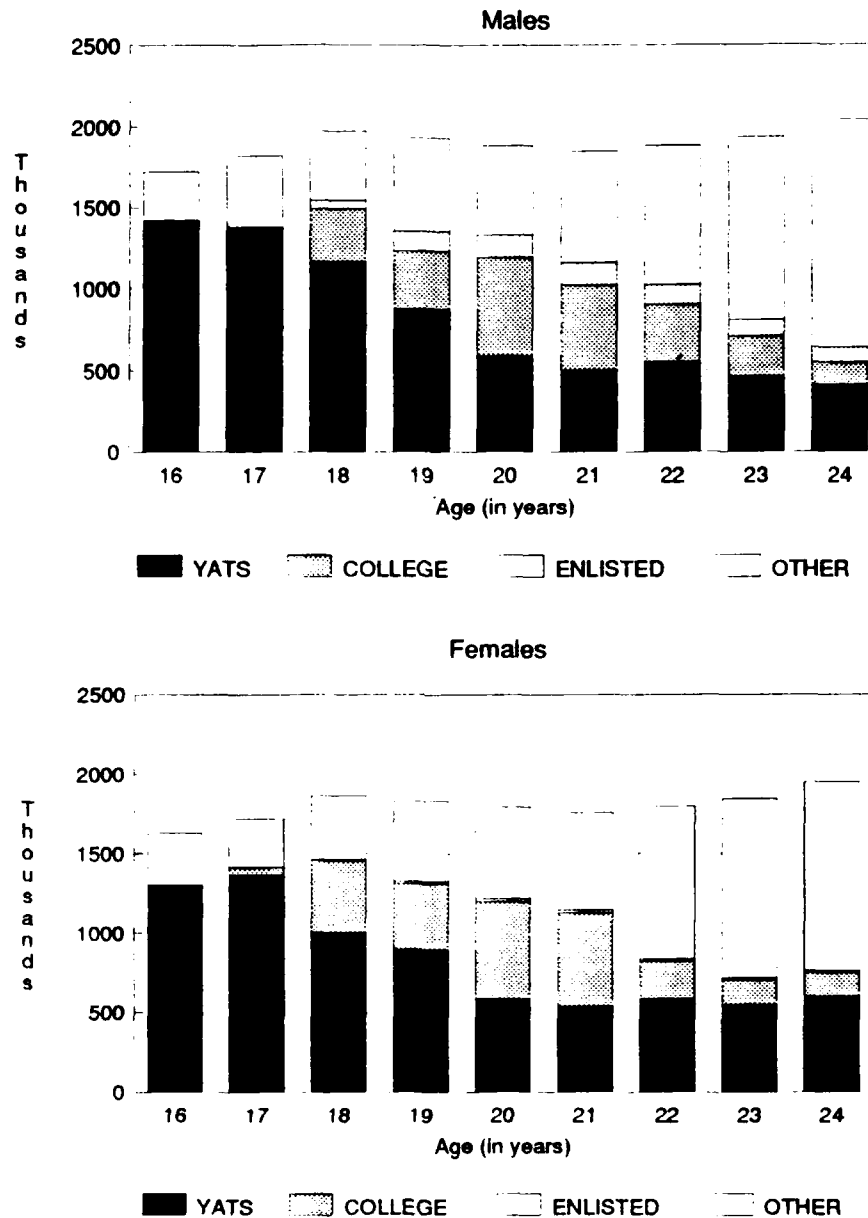
Note. The enlisted military subpopulation includes counts of enlisted personnel and those in the Delayed Entry Program. The "other" subpopulation includes counts of individuals excluded from YATS sampling frame (e.g., Alaskans, Hawaiians, those beyond the second year of college, military veterans, and those without phones).

Source. 1989 Youth Attitude Tracking Study; Haggstrom, Shavelson, & Blaschke, 1989; U.S. Bureau of the Census, 1989.

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Overall, Figure 2.1 shows a relatively stable count of males and females at each age, but dramatic shifts across age in the relative proportions of the subpopulations. The YATS population decreased dramatically, and the "other" population increased.

B. Marital Status, Sex, and Age

Table 2.2 provides data describing the marital status of the YATS population partitioned by sex and age group. The differences in this table were primarily a function of age. The percentages of the population who were married or in the "other" category (widowed, divorced, or separated) became larger as age increased. The data also indicated that males were more likely than females to have never been married among this population. The difference between males and females was small for the 16- to 17-year-old group, but increased to 13.1 percentage points for the 18- to 21-year-olds and doubled to 26.2 percentage points for 22- to 24-year-olds.

Table 2.2   Marital Status by Sex and Age Range

	Age range					
	16-17		18-21		22-24	
	Estimated population		Estimated population		Estimated population	
Sex/marital status	Count	Percent	Count	Percent	Count	Percent
Males						
Never married	2,779	99.7	2,966	94.7	952	66.6
Currently married	6	0.2	153	4.9	409	28.6
Other[a]	3	0.1	12	0.4	68	4.8
Total	2,788	100.0	3,130	100.0	1,429	100.0
Females						
Never married	2,633	98.9	2,463	81.6	702	40.4
Currently married	24	0.9	504	16.7	875	50.4
Other[a]	5	0.2	53	1.8	159	9.2
Total	2,662	100.0	3,020	100.0	1,736	100.0

Note. Population counts are in thousands. Estimates are based on some variables for which there may be missing information. Percentage distributions may not sum to 100.0 due to rounding.

[a]"Other" includes widowed, divorced, or separated.

Source. 1989 Youth Attitude Tracking Study.

C. Race/Ethnicity, Sex, and Age

Table 2.3 provides population counts and percentage estimates of the YATS population by race/ethnicity, sex, and age. As shown, whites comprised about three quarters of the population for all age groups. The distribution of nonwhites among males and females showed a contrasting pattern of interest. Among males, Hispanics were equal in population size or larger than Blacks across the three age groups. In contrast, among females the opposite pattern occurred with Blacks outnumbering Hispanics across the three age groups. At this time, there is no clear explanation for this pattern.

D. School Status, Sex, and Age

Table 2.4 presents population estimates and percentages of the YATS population by school status, sex, and age. As shown, 16- to 17-year-olds were predominantly nonsenior high school students (51.2% males, 43.2% females) or high school seniors

Table 2.3   Race/Ethnicity by Sex and Age Range

	Age range					
	16-17		18-21		22-24	
	Estimated population		Estimated population		Estimated population	
Sex/race ethnicity	Count	Percent	Count	Percent	Count	Percent
Males						
White	2,076	74.5	2,295	73.4	1,096	76.7
Black	284	10.2	325	10.4	131	9.2
Hispanic	294	10.6	422	13.5	165	11.6
Other	132	4.7	13	2.8	36	2.5
Total	2,785	100.0	3,128	100.0	1,428	100.0
Females						
White	1,890	71.0	2,197	72.8	1,307	75.3
Black	404	15.2	384	12.7	225	13.0
Hispanic	257	9.6	321	10.6	152	8.8
Other	112	4.2	115	3.8	51	2.9
Total	2,663	100.0	3,017	100.0	1,736	100.0

Note. Population counts are in thousands. Estimates are based on some variables for which there may be missing information.

Source. 1989 Youth Attitude Tracking Study.

Table 2.4 School Status by Sex and Age Range

Sex/school status[a]	Age range					
	16-17		18-21		22-24	
	Estimated population		Estimated population		Estimated population	
	Count	Percent	Count	Percent	Count	Percent
Males						
Postsecondary student	59	2.1	932	29.7	133	9.3
High school graduate	42	1.5	1,115	35.6	902	62.9
High school senior	886	31.7	304	9.7	N/A	N/A
Nonsenior high school student	1,431	51.2	60	1.9	N/A	N/A
Noncompleter	378	13.5	726	23.1	393	27.4
Total	2,795	100.0	3,137	100.0	1,433	100.0
Females						
Postsecondary student	63	2.3	1,079	35.7	194	11.1
High school graduate	36	1.4	1,261	41.7	1,163	66.9
High school senior	1,035	38.8	133	4.4	N/A	N/A
Nonsenior high school student	1,151	43.2	28	0.9	N/A	N/A
Noncompleter	382	14.3	524	17.3	382	22.0
Total	2,667	100.0	3,025	100.0	1,738	100.0

Note. Population counts are in thousands. Estimates are based on some variables for which there may be missing information. Percentage distributions may not sum to 100.0 due to rounding.

N/A = Not applicable.

[a]Postsecondary students are high school graduates currently attending college or a business/vocational school. High school graduates are respondents who are not students and have graduated from high school. Noncompleters are respondents who are not high school students and have not graduated from high school.

Source. 1989 Youth Attitude Tracking Study.

(31.7% males, 38.8% females). Nonsenior high school students were those below the 12th grade. Noncompleters (those who were not high school graduates and were no longer in high school) were the next largest group in the 16- to 17-year-old age group with 13.5% males and 14.3% females.

As expected, the percentages with high school diplomas increased as age increased. Among 18- to 21-year olds, for example, 35.6% of the males and 41.7% of females reported completing high school. Additionally, 29.7% of males and 35.7% of females were enrolled in college or business/vocational school. About two thirds of the 22- to 24-year-olds had completed high school and were no longer enrolled in advanced schooling. Among this older age group, approximately one quarter were noncompleters.

E. School Status and Employment Status by Sex and Age

Table 2.5 provides data describing the school status and employment status of the YATS population for males. Many of the employment and school status differences apparent in this table were related to respondent age and the exclusion of those with more than 2 years of college. Males aged 16 to 17 were likely to be full-time students and, consequently, to hold part-time jobs or no jobs. Only 9.0% of this group were employed full time; within this group it appears that students were less apt to be employed full time than either high school graduates or noncompleters. Over one quarter of this younger group were not employed, but they were looking for work.

Among those looking for work, it is probably safe to assume that the seniors and nonsenior high school students were seeking part-time rather than full-time work judging from the data of those who were working.

Males aged 18 to 21 were more likely to be employed full time than those who were younger and hence less likely to be employed part time or to be not employed. The majority of those who graduated and entered the labor market held full-time positions (76.5%). About one quarter of the postsecondary students held full-time jobs, whereas 40.0% worked part time.

About 88% of males in the 22- to 24-year-old age group were working full or part time, with full-time work being most common. Even among postsecondary students who were enrolled in some type of school, over one half had full-time jobs.

Table 2.6 provides data defining the school status and employment status of females. Among 16- to 17-year-olds, the patterns of employment and school status were similar to those observed for males except that female noncompleters were less likely to be working full time. Sex differences in employment status became more apparent in the older age groups. Females were less likely to be employed full time and, conversely, more likely to be employed part time or not at all than were males of the same age group. This pattern was especially pronounced among noncompleters for the two older age groups. For example, among 22- to 24-year-olds, 40.8% of female noncompleters

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Table 2.5 School Status and Employment Status of Males

Age/school status[a]	Employment status			
	Employed full time	Employed part time	Not employed, looking	Not employed, not looking
16-17				
Postsecondary student	14.1 (5.5)	38.4 (8.4)	29.8 (8.7)	17.7 (6.6)
High school graduate	53.1 (9.9)	29.4 (9.4)	11.7 (5.8)	5.8 (5.6)
High school senior	6.9 (1.1)	45.8 (2.1)	21.2 (1.8)	26.1 (1.8)
Nonsenior high school student	5.5 (0.7)	35.4 (1.5)	31.5 (1.5)	27.6 (1.4)
Noncompleter	21.2 (2.6)	29.4 (2.9)	28.5 (3.1)	21.0 (2.6)
Total	9.0 (0.7)	37.8 (1.1)	27.5 (1.1)	25.7 (1.0)
18-21				
Postsecondary student	26.1 (1.9)	40.0 (2.0)	13.6 (1.4)	20.3 (1.7)
High school graduate	76.5 (1.5)	10.4 (1.1)	10.5 (1.1)	2.6 (0.6)
High school senior	8.9 (2.0)	43.4 (3.6)	29.4 (3.3)	18.3 (2.7)
Nonsenior high school student	12.7 (5.5)	29.2 (17.1)	42.9 (7.6)	15.1 (4.8)
Noncompleter	54.3 (2.4)	18.0 (2.0)	21.6 (2.0)	6.0 (1.1)
Total	48.6 (1.1)	24.5 (1.0)	16.5 (0.8)	10.4 (0.7)
22-24				
Postsecondary student	54.9 (6.1)	21.0 (5.0)	15.1 (4.3)	9.0 (3.6)
High school graduate	85.1 (1.7)	5.4 (1.1)	7.8 (1.3)	1.7 (0.5)
High school senior	N/A N/A	N/A N/A	N/A N/A	N/A N/A
Nonsenior high school student	N/A N/A	N/A N/A	N/A N/A	N/A N/A
Noncompleter	78.3 (2.9)	10.1 (2.1)	9.8 (2.1)	1.8 (0.7)
Total	80.1 (1.5)	8.3 (1.0)	9.2 (1.1)	2.4 (0.5)

Note. Tabled values are row percentages with standard errors in parentheses.

N/A = Not applicable.

[a]Postsecondary students are high school graduates currently attending college or a business/vocational school. High school graduates are respondents who are not students and have graduated from high school. Noncompleters are respondents who are not high school students and have not graduated from high school.

Source. 1989 Youth Attitude Tracking Study.

Table 2.6 School Status and Employment Status of Females

Age/school status[a]	Employed full time		Employed part time		Not employed, looking		Not employed, not looking	
16-17								
Postsecondary student	6.0	(4.1)	48.3	(8.5)	28.7	(7.9)	17.0	(6.1)
High school graduate	--	--	--	--	--	--	--	--
High school senior	4.2	(1.0)	48.1	(2.3)	22.4	(1.9)	25.3	(2.0)
Nonsenior high school student	2.7	(0.7)	33.7	(2.0)	29.6	(1.9)	33.9	(2.1)
Noncompleter	10.3	(2.5)	30.3	(3.6)	33.0	(3.7)	26.4	(3.3)
Total	4.9	(0.6)	39.2	(1.4)	27.3	(1.3)	28.6	(1.3)
18-21								
Postsecondary student	15.4	(1.6)	51.0	(2.2)	15.3	(1.6)	18.4	(1.7)
High school graduate	50.0	(2.1)	17.4	(1.5)	16.9	(1.6)	15.7	(1.7)
High school senior	10.3	(4.0)	34.3	(5.8)	27.1	(5.5)	28.3	(5.5)
Nonsenior high school student	--	--	--	--	--	--	--	--
Noncompleter	26.7	(2.8)	20.7	(2.5)	19.7	(2.5)	32.9	(2.9)
Total	31.7	(1.2)	30.7	(1.2)	17.4	(1.0)	20.2	(1.1)
22-24								
Postsecondary student	45.5	(5.1)	26.1	(4.4)	10.6	(3.4)	17.8	(3.9)
High school graduate	56.9	(2.1)	14.3	(1.5)	9.4	(1.3)	19.4	(1.6)
High school senior	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nonsenior high school student	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Noncompleter	40.8	(3.7)	10.6	(2.2)	13.2	(2.4)	35.4	(3.6)
Total	52.1	(1.7)	14.8	(1.2)	10.4	(1.1)	22.7	(1.5)

Header spanning "Employed full time", "Employed part time", "Not employed, looking", "Not employed, not looking": **Employment status**

Note. Tabled values are row percentages with standard errors in parentheses.

N/A = Not applicable.

-- Sample size less than 30; estimate not reliable.

[a]Postsecondary students are high school graduates currently attending college or a business/vocational school. High school graduates are respondents who are not students and have graduated from high school. Noncompleters are respondents who are not high school students and have not graduated from high school.

Source. 1989 Youth Attitude Tracking Study.

were employed full time and 35.4% were not employed and not looking compared to 78.3% and 1.8% of male noncompleters, respectively.

F. Region, Sex, and Age

Table 2.7 provides data for the YATS II population in each region, by sex and age group. The largest populations for all age groups for both males and females were located in the South followed by the North Central region of the United States. The populations located in the Northeastern and Western sections of the United States were within three percentage points.

G. Aptitude Status, Sex, and Age

Table 2.8 provides data depicting predicted aptitude status by sex and age for males and females aged 16 to 21. Data were not available for 22- to 24-year-olds. As shown, for both age groups one half or more of males and females were predicted to have higher aptitudes. That is, they were predicted to score at or above the 50th percentile on military aptitude tests. For both males and females, those aged 16 to 17 were somewhat more likely to be classified with higher aptitudes than those in the 18- to 21-year-old group. This was probably due to the YATS eligibility criteria. Higher aptitude youths aged 18 to 21 were likely to have attended college beyond the second year and to have become ineligible for the YATS survey.

Although the percentages of higher aptitude youths were somewhat lower among 18- to 21-year-olds relative to 16- to 17-year-olds, the estimated counts of higher aptitude individuals remained relatively constant across the two groups. There were approximately 1.6 million higher aptitude males and 1.5 million higher aptitude females for each age group.

H. Summary of Population Characteristics

Seven sociodemographic characteristics of the YATS population were examined: age, marital status, race/ethnicity, school status, employment status, region, and aptitude. The YATS population comprised the large majority of the total youth population for 16- and 17-year-olds, but it was proportionately smaller for ages 18 to 20 and remained at relatively low levels for ages 21 to 24. The decline in size across age was due to YATS eligibility criteria that excluded youths from the sample if they had military experience or were beyond the second year of college.

Marital status, school status, employment status, and aptitude were all related to age. Marital status, race/ethnicity, and employment status were related to sex. Marital status showed normal life-cycle processes. Those who were older were more likely to be married than those who were younger, and, at the same age, females were more likely than males to be married.

Table 2.7 Region by Sex and Age Range

	Age range					
	16-17		18-21		22-24	
	Estimated population		Estimated population		Estimated population	
Sex/region	Count	Percent	Count	Percent	Count	Percent
Males						
Northeast	540	19.3	652	20.8	289	20.2
North Central	698	25.0	790	25.2	350	24.4
South	980	35.1	1,088	34.7	512	35.7
West	577	20.7	608	19.4	282	19.7
Total	2,795	100.0	3,137	100.0	1,433	100.0
Females						
Northeast	503	18.9	620	20.5	332	19.1
North Central	744	27.9	753	24.9	416	23.9
South	987	37.0	1,009	33.4	641	36.9
West	432	16.2	642	21.2	350	20.1
Total	2,667	100.0	3,025	100.0	1,738	100.0

Note. Population counts are in thousands. Estimates are based on some variables for which there may be missing information. Percentage distributions may not sum to 100.0 due to rounding.

Source. 1989 Youth Attitude Tracking Study.

School status also conformed to expected age groupings. The 16- to 17-year-olds were predominantly high school seniors or nonsenior high school students, whereas 18- to 21-year-olds were more likely to be high school graduates (received a high school diploma and not attending school) or postsecondary students (graduates attending college or business/vocational school). Most 22- to 24-year-olds had completed school and were high school diploma graduates.

Employment status showed a steady progression toward full-time work from part-time employment or unemployment as age increased. In general, those who were not employed or were employed part time were students attending high school or postsecondary school. Females followed the same general employment pattern as males although at lower levels. More females than males were not employed and not looking for work.

The percentage of higher aptitude individuals--defined as those predicted to fall in the 50th or higher percentile on the enlistment test--was greater among 16- to 17-year-

Table 2.8 Aptitude Status by Sex and Age Range

	Age range				
	16-17			18-21	
	Estimated population			Estimated population	
Sex/aptitude[a]	Count	Percent		Count	Percent
Males					
Higher aptitude	1,602	57.3		1,625	51.8
Lower aptitude	1,193	42.7		1,512	48.2
Total	2,795	100.0		3,137	100.0
Females					
Higher aptitude	1,451	54.4		1,518	50.2
Lower aptitude	1,216	45.6		1,507	49.8
Total	2,667	100.0		3,025	100.0

Note. Population counts are in thousands. Estimates are based on some variables for which there may be missing information. Percentage distributions may not sum to 100.0 due to rounding. Data are not available for 22- to 24-year-olds.

[a]Higher aptitude is defined as predicted scores in Categor..s I-IIIA (percentiles 50-99) of the Armed Forces Qualification Test. Lower ..ptitude is defined as predicted scores in Categories IIIB-V (percentiles 1-49).

Source. 1989 Youth Attitude Tracking Study.

olds than among 18- to 21-year-olds. However the difference may be related to the YATS eligibility criteria that excluded individuals beyond the second year of college. Those with higher aptitudes would be more likely to continue college beyond the second year than would those with lower aptitudes and thus be excluded from the YATS population.

Race/ethnicity representation did not vary across age groups, with whites comprising nearly three quarters of the population. Patterns of nonwhite representation did vary among males and females, however. For males, Hispanics were equal in population size or larger than Blacks for all age groups. For females, however, the opposite pattern occurred with Blacks outnumbering Hispanics across the three age groups.

3. PROPENSITY FOR THE ACTIVE MILITARY SERVICES

This chapter presents the basic findings from the analysis of the 1989 YATS II data on the likelihood of enlistment in each of the active Military Services. We first discuss composite and Service-specific propensity results for 1989. Next we examine sociodemographic correlates of propensity. We then examine the interrelationship of sociodemographic variables and propensity.

A. Composite Active and Service-Specific Propensity

Propensity for active military service was assessed by five questions asking the likelihood of serving in the active Army, Navy, Marine Corps, Air Force, or Coast Guard.

These questions were asked with the following format:

Now, I'm going to read you a list of several things which young (men/women) your age might do in the next few years. For each one I read, please tell me how likely it is that you will be doing that.

How likely is it that you will be serving on active duty in the ____(Army, Navy, Marine Corps, Air Force, Coast Guard)? Would you say

> Definitely,
> Probably,
> Probably not, or
> Definitely not?

For each of the Services, positive propensity is defined as having answered "definitely" or "probably"; negative propensity is defined as having answered "probably not," "definitely not," "don't know," or "refuse" to the question.

The percentage of respondents who indicated positive propensity for one or more of the DoD Services (i.e., the Army, Navy, Air Force, or Marine Corps) is presented as composite active propensity.

Another measure used to assess level of interest for enlisting in one of the active Military Services is termed "unaided mentions" and refers to an answer that was volunteered without a prompt from the interviewer. The unaided mention measure was obtained by asking:

Now, let's talk about your plans for the next few years. What do you think you might be doing?

This question was asked before any mention of enlistment by the interviewer.

An unaided mention was recorded when the respondent indicated his or her intention to join the military in general or one of the specific Services. After stating such an intention, the respondent was asked which Service he or she planned to join (where not already indicated) and whether the type of Service would be active, Reserves, or National Guard.

1. Overall Propensity Findings

Table 3.1 presents the percentage of the YATS population expressing positive composite active propensity (i.e., expressing propensity to enlist in one of the four DoD Military Services), as well as positive propensity to enlist in the Army, Navy, Marine Corps, Air Force, or Coast Guard. As shown, there was a clear pattern for propensity to decline significantly as age increased. Less than one half as many 22- to 24-year-old males (18.0%) expressed positive composite active propensity as 16- to 17-year-old males (43.4%). Females showed the same pattern of results as males, although positive composite active propensity in each age group was lower than the percentage for the comparable male group.

Overall, propensity for the Army and the Air Force was consistently higher than propensity for the other Services. For example, 16- to 17-year-old males expressed significantly higher propensity for the Air Force (22.8%) and the Army (21.5%) than for the Navy (16.3%), Marine Corps (16.2%), or Coast Guard (11.6%). Similar patterns were found also for females in both the 16- to 17-year-old and 18- to 21-year-old groups, where the Air Force and the Army were significantly higher than were the Marine Corps and the Coast Guard for 16- to 17-year-old females. For 18- to 21-year-old females, propensity for the Air Force was significantly higher than for the other Services.

The differences in enlistment propensity among the Services were less dramatic among 18- to 24-year-old females. However, the level of interest for enlisting in the Coast Guard was consistently lower for all age groups, except for older males (22 to 24 years) and females (18 to 21) who reported less interest in the Marine Corps.

Table 3.1 also presents the percentages for males and females of each age group expressing unaided mentions of interest in joining one of the active Services. Males aged 16 to 17 (7.0%) and 18 to 21 (4.3%) showed significantly greater interest in joining the military than did males aged 22 to 24 (1.0%). The older males and all females in the population had very little interest in the military as indicated by unaided mentions (approximately 1% or less).

Table B.2 included in Appendix B presents these same data arranged for the traditional groupings of 16- to 21-year-old males and females and 22- to 24-year-old males and females. Table B.3 provides the frequency distribution of responses to the Service-specific and composite active propensity measures.

Table 3.1 Positive Composite Active Propensity, Service-Specific Propensity,
and Unaided Mentions by Sex and Age Range

	Males						Females				
	16-17 (N=2,789)		18-21 (N=3,012)		22-24 (N=1,178)		16-17 (N=1,650)		18-21 (N=1,829)		22-24 (N=1,117)
Propensity measure											
Composite[a]	43.4	(1.2)	25.1	(1.0)	18.0	(1.4)	19.3	(1.1)	9.7	(0.8)	6.2	(0.9)
Army	21.5	(1.0)	13.1	(0.8)	9.4	(1.0)	8.5	(0.8)	4.2	(0.6)	2.3	(0.5)
Navy	16.3	(0.9)	10.3	(0.7)	7.9	(1.0)	7.4	(0.7)	3.0	(0.5)	2.5	(0.6)
Marine Corps	16.2	(0.9)	9.4	(0.7)	6.5	(0.9)	4.9	(0.6)	2.5	(0.4)	1.4	(0.4)
Air Force	22.8	(1.0)	13.3	(0.8)	9.9	(1.1)	11.7	(0.9)	6.0	(0.6)	3.5	(0.7)
Coast Guard	11.6	(0.8)	7.9	(0.6)	7.2	(0.9)	4.8	(0.6)	3.3	(0.6)	1.3	(0.4)
Unaided mentions	7.0	(0.6)	4.3	(0.4)	1.0	(0.3)	1.2	(0.3)	0.4	(0.2)	0.1	(0.1)

Note. Tabled values are percentages of each category with positive propensity. Standard errors
are in parentheses.

[a]Propensity to serve in at least one active Service excluding the Coast Guard.

Source. 1989 Youth Attitude Tracking Study.

Overall, these propensity data clearly show that interest in the military was higher
among younger individuals and that more individuals were inclined to enlist in the
Army and Air Force than in the other Services (i.e., the Navy, Marine Corps, and Coast
Guard).

In addition to understanding the overall propensity findings, it was of interest to
examine patterns and changes in propensity since the prior survey. Figure 3.1 presents
composite active propensity for 1988 and 1989 by age group for males and females.
Chapter 5 examines longer term trends across the years of the survey for composite
active males. Overall, the data indicate an increasing pattern in expressed positive
active propensity between 1988 and 1989. Propensity was significantly higher in 1989
for 22- to 24-year-old males and 16- to 17-year-old females, and it was of borderline
significance for 16- to 17-year-old males.

2. Propensity for One and Two Services

The estimates discussed for Table 3.1 are based on all mentions of propensity
to enlist in the Military Services, including mentions of only one Service and those

Figure 3.1 Positive Composite Active Propensity by Age Group for Males and Females, 1988 and 1989

Males

Age Group	1988	1989
16-17	39.9	43.4
18-21	24.4	25.1
22-24	14.0	18.0

Females

Age Group	1988	1989
16-17	14.9	19.3
18-21	9.9	9.7
22-24	5.0	6.2

■ 1988   ☐ 1989
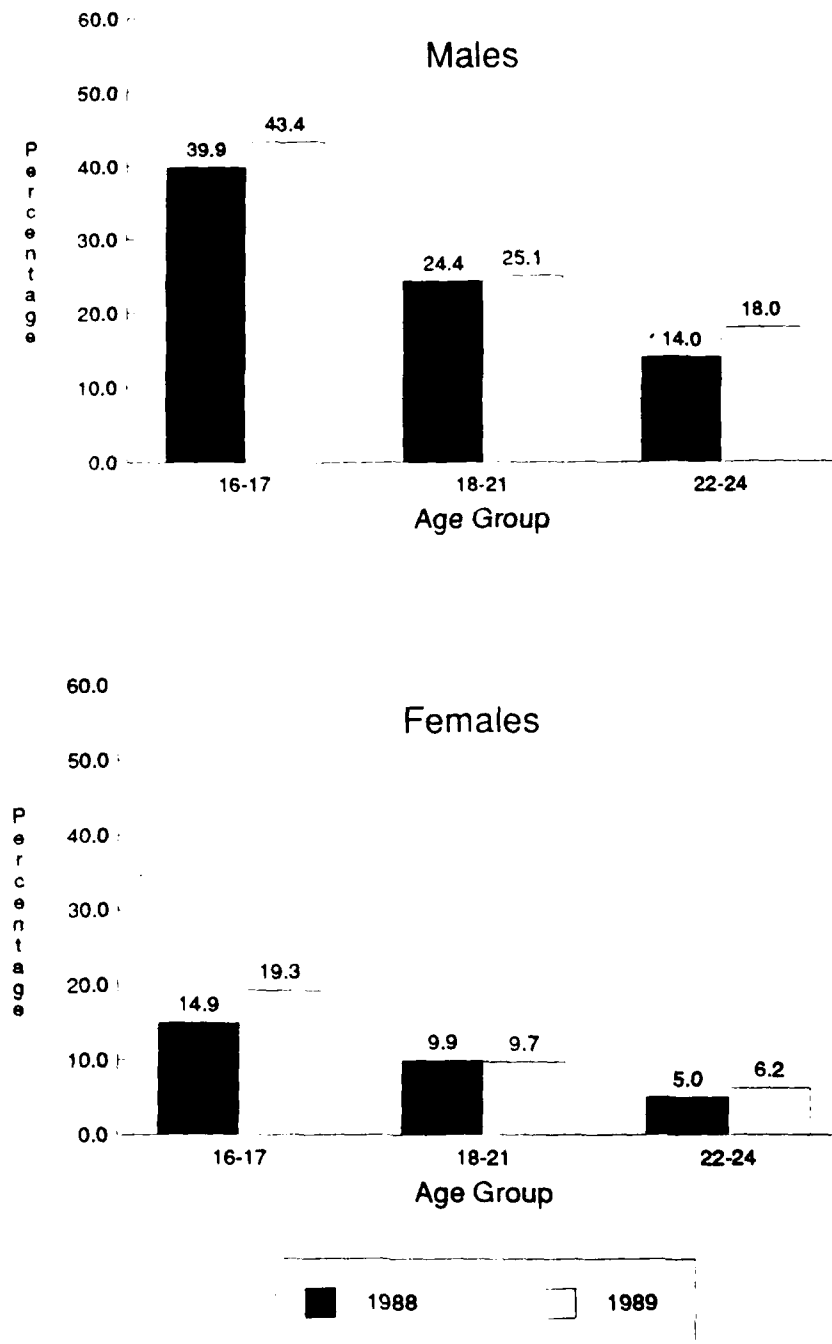
for more than one Service. Table 3.2 narrows the conceptualization of propensity and presents the percentage of the YATS population who expressed enlistment propensity for **only one** Service. As shown, the propensity for only one Service follows the pattern seen earlier for the Military Services overall, although the percentages are much smaller. There was more interest in the Air Force and Army than in the Navy, Marine Corps, or Coast Guard.

Table 3.2 Positive Composite Active Propensity for a Single Service by Sex and Age Range

	Males			Females		
Service	16-17 (N=2,789)	18-21 (N=3,012)	22-24 (N=1,178)	16-17 (N=1,650)	18-21 (N=1,829)	22-24 (N=1,117)
Army only	5.8 (0.5)	2.9 (0.4)	2.0 (0.4)	2.0 (0.4)	1.3 (0.3)	0.9 (0.3)
Navy only	2.5 (0.3)	1.6 (0.3)	1.3 (0.4)	1.9 (0.4)	0.4 (0.1)	0.9 (0.4)
Marine Corps only	2.8 (0.4)	1.4 (0.3)	1.3 (0.4)	0.9 (0.3)	0.2 (0.1)	0.2 (0.1)
Air Force only	6.0 (0.5)	3.3 (0.4)	1.9 (0.4)	5.0 (0.6)	2.4 (0.4)	1.7 (0.5)
Coast Guard only	1.5 (0.3)	1.7 (0.3)	2.2 (0.5)	0.6 (0.3)	0.7 (0.2)	0.2 (0.2)

Note. Tabled values are percentages of each category with positive propensity. Standard errors are in parentheses.

Source. 1989 Youth Attitude Tracking Study.

The percentage of 16- to 17-year-old males who expressed enlistment propensity for the Air Force only (6.0%) and the Army only (5.8%) was significantly larger than for the Navy (2.5%), Marine Corps (2.8%), or Coast Guard (1.5%). With the exception of males in the 22- to 24-year-old group, the level of positive propensity for the Air Force only was highest for all age groups and sexes. Older males in this 22- to 24-year-old group expressed greater propensity (although still very low) for the Coast Guard (2.2%) and the Army (2.0%).

Table 3.3 expands this discussion of propensity for a single Service to include interest in two Military Services. Only small percentages of the YATS population specified two Services; overall, there were few significant differences in propensity for Service pairs across the age and gender groups. Propensity for the Army and Air Force pair was highest for 18- to 21- and 22- to 24-year-old males, and 16- to 17- and 18- to 21-year-old females. For 16- to 17-year-old males and 22- to 24-year-old females, propensity for the Navy and Air Force pair was highest. These levels of propensity were not

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Table 3.3 Positive Composite Active Propensity for Two
Military Services by Sex and Age Range

Service pair	Males			Females		
	16-17 (N=2,789)	18-21 (N=3,012)	22-24 (N=1,178)	16-17 (N=1,650)	18-21 (N=1,829)	22-24 (N=1,117)
Army - Navy	1.3 (0.2)	1.2 (0.3)	0.5 (0.2)	0.6 (0.3)	0.3 (0.2)	0.1 (0.1)
Army - Marine Corps	2.8 (0.4)	1.5 (0.3)	0.9 (0.4)	0.5 (0.3)	0.3 (0.1)	0.2 (0.2)
Army - Air Force	2.5 (0.4)	1.8 (0.3)	1.2 (0.4)	1.3 (0.3)	0.8 (0.2)	0.2 (0.1)
Navy - Marine Corps	0.7 (0.3)	0.5 (0.1)	0.4 (0.2)	0.3 (0.2)	0.4 (0.2)	++ ++
Navy - Air Force	2.9 (0.4)	1.1 (0.2)	1.1 (0.4)	0.3 (0.1)	0.2 (0.1)	0.5 (0.3)
Marine Corps - Air Force	1.6 (0.4)	0.8 (0.2)	0.3 (0.2)	0.5 (0.2)	0.5 (0.2)	0.1 (0.1)
Coast Guard - Army	0.7 (0.2)	0.5 (0.2)	0.5 (0.2)	0.3 (0.2)	0.5 (0.2)	++ ++
Coast Guard - Navy	1.0 (0.2)	0.5 (0.2)	0.6 (0.3)	0.2 (0.1)	0.1 (0.1)	++ ++
Coast Guard - Marine Corps	0.3 (0.1)	0.4 (0.1)	0.1 (0.1)	0.1 (0.1)	++ ++	0.2 (0.1)
Coast Guard - Air Force	1.1 (0.2)	0.7 (0.2)	0.8 (0.3)	0.5 (0.2)	0.4 (0.2)	0.1 (0.1)

Note. Tabled values are the percentage of respondents indicating propensity for two Services with standard errors in parentheses.

++ Estimate rounds to zero; standard error, therefore, cannot be computed.

Source. 1989 Youth Attitude Tracking Study.

significantly different from the next highest Service pair for any of the age or gender groups.

Taken together, these data indicate that the preferences of the YATS population for a single Service and pairs of Services are closely related and that they are generally consistent with overall Service preferences. They also suggest that most individuals with a propensity to enlist are not committed to a specific Service because single Service propensities (Table 3.2) are only a fraction of overall Service-specific propensity (Table 3.1).

B. Sociodemographic Correlates of Propensity

This section discusses the sociodemographic characteristics of individuals with positive propensity (i.e., those most likely to join the military). The percentages of males and females in three age groups (16 to 17, 18 to 21, and 22 to 24 years) who expressed positive propensity are classified according to race/ethnicity, marital status, school status, employment status, Census region of residence, and aptitude. Table B.4 in Appendix B provides one-way frequency distributions for these characteristics for the traditional market groups of males and females aged 16 to 21 and males and females aged 22 to 24.

1. Propensity and Age Patterns

Figure 3.2 provides percentages of the population with positive composite active propensity and unaided mentions by age along with population counts for composite active propensity for males and females. As shown, age was strongly related to propensity for the YATS population. This was especially true for males, where propensity declined from 44.0% at age 16 to 18.3% at age 21. Propensity was somewhat more stable for older males, with 23- and 24-year-old males who expressed slightly higher propensity than did 22-year-olds.

The sharp declines across age in the percentages of males with positive propensity are also reflected in the population estimates. More than 625,000 16-year-old males expressed propensity to join the military, but only about 92,000 21-year-old males had this same sentiment. Estimates of population counts were more stable among 22- to 24-year-olds, but the number of older males with positive propensity continued to drop relative to younger males (to 80,000 for 24-year-old males).

Positive propensity for females showed the same declining pattern as that for males, although the rate of decline was more gradual. Overall, 16-year-old females (22.2%) were over three times more likely to express positive propensity than their 20-year-old counterparts (6.5%). Population counts of females with positive propensity followed the same pattern across ages observed for the percentage estimates. Overall, the counts of females with positive propensity were much lower than were the counts of males.

**Figure 3.2 Positive Composite Active Propensity and
Unaided Mentions as a Function of Age for Males and Females**

Males

| 626 | 588 | 355 | 216 | 124 | 92 | 95 | 83 | 80 |

Population Count (in thousands) for Composite Active Propensity

Females

| 289 | 225 | 129 | 97 | 38 | 29 | 53 | 19 | 36 |

Population Count (in thousands) for Composite Active Propensity

Source. 1989 Youth Attitude Tracking Study.

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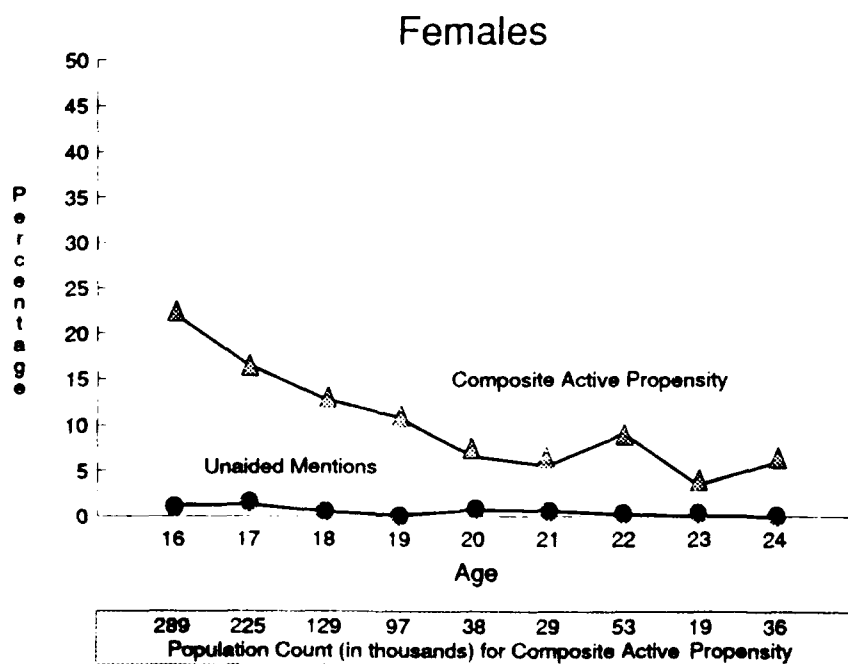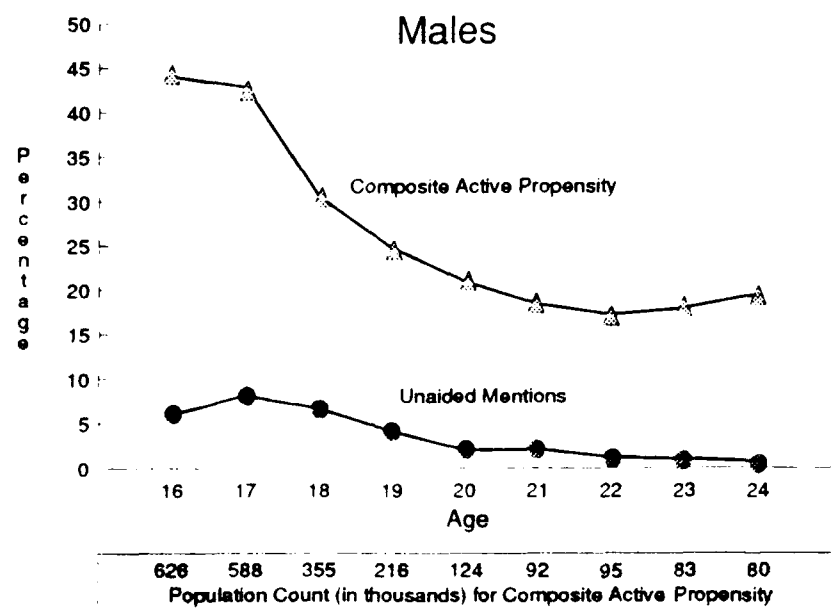
The age effects for propensity shown in these data were particularly strong for males, especially those aged 16 to 21. These patterns and the more stable patterns for those over 21 were seen in prior waves of YATS. As explained earlier, the decline in propensity among older individuals is partly a function of the eligibility for YATS: Those who have more than 2 years of postsecondary education and those who enter Military Services are excluded from the YATS population. Eligibility criteria alone, however, do not account for all of the decline.

As might be expected, the percentage of the YATS population who mentioned being interested in serving in the military without prompting (unaided mentions) was considerably lower than were the percentages calculated for composite active propensity. For males, younger members of the population expressed higher interest in serving in the military. Seventeen-year-old males had the highest percentage of unaided mentions (8.1%). Unaided mentions decreased linearly until age 21, where the percentage who reported interest in the military leveled off at almost zero. The pattern of unaided mentions for females was relatively stable and very low, less than 2% at any age.

2. Propensity by Race/Ethnicity, Sex, and Age

Table 3.4 provides the estimated population counts and percentages of males and females with positive composite active propensity by race/ethnicity and age grouping. Race/ethnicity showed a strong relationship to propensity, with nonwhites more likely than whites to express positive propensity. This pattern occurred across all age groups. Among 16- to 17-year-old males, Blacks (61.7%) and Hispanics (63.7%) were much more likely to have positive propensity than were whites (37.9%). A similar pattern occurred among 18- to 21-year-old males (47.6% for Blacks and 33.8% for Hispanics vs. 20.1% for whites). The same pattern held with even more extreme differences for 22- to 24-year-old males. Blacks and Hispanics were approximately 2.4 times more likely than whites to show positive propensity.

Female nonwhite group members also reported levels of composite propensity that were higher than those for white females. In the youngest age group (16- to 17-year-olds), 12.2% of the white females reported positive propensity. In contrast, 39.6% of Blacks, 36.7% of Hispanics, and 25.9% of other races expressed positive propensity for military service. The same pattern continued for 18- to 21-year-old females, as well.

It is not clear why nonwhites had a higher propensity for military service than did whites. The military may provide them with better career opportunities and avenues for advancement, treatment, and the like than does society at large. It should be noted, however, that even though nonwhites had proportionately more individuals with positive propensity, the much larger white population still yielded higher population counts despite a smaller proportion with positive propensity. (Table 3.4 shows these population counts for the race/ethnicity groups across the age groups.) For example,

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**Table 3.4 Positive Composite Active Propensity by
Race/Ethnicity, Sex, and Age Range**

	Age range					
	16-17		18-21		22-24	
	Estimated population		Estimated population		Estimated population	
Sex/race-ethnicity	Count	Percent	Count	Percent	Count	Percent
Males						
White	786	37.9	462	20.1	149	13.6
Black	175	61.7	155	47.6	42	32.0
Hispanic	188	63.7	143	33.8	54	32.7
Other	61	46.5	26	30.8	8	22.4
Total	1,210	43.4	786	25.1	253	17.7
Females						
White	231	12.2	134	6.1	46	3.5
Black	1´ ͺ	39.6	94	24.5	33	14.8
Hispanic	ͼ ͺ	36.7	48	15.0	24	15.9
Other	29	25.9	17	14.3	--	--
Total	514	19.3	293	9.7	107	6.2

Note. Population counts are in thousands. Estimates are based on some variables for which there may be missing information.

-- Sample size less than 30; estimate not reliable.

Source. 1989 Youth Attitude Tracking Study.

among 18- to 21-year-old males, 47.6% or about 154,000 Blacks expressed positive propensity compared to 20.1% or about 462,000 whites. These data indicate that nonwhites had the greatest proclivity for military service, although they still represented relatively small numbers of potential recruits.

3. Propensity by Marital Status, Sex, and Age

Table 3.5 presents the marital status of participants with positive composite active propensity. For both males and females aged 18 to 21 and 22 to 24, never having

Table 3.5 Positive Composite Active Propensity by Marital Status, Sex, and Age Range

	Age range					
	16-17		18-21		22-24	
	Estimated population		Estimated population		Estimated population	
Sex/marital status	Count	Percent	Count	Percent	Count	Percent
Males						
Never married	1,206	43.4	754	25.4	182	19.2
Currently married	--	--	29	18.8	58	14.3
Other[a]	--	--	--	--	14	19.9
Total	1,211	43.4	786	25.1	254	17.8
Females						
Never married	514	19.5	276	11.2	70	10.0
Currently married	--	--	12	2.4	27	3.0
Other[a]	--	--	4	8.0	9	5.9
Total	514	19.3	293	9.7	106	6.1

Note. Population counts are in thousands. Estimates are based on some variables for which there may be missing information.

-- Sample size less than 30; estimate not reliable.

[a]"Other" includes widowed, divorced, and separated.

Source. 1989 Youth Attitude Tracking Study.

been married was associated with higher levels of propensity than being currently married. As expected, too few 16- to 17-year-old males or females had ever married to assess the relationship for this group. Overall, 43.4% of the 16- to 17-year-old males (1.21 million) and 25.4% of the 18- to 21-year-old males (754,000) who had never married expressed positive propensity. Males aged 22 to 24 years in the "other" category (i.e., those who were widowed, divorced, or separated) expressed positive propensity at levels comparable to males who had never been married. Propensity among females who had never married was considerably lower than that among males (19.5% for 16- to 17-year-olds; 11.2% for 18- to 21-year-olds), but it was still higher than among females

who were currently married. The most important finding is that married individuals in the YATS population had lower expressed propensity for one of the Military Services than did those who had never married.

4. Propensity by School Status, Sex, and Age

Table 3.6 presents the percentage and estimated size of the population with positive composite active propensity partitioned by school status, sex, and age. Overall, males in high school reported the highest levels of propensity. For example, 36.9% of 16- to 17-year-old high school seniors and 48.7% of the males in lower grades expressed positive propensity. For males aged 18 to 21, 44.6% of the seniors and 59.2% of the nonsenior male students (i.e., high school students below the 12th grade) reported positive propensity. Propensity was lowest among the males aged 22 to 24, especially postsecondary students (10.5%). The relationship between propensity, age, and school status for females was generally similar to that observed for males. For 16- to 17-year-old females, high school seniors and nonsenior high school students expressed the highest levels of propensity (16.6% and 23.5%, respectively). For 18- to 21-year-old females, high school seniors showed the highest levels of propensity (23.6%). For 22- to 24-year-old females, postsecondary students showed the highest propensity (13.6%), followed by noncompleters (8.6%).

Table 3.6 also presents estimated population counts of the YATS population with positive propensity categorized by school status. As might be expected, nonsenior high school students comprised the largest group of 16- to 17-year olds (696,000 males and 270,000 females). For 18- to 21-year-olds, the largest groups were high school graduates for females (98,000) and noncompleters for males (261,000). High school graduates were the largest groups for both sexes of the 22- to 24-year-old age group (139,000 for males and 48,000 for females).

Male high school seniors aged 18 to 21 years expressed a higher level of positive propensity (44.6%) than did 16- to 17-year-old seniors (36.9%). Moreover, this unexpected pattern also held for females of the same age group (23.6% vs. 16.6%). This trend replicates the finding from the 1988 Propensity Report; however, it also contrasts with the trends seen in other tables, where propensity declined with increasing age. One explanation for this finding is that 18- to 21-year-olds who have not yet graduated from high school tend to be students who have progressed academically at a slower rate. As a group, these individuals may have below-average aptitude. As is shown in Section 4.B.7, lower aptitude individuals had, on average, higher enlistment propensity than did higher aptitude individuals.

Table 3.6 Positive Composite Active Propensity by School Status, Sex, and Age Range

	Age range					
	16-17		18-21		22-24	
	Estimated population		Estimated population		Estimated population	
Sex/school status[a]	Count	Percent	Count	Percent	Count	Percent
Males						
Postsecondary student	12	20.8	133	14.3	14	10.5
High school graduate	8	19.9	221	19.8	139	15.4
High school senior	327	36.9	136	44.6	N/A	N/A
Nonsenior high school student	696	48.7	36	59.2	N/A	N/A
Noncompleter	171	45.1	261	36.0	100	25.3
Total	1,214	43.4	787	25.1	258	18.0
Females						
Postsecondary student	7	11.8	95	8.8	26	13.6
High school graduate	--	--	98	7.8	48	4.1
High school senior	172	16.6	31	23.6	N/A	N/A
Nonsenior high school student	270	23.5	--	--	N/A	N/A
Noncompleter	63	16.5	67	12.7	33	8.6
Total	514	19.3	293	9.7	107	6.2

Note. Population counts are in thousands. Estimates are based on some variables for which there may be missing information.

N/A = Not applicable.

-- = Sample size less than 30; estimate not reliable.

[a]Postsecondary students are high school graduates currently attending college or a business/vocational school. High school graduates are respondents who are not students and have graduated from high school. Noncompleters are respondents who are not high school students and have not graduated from high school.

Source. 1989 Youth Attitude Tracking Study.

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5. Propensity by Employment Status, School Status, and Age

Respondents' employment status is also related to the expression of positive composite active propensity. Table 3.7 indicates that males who were neither employed nor looking for work consistently expressed the lowest levels of propensity for military service. Conversely, the propensity of males who were not employed but were looking for work was generally higher than were the propensities for the other three employment status groups (i.e., not employed and not looking, employed full time, or employed part time) for all age groups except the 22- to 24-year-olds. For this older male group, full-time employment was slightly higher. For example, among males aged 18 to 21 years, better than one third (38.6%) of the not employed but looking population expressed positive propensity compared with only 21.8% of those employed full time and 24.1% of those employed part time. This pattern also held generally within the various school status groups, with no systematic association between school and employment status apparent.

Table 3.8 presents similar information on employment status, school status, and age grouping for females with positive propensity. Females showed a similar, although weaker pattern than did males. Those who were not employed and looking for work had higher propensity than did the other groups.

These data suggest that positive propensity for the military may increase as unemployment rates increase, perhaps as a result of the perceived career opportunities and job security attributed to the military. This finding will bear increased scrutiny in future YATS surveys, for perceived employment opportunities and career advancement potential in the military may be affected by the smaller military force necessary in reduced defense budgets.

6. Propensity by Region, Sex, and Age

Table 3.9 presents the percentage and estimated size of the YATS population with positive composite active propensity partitioned by Census region, sex, and age group. Males in the South expressed the highest levels of propensity overall, with 48.6% of the 16- to 17-year-old males (476,000), 28.7% of the 18- to 21-year-old males (312,000), and 25.8% of the 22- to 24-year-old males (132,000). After the South, males in the West had the highest propensity, followed by the Northeastern and North Central regions. Clearly, these findings support the widely held view that the South and West are fertile areas for recruiting males. When absolute numbers of the recruit pool in each region are considered, however, only modest differences between the West, Northeast, and North Central regions are apparent.

Like male 16- to 17-year-olds and 18- to 21-year-olds, females from the South expressed the highest propensity for military service (21.2% and 11.2%, respectively). For older females (22 to 24 years), the propensity was highest in the Northeast (7.4%).

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Table 3.7 Positive Composite Active Propensity by School Status, Employment Status, and Age for Males

Age/school status[a]	Employment status							
	Employed full time		Employed part time		Not employed, looking		Not employed, not looking	
16-17								
Postsecondary student	--	--	--	--	--	--	--	--
High school graduate	--	--	--	--	--	--	--	--
High school senior	36.5	(7.7)	34.3	(3.0)	53.5	(4.8)	28.2	(3.9)
Nonsenior high school student	57.9	(6.6)	44.4	(2.7)	56.4	(2.9)	43.3	(2.9)
Noncompleter	49.2	(6.8)	38.9	(5.5)	60.3	(5.8)	29.5	(6.1)
Total	44.5	(3.7)	39.0	(1.8)	55.7	(2.2)	36.5	(2.2)
18-21								
Postsecondary student	14.2	(2.7)	14.4	(2.4)	19.5	(4.2)	10.8	(2.7)
High school graduate	18.0	(1.6)	16.2	(3.8)	35.5	(5.7)	9.1	(4.7)
High school senior	--	--	41.0	(5.5)	48.9	(6.7)	42.3	(8.1)
Nonsenior high school student	--	--	--	--	--	--	--	--
Noncompleter	30.9	(3.0)	37.0	(6.1)	47.8	(5.5)	32.0	(8.7)
Total	21.8	(1.3)	24.1	(2.0)	38.6	(2.8)	19.4	(2.7)
22-24								
Postsecondary student	15.4	(5.6)	--	--	--	--	--	--
High school graduate	16.0	(1.8)	10.7	(5.1)	9.5	(3.7)	--	--
High school senior	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nonsenior high school student	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Noncompleter	26.3	(3.3)	17.3	(8.0)	30.4	(9.4)	--	--
Total	18.8	(1.6)	14.5	(4.3)	16.0	(3.9)	11.2	(6.2)

Note. Tabled values are percentages with standard errors in parentheses.

N/A = Not applicable.

-- = Sample size less than 30; estimate not reliable.

[a]Postsecondary students are high school graduates currently attending college or a business/ vocational school. High school graduates are respondents who are not students and have graduated from high school. Noncompleters are respondents who are not high school students and have not graduated from high school.

Source. 1989 Youth Attitude Tracking Study.

Table 3.8 Positive Composite Active Propensity by School Status, Employment Status, and Age for Females

Age/school status[a]	Employment status							
	Employed full time		Employed part time		Not employed, looking		Not employed, not looking	
16-17								
Postsecondary student	--	--	--	--	--	--	--	--
High school graduate	--	--	--	--	--	--	--	--
High school senior	17.2	(8.3)	14.4	(2.2)	19.6	(3.6)	18.2	(3.9)
Nonsenior high school student	--	--	15.3	(2.8)	38.4	(3.9)	18.2	(3.1)
Noncompleter	--	--	17.4	(4.8)	22.9	(6.1)	12.0	(4.2)
Total	16.3	(4.4)	14.6	(1.6)	28.5	(2.5)	17.5	(2.2)
18-21								
Postsecondary student	14.4	(4.0)	7.6	(2.0)	12.9	(4.0)	4.2	(1.7)
High school graduate	6.5	(1.4)	7.2	(2.4)	16.1	(4.7)	3.7	(2.4)
High school senior	--	--	28.1	(9.0)	--	--	--	--
Nonsenior high school student	--	--	--	--	--	--	--	--
Noncompleter	13.6	(4.7)	22.8	(6.0)	14.8	(4.4)	--	--
Total	8.9	(1.4)	10.4	(1.6)	15.2	(2.5)	5.1	(1.3)
22-24								
Postsecondary student	10.7	(4.3)	11.6	(5.6)	--	--	--	--
High school graduate	3.3	(0.9)	8.2	(3.1)	10.2	(4.5)	0.6	(0.6)
High school senior	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nonsenior high school student	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Noncompleter	8.7	(4.0)	--	--	14.7	(6.9)	4.4	(2.8)
Total	4.9	(1.0)	9.9	(2.7)	14.2	(4.1)	3.0	(1.3)

Note. Tabled values are percentages with standard errors in parentheses.

N/A = Not applicable.

-- Sample size less than 30; estimate not reliable.

[a]Postsecondary students are high school graduates currently attending college or a business/vocational school. High school graduates are respondents who are not students and have graduated from high school. Noncompleters are respondents who are not high school students and have not graduated from high school.

Source. 1989 Youth Attitude Tracking Study.

**Table 3.9 Positive Composite Active Propensity by
Region, Sex, and Age Range**

	Age range					
	16-17		18-21		22-24	
	Estimated population		Estimated population		Estimated population	
Sex/region	Count	Percent	Count	Percent	Count	Percent
Males						
Northeast	221	40.9	148	22.7	36	12.5
North Central	258	37.0	176	22.3	49	14.0
South	476	48.6	312	28.7	132	25.8
West	259	44.8	150	24.7	41	14.4
Total	1,214	43.4	787	25.1	258	18.0
Females						
Northeast	104	20.7	57	9.2	24	7.4
North Central	134	18.1	75	9.9	24	5.8
South	209	21.2	113	11.2	41	6.5
West	67	15.4	48	7.4	17	4.9
Total	514	19.3	293	9.7	107	6.2

Note. Population counts are in thousands. Estimates are based on some variables for which there may be missing information. Percentage distributions may not sum to 100.0 due to rounding.

Source. 1989 Youth Attitude Tracking Study.

In contrast to males, however, females in the West reported the lowest propensity for all age groupings.

7.   Propensity by Youth Aptitude, Sex, and Age

A key measure of youth aptitude is performance on the Armed Forces Qualification Test (AFQT). Six categories of scores have been developed and are based on percentiles. Category I includes scores in the 93rd to 99th percentiles; Category II contains the 65th to 92nd percentiles; Category IIIA involves the 50th to 64th percentiles; Category IIIB includes the 31st to 49th percentiles; Category IV includes

the 10th to 30th percentiles; and Category V contains the 1st through the 9th percentiles. Those scoring in Categories I-IIIA (50th percentile and above) are referred to as higher aptitude, while those in Categories IIIB-V (percentiles 1-49) are referred to as lower aptitude.

AFQT scores for assessing aptitude were not available for YATS respondents. However, the probability that 16- to 21-year-old males and 16- to 21-year-old females would fall in the upper and lower half of the AFQT score distribution was estimated using procedures discussed in Appendix A. Estimates were not available for 22- to 24-year-olds.

Table 3.10 presents the estimated counts and percentages of the population with positive composite active propensity for the predicted higher and lower aptitude groups. Positive propensity was clearly and consistently expressed by fewer people with higher aptitude than by those with lower aptitude. For example, among 18- to 21-year-old males, expressed propensity for those with lower aptitude was almost twice that of those with higher aptitude (33.7% vs. 17.1%, respectively). The differences in expressed propensity between higher and lower aptitude males ranges from 16.6 and 19.0 percentage points.

In addition to having higher propensity, lower aptitude individuals comprised a larger segment of the YATS population, particularly as age increased. For males aged 16 to 17, about 566,000 higher aptitude males expressed positive propensity, compared with about 648,000 lower aptitude males. For males aged 18 to 21, the disparity was larger: About 278,000 of those with higher aptitude expressed positive propensity compared to 509,000 of those with lower aptitude. This large difference among the 18- to 21-year-olds most likely occurred as higher ability members of the population advanced in higher education and were excluded from the YATS population.

Data for females show a pattern similar to males although propensity levels are lower. For example, among 18- to 21-year-olds, 13.4% of lower aptitude females expressed positive propensity compared with 6.0% of higher aptitude females. The differences in propensity among lower and higher youth ranged from 12.2% (16- to 17-year-olds) to 7.4% (18- to 21-year-olds).

These data provide useful information about the expected aptitude of the YATS population. They show sizable differences between propensity of those with expected higher aptitude and those with expected lower aptitude. Individuals with the greatest propensity for the military, on average, are not those who have the aptitude sought by the military. These data suggest that composite positive propensity is a useful measure to gauge youths' interest in the military, but it should be combined with aptitude scores to better target youth of most interest to the military.

Table 3.10 Positive Composite Active Propensity by Aptitude Status, Sex, and Age Range

	Age range				
	16-17			18-21	
	Estimated population			Estimated population	
Sex/aptitude[a]	Count	Percent		Count	Percent
Males					
Higher aptitude	566	35.3		278	17.1
Lower aptitude	648	54.3		509	33.7
Total	1,214	43.4		787	25.1
Females					
Higher aptitude	199	13.7		91	6.0
Lower aptitude	315	25.9		202	13.4
Total	514	19.3		293	9.7

Note. Population counts are in thousands. Data are not available for 22- to 24-year-olds.

[a]Higher aptitude is defined as the predicted probability of scoring in Categories I-IIIA (percentiles 50-99) of the Armed Forces Qualification Test. Lower aptitude is defined as predicted probability of scoring in Categories IIIB-V (percentiles 1-49).

Source. 1989 Youth Attitude Tracking Study.

C. Multivariate Analyses of Sociodemographic Variables and Propensity

The analyses presented to this point have examined the association of several sociodemographic factors with propensity. These variables have been examined one at a time and crosstabulated with age. These analyses provide useful information about associations of the selected variables with propensity, but they are limited by the fact that they are not able to take into account possible correlations among the sociodemographic variables or interactions (described below) among them. Multivariate analysis procedures such as regression analysis allow us to move beyond simple bivariate tabulations and to examine the combined effects of a set of variables on propensity.

This section describes the results of multivariate regression analyses of sociodemographic variables on composite active propensity. We first describe the

approach used in the analyses and then the results for 16- to 21-year-old males and 16- to 21-year-old females.

1. Analytical Approach

Regression analysis provides a concise study of the joint effects of several variables on propensity (the dependent outcome variable of interest). Using this statistical procedure, we can determine if the one-at-a-time associations observed in the tabular analyses fully explain the associations in the data or whether additional information is available due to correlations or interactions among the variables. By correlations, we mean that two variables are either positively or negatively related such that variation in one is predictable by variation in the other. By interactions, we mean that the pattern of results for the dependent measure of interest (e.g., positive propensity) varies for different combinations of two (or more) independent variables.

The idea of an interaction can perhaps best be explained with an example. As we shall see below, analyses of propensity data show an interaction between age and race/ethnicity. Previously in the tabular results, we saw that propensity declined systematically with age (i.e., those who were younger were more likely to express positive propensity than those who were older). An interaction between age and race/ethnicity means that there is some significant variation from this pattern of declining propensity with age for at least one of the racial/ethnic groups. That is, propensity for at least one of the racial/ethnic groups does not decline at the same rate as the total population average. Graphically, an interaction is indicated by the presence of nonparallel lines for the phenomena of interest. These ideas will become more evident as we discuss the interaction findings below.

The following sociodemographic variables that were shown to have a significant association with propensity in the prior tabular analyses were included in the regression analyses:

- Age,
- Race/ethnicity,
- Employment status,
- Census region, and
- Aptitude.

The other sociodemographic variables of marital status and school status were omitted from these analyses because of their strong dependence on age. In addition to the five sociodemographic variables, we included combinations of pairs of variables to examine interactions. We limited these variables to two-way interactions to facilitate interpretation of results. The two-way interactions were:

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- Age by race/ethnicity,
- Age by employment status,
- Age by Census region,
- Age by aptitude,
- Race/ethnicity by employment status,
- Race/ethnicity by Census region,
- Race/ethnicity by aptitude,
- Employment status by Census region,
- Employment status by aptitude, and
- Aptitude by Census region.

Our analyses allowed us to verify the presence of significant effects (i.e., significant differences) for the individual sociodemographic characteristics (referred to as main effects) and to examine any qualifying effects by testing for significant interactions among these variables. Because the patterns of findings for the individual sociodemographic variables are similar to the results that have been summarized earlier in the tabular analyses, we merely note below which of these showed significant main effects in the regression analyses. We restrict our focus in this discussion to results of the interactions that we illustrate with figures for ease of understanding.

Identical patterns of results from these regression analyses and earlier tabular analyses are not necessarily expected, although most are very similar, as we will see. Differences may occur because the regression analyses take into account correlations among the variables studied and are restricted to 16- to 21-year olds. (Sampling considerations did not easily allow the 22- to 24-year-olds to be combined with the younger group.) Technical details of these analyses appear in Appendix C.

2. Active Propensity for 16- to 21-Year-Old Males

The regression analysis of expressed propensity of 16- to 21-year-old males to enlist in the active Military Services showed significant main effects for age, race/ethnicity, employment status, and aptitude. In addition, results showed significant interactions for age by race/ethnicity and aptitude by race/ethnicity.

Figure 3.3 shows the interacting effects of age and race/ethnicity on active propensity. Propensity to enlist showed a general declining pattern with age for all three racial/ethnic groups, but the mean propensities and rates of decline differed among whites, Blacks, and Hispanics. Propensity for white youths was lowest of the three groups and showed a steady decline with increased age. Propensity for Blacks

Figure 3.3 Positive Composite Active Propensity of 16- to 21-Year-Old Males by Age for Whites, Blacks, and Hispanics
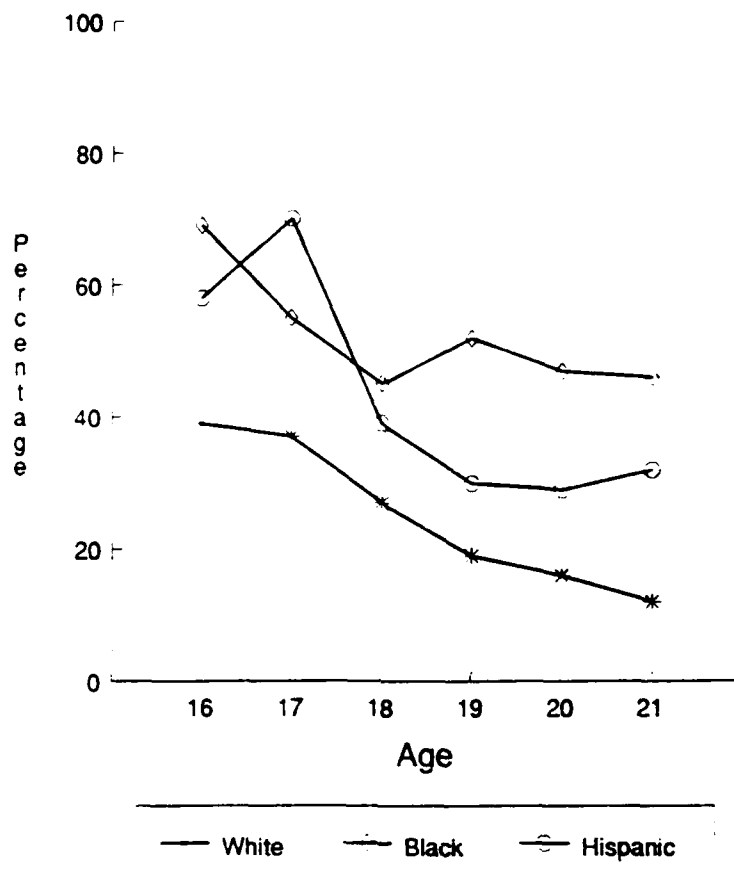
and Hispanics also generally showed a declining pattern with age, but at higher levels than for whites and with some variation in the pattern. The interaction in the data is attributable primarily to the fact that the three profiles (one for each racial/ethnic group) in Figure 3.3 are not parallel. Thus, although there is variation for Hispanics from the general pattern of declining propensity with age, the general pattern is the most important finding.

Figure 3.4 examines the aptitude by the race/ethnicity interaction effect on 16- to 21-year-old males' propensity to enlist in an active Service. It should be noted that the lines on the graph are not plots of specific data points, but rather are plots of predicted regression lines. Thus, the straight lines represent slopes (i.e., degree of change in propensity with aptitude) and intercepts (i.e., overall level of propensity). With these lines, we can examine the overall pattern of results, but we are unable to infer exact data points along the line. As shown in Figure 3.4, propensity declined with aptitude for all three ethnic groups, but the rate of decline for Blacks was much steeper than for whites or Hispanics. This is the root of the aptitude by race/ethnicity interaction. These results suggest that, although all higher aptitude individuals were less likely to enlist in the military, this was especially true for Blacks.

This aptitude by race/ethnicity interaction is especially interesting in view of the preference by the military to recruit higher aptitude youth. To examine the effects of aptitude further, Table 3.11 presents mean scores of the probability of a 16- to 21-year-old male's being classified as higher aptitude by age and race/ethnicity. Aptitude probabilities showed little variation with age, but striking variation with race/ethnicity. As shown for race/ethnicity, whites were over three times more likely to score in the higher aptitude range than were Blacks and over one and one half times more likely than were Hispanics. Thus, taken together, these data and those from Figure 3.4 indicate that it would be more difficult to find higher aptitude youths among nonwhites than among whites and that, for Blacks especially, those with higher aptitude were not likely to express positive propensity for military service.

3. Active Propensity for 16- to 21-Year-Old Females

Regression results showed that the propensity of 16- to 21-year-old females to enlist in the active Services was affected by age, race/ethnicity, aptitude, and employment status. These results were further qualified by three significant interactions: age by race/ethnicity, aptitude by race/ethnicity, and aptitude by employment status.

Figure 3.5 shows the interaction of age and race/ethnicity on the propensity of females to enlist in an active Military Service. The three racial/ethnic groups displayed different levels of propensity as well as different rates of declining propensity with age. Black females had the highest propensity over the entire age range, while whites showed the lowest propensity. The data also show that Black and Hispanic females' propensity declined more sharply across the ages than did that of whites. The interaction results from this differential (nonparallel) rate of decline among the three groups.

The interacting effects of aptitude by race/ethnicity in young females' propensity to enlist in an active Service are shown in Figure 3.6. As seen with males, propensity to enlist declined as the probability of higher aptitude increased for all three groups, but the rate of decline was considerably greater for Blacks than for whites or Hispanics. It should be noted that the lines on the graph are not plots of specific data points, but

**Figure 3.4 Positive Composite Active Propensity of
16- to 21-Year-Old Males by Probability of Higher Aptitude for
Whites, Blacks, and Hispanics**
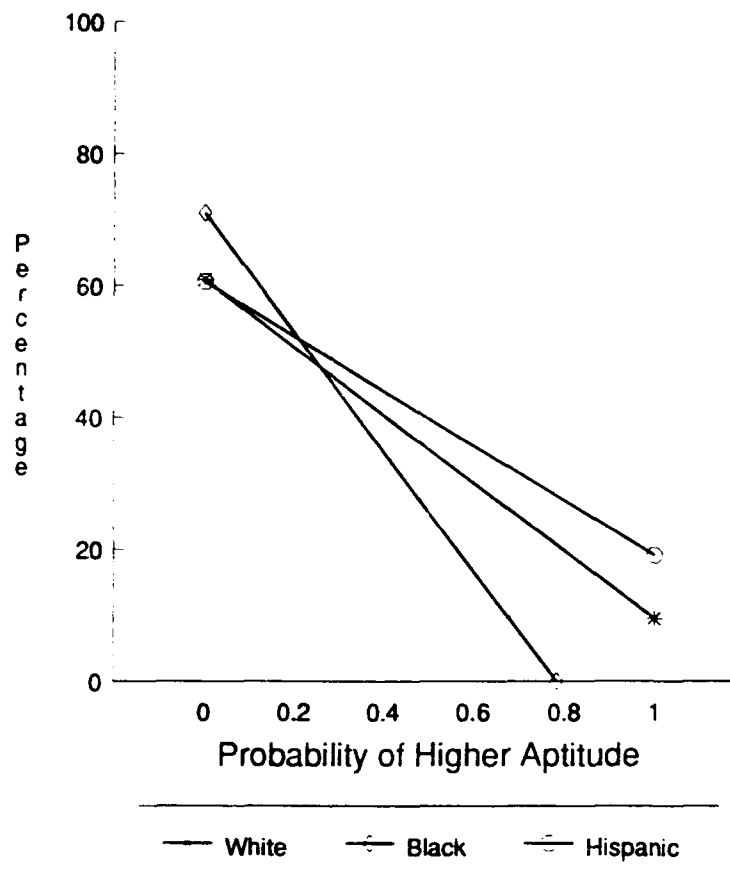
Table 3.11 Mean Predicted Aptitude for
16- to 21-Year-Old Males by
Age and Race/Ethnicity

Characteristic	Probability of higher aptitude
Age	
16	.55
17	.60
18	.52
19	.54
20	.51
21	.48
Race/ethnicity	
Black	.19
Hispanic	.35
Other	.49
White	.63

Source. 1989 Youth Attitude Tracking Study.

rather are plots of predicted regression lines. Thus, the straight lines represent slopes (i.e., degree of change in propensity with aptitude) and intercepts (i.e., overall level of propensity). With these lines, we can examine the overall pattern of results, but we are unable to infer exact data points along the line.

Figure 3.7 examines the interacting effects of aptitude by employment status on 16- to 21-year-old females' propensity to enlist in an active Service. Propensity declined with increasing aptitude for all employment status groups, but the rate of decline differed among these groups. In general, we see the previously observed pattern of declining propensity as aptitude increases. However, at low aptitudes, the four employment groups are ordered as observed in the tabular analyses. As aptitude increases, the four employment groups converge at a low propensity. As with the other interactions with aptitude discussed above, it is important to recognize that the straight lines represent slopes (i.e., degree of change in propensity with aptitude) and intercepts (i.e., overall level of propensity). With these lines we can examine the overall pattern of results, but are not able to infer exact data points along the line.

Table 3.12 presents mean scores of 16- to 21-year-old females' probability of being classified as higher aptitude (similar to the data shown for 16- to 21-year-old males in

**Figure 3.5 Positive Composite Active Propensity of
16- to 21-Year-Old Females by Age for Whites,
Blacks, and Hispanics**
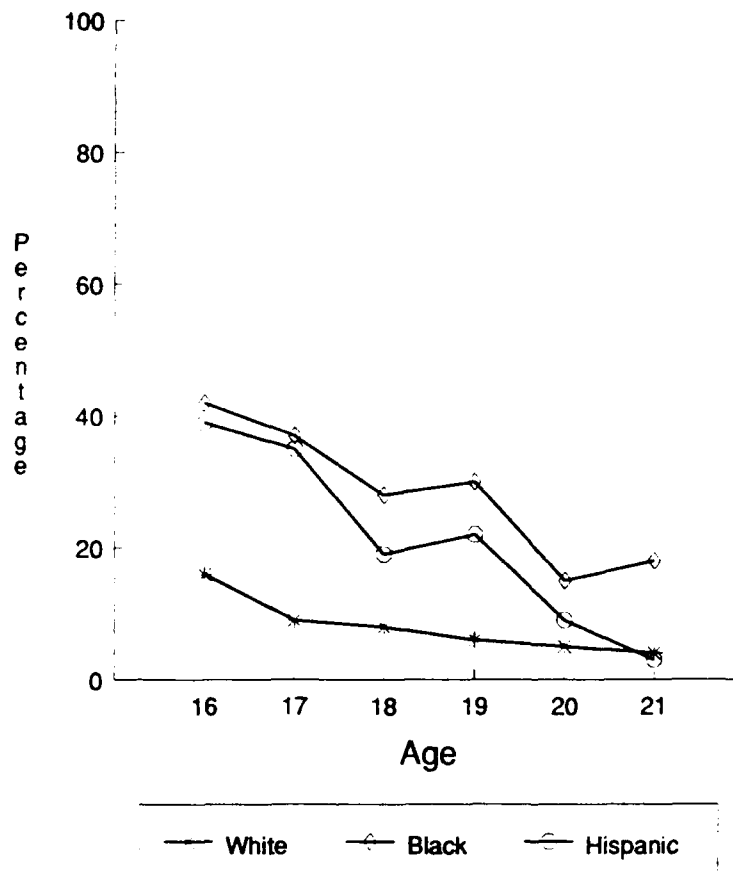
Table 3.11). The pattern of the data is very similar to that observed for males. Age showed little variation in aptitude until age 21, which is 10 points or lower than the other ages. Race/ethnicity, however, showed a strong association with aptitude; whites were more than twice as likely to have higher aptitude than were nonwhites. Employment status also shows an association with aptitude for females. Those who were not employed but looking were least likely to have higher aptitude.

Figure 3.6 Positive Composite Active Propensity of
16- to 21-Year-Old Females by Probability of Higher Aptitude for Whites, Blacks, and Hispanics
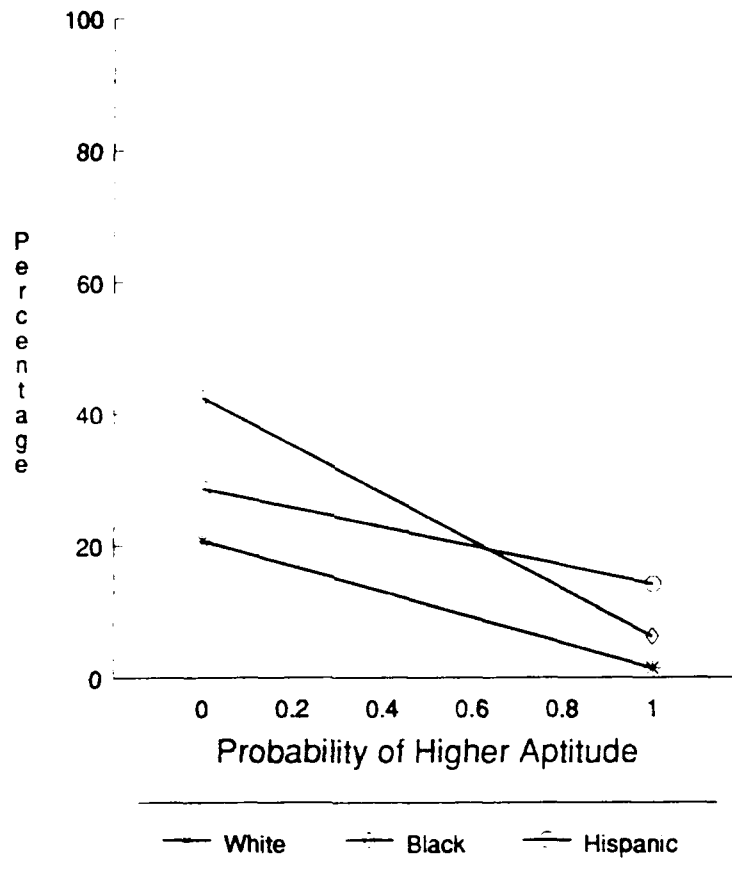
Figure 3.7 Positive Composite Active Propensity of 16- to 21-Year-Old Females' Aptitude by Employment Status
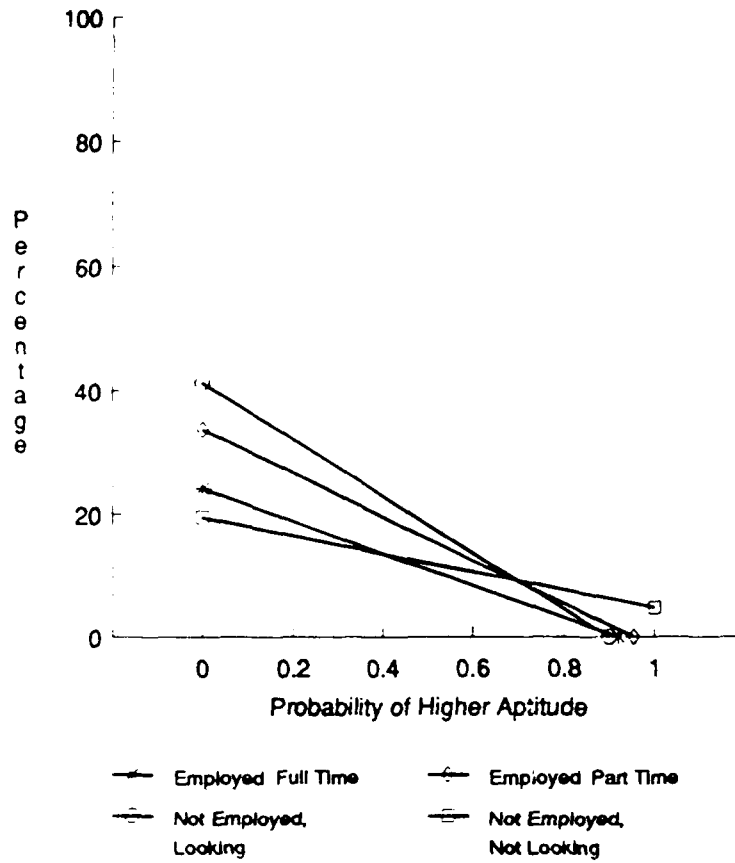
Source. 1989 Youth Attitude Tracking Study.

Table 3.12 Mean Predicted Aptitude for 16- to 21-Year-Old Females by Age, Race/Ethnicity, and Employment Status

Characteristic	Probability of higher aptitude
Age	
16	.53
17	.56
18	.51
19	.54
20	.51
21	.41
Race/ethnicity	
Black	.28
Hispanic	.27
Other	.37
White	.61
Employment status	
Employed full time	.55
Employed part time	.60
Not employed, looking	.40
Not employed, not looking	.51

Source. 1989 Youth Attitude Tracking Study.

4. PROPENSITY FOR THE NATIONAL GUARD AND RESERVES

This chapter, a companion to Chapter 3, examines 1989 YATS II data relating to the likelihood of enlistment in the Reserve Components. We first discuss composite and Service-specific propensity results. Next we examine sociodemographic correlates of propensity. We then present results of regression analyses addressing the relationship of sociodemographic variables and propensity.

A. Composite Reserve and Service-Specific Propensity

The assessment of Reserve propensity was similar to that used for active propensity. It was based on answers to a question about joining the National Guard and a question about joining the Reserves. Respondents were asked as follows:

How likely is it that you will be serving in the _____ (National Guard, Reserves)? Would you say?

Definitely,
Probably,
Probably not, or
Definitely not?

The answers to these two questions became the respective measures of propensity to join the National Guard and propensity to join the Reserves. A composite Reserve propensity measure was constructed from the answers to these two likelihood items in the same manner as the composite active propensity measure.

Another measure used to assess level of interest for enlisting in one of the Reserve Components is termed "unaided mentions" and refers to an answer that was volunteered without a prompt from the interviewer. The unaided mention measure was obtained by asking:

Now, let's talk about your plans for the next few years. What do you think you might be doing?

This question was asked before any mention of enlistment by the interviewer.

An unaided mention was recorded when the respondent indicated his or her intention to join the military in general or one of the specific Services. After stating such an intention, the respondent was asked which Service he or she planned to join (where not already indicated) and whether the type of Service would be active, Reserves, or National Guard.

Table 4.1 presents the percentage of the YATS population by sex and age range who expressed propensity to serve in any of the Reserve Components as well as in the individual components of the Guard or Reserves. Nearly all measures in Table 4.1 show a pattern of declining propensity across the age range--the same pattern observed in Chapter 3 for active propensity.

Males aged 16 to 17 expressed significantly higher composite Reserve propensity (29.9%) than did males aged 18 to 21 (20.3%) who, in turn, expressed significantly higher propensity than did males aged 22 to 24 (16.7%). All male groups expressed significantly higher levels of propensity than did females of comparable age. Females also showed the same pattern of declining propensity across age groups as males, although at lower levels. Females aged 16 to 17 expressed significantly higher levels of propensity (14.0%) than did females aged 18 to 21 (7.8%) who, in turn, expressed higher propensity than did females aged 22 to 24 (5.5%).

Respondents who expressed positive propensity toward service in the National Guard or Reserves were asked which of the Reserve Components they were thinking about when they answered the question. Overall, relatively few respondents expressed positive propensity for the Guard. Within the Guard, the Army National Guard was mentioned significantly more often than the Air National Guard for all male groups and for 16- to 17-year-old females. The percentages with positive propensity were also low for the Reserves. Within this component, the Army Reserve and Air Force Reserve were most likely and the Coast Guard Reserve least likely to be mentioned as the preferred component.

Table B.4 arrays the data presented in Table 4.1 by the four standard groups of 16- to 21-year-old males and females and 22- to 24-year-old males and females. Table B.5 shows the full distribution of propensity responses for the four age groups for the measures of composite Reserve propensity, Guard propensity, and Reserve propensity.

Table 4.1 also presents percentages of males and females in the YATS populations who expressed unaided mentions of interest in serving in the National Guard or Reserves. Unaided mentions for service in these Reserve Components were low for all groups. The highest unaided mentions were among 16- to 17-year-old males (3.3%) and females (1.3%). These two groups showed a small but significantly greater tendency than the other same-sex age groups to express unaided mentions for the Reserves. Males and females aged 18 and older showed very low interest in the military as measured by unaided mentions.

In addition to examining overall propensity findings, it was also of interest to examine shifts in propensity since the prior wave of the study. Figure 4.1 presents composite Reserve propensity for 1988 and 1989 by age group for males and females. The data showed a consistently increasing pattern in expressed positive Reserve propensity between 1988 and 1989. Statistically significant increases occurred for 16-

Table 4.1 Positive Composite Reserve Propensity, Reserve Component-Specific Propensity, and Unaided Mentions by Sex and Age Range

Propensity measure	Males			Females		
	16-17	18-21	22-24	16-17	18-21	22-24
Composite Reserve propensity	29.9 (1.1)	20.3 (0.9)	16.7 (1.3)	14.0 (1.0)	7.8 (0.7)	5.5 (0.8)
National Guard						
Army National Guard	10.3 (0.7)	8.0 (0.6)	6.7 (0.9)	4.8 (0.6)	2.1 (0.4)	1.3 (0.4)
Air National Guard	6.8 (0.6)	4.7 (0.5)	4.4 (0.8)	3.2 (0.5)	2.1 (0.4)	1.5 (0.4)
Reserves						
Army Reserve	8.3 (0.6)	5.3 (0.5)	5.2 (0.8)	4.0 (0.6)	2.4 (0.4)	1.3 (0.4)
Navy Reserve	3.0 (0.4)	2.3 (0.4)	1.2 (0.4)	1.5 (0.4)	1.0 (0.3)	1.2 (0.4)
Marine Corps Reserve	3.0 (0.4)	1.7 (0.3)	1.6 (0.4)	1.2 (0.3)	0.5 (0.2)	0.5 (0.2)
Air Force Reserve	7.6 (0.6)	4.2 (0.5)	3.4 (0.7)	3.1 (0.5)	2.3 (0.4)	1.2 (0.4)
Coast Guard Reserve	1.6 (0.3)	1.7 (0.3)	1.8 (0.6)	0.5 (0.2)	0.3 (0.1)	0.3 (0.2)
Unaided mentions	3.3 (0.4)	1.6 (0.3)	0.6 (0.3)	1.3 (0.3)	0.6 (0.2)	0.5 (0.3)

Note. Tabled values are percentages of each category with positive propensity. Standard errors are in parentheses.

Source. 1989 Youth Attitude Tracking Study.

Figure 4.1 Positive Composite Reserve Propensity by Age Group for Males and Females, 1988 and 1989

Males

Percentage

```
60.0
50.0
40.0
                29.9
30.0      23.3
                         20.3           16.7
20.0             17.6           12.5
10.0
 0.0 ─────────────────────────────────────
        16-17      18-21       22-24
              Age Group
```

Females

Percentage

```
60.0
50.0
40.0
30.0
20.0
          14.0
10.0  9.8        7.6    7.8          5.5
                               4.3
 0.0 ─────────────────────────────────────
        16-17      18-21       22-24
              Age Group
```

■ 1988   ⌐ 1989
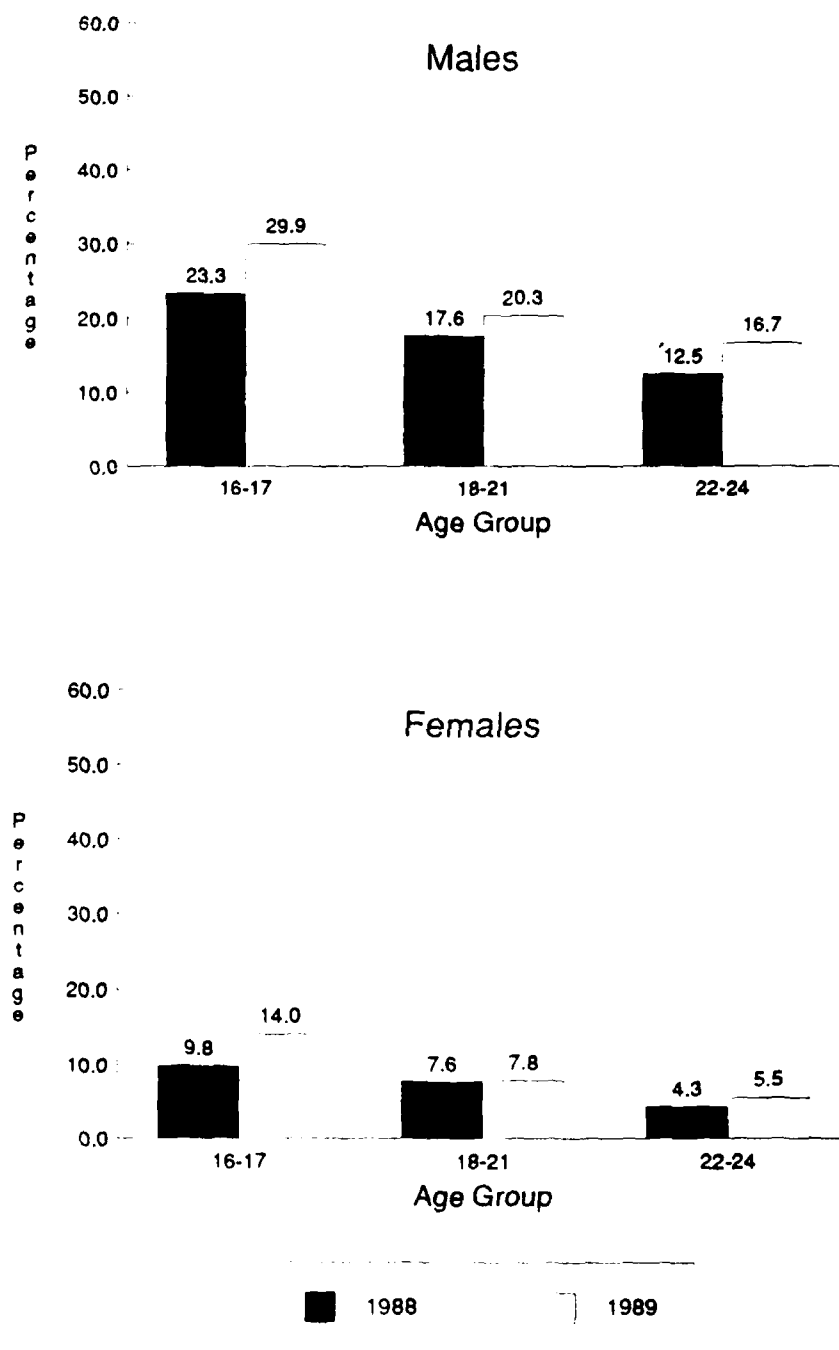
to 17-year-old males and females and for 22- to 24-year-old males. The most
pronounced differences occurred for 16- to 17-year-old males and females.

B. Sociodemographic Correlates of Propensity

This section examines males and females who expressed positive propensity for the
Reserve Components classified by sociodemographic characteristics of age, race/
ethnicity, marital status, school status, employment status, region, and aptitude. The
tables in the following sections present two-way distributions of propensity among
individuals with these selected attributes generally broken down into three age ranges:
those aged 16 to 17, 18 to 21, and 22 to 24. Table B.7 provides one-way frequency
distributions of these sociodemographic characteristics for the traditional market groups
of males and females aged 16 to 21 and males and females aged 22 to 24.

1.   Propensity and Age Patterns

Figure 4.2 presents composite Reserve propensity and unaided mentions for
service in the National Guard and Reserve Components along with population counts
for composite Reserve propensity by age and sex of the YATS population. As shown, age
was related to composite Reserve propensity for both males and females. For males, it
was highest among 16- and 17-year-olds (over one fourth expressed interest in the
National Guard or Reserve Components), showed a decline among 18- and 19-year-olds,
and then remained relatively stable. Unaided mentions for the Reserve Components
showed the same general pattern as composite Reserve propensity, although the
percentages were very low and the changes across age were correspondingly small.

The pattern of decline across age in the percentages of males with positive Reserve
propensity was also reflected in the population estimates. Among 16- and 17-year-old
males, an estimated 836,000 expressed propensity to join the Reserves, whereas
435,000 males in the 18- and 19-year-old population expressed the same sentiment.

For females, composite Reserve propensity and unaided mentions followed the
same pattern observed for males, although there was a less-marked decline in relation
to the age of the population. Those aged 16 had the highest propensity and highest
unaided mentions; those aged 20 to 24 had the lowest.

Overall, age was not as strongly related to Reserve propensity as it was to active
propensity. In general, although the older members of the population tended to have
lower propensity, few of the comparisons between adjacent age categories, at least
among the younger members of the population, reached statistical significance.

These data, like those for active propensity, showed clear age effects for propensity
for both sexes, especially for males, and those from ages 16 to 21 with more stable
patterns for those over 21. This similarity was, in part, the result of asking the same
respondents for information for both active propensity and Reserve propensity. Those
with a sentiment favorable toward serving in the active military might have been
expected to show a similar positive sentiment toward serving in the Guard and/or

Figure 4.2 Positive Composite Reserve Propensity and
Unaided Mentions as a Function of Age for Males and Females

Males

Population Count (in thousands) for Composite Reserve Propensity

| 401 | 435 | 282 | 153 | 103 | 98 | 93 | 69 | 78 |

Females

Population Count (in thousands) for Composite Reserve Propensity

| 207 | 165 | 101 | 73 | 29 | 35 | 42 | 24 | 31 |

4-6
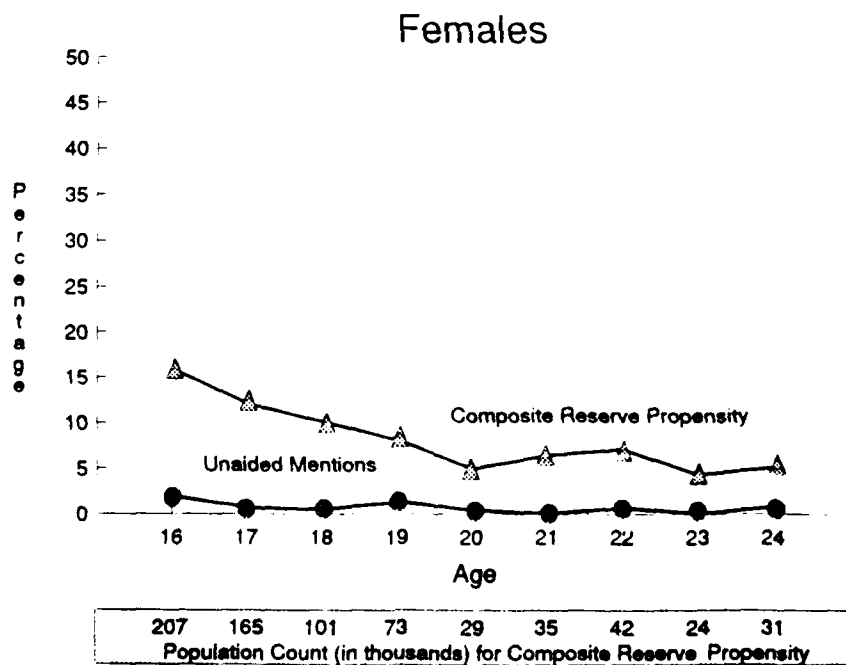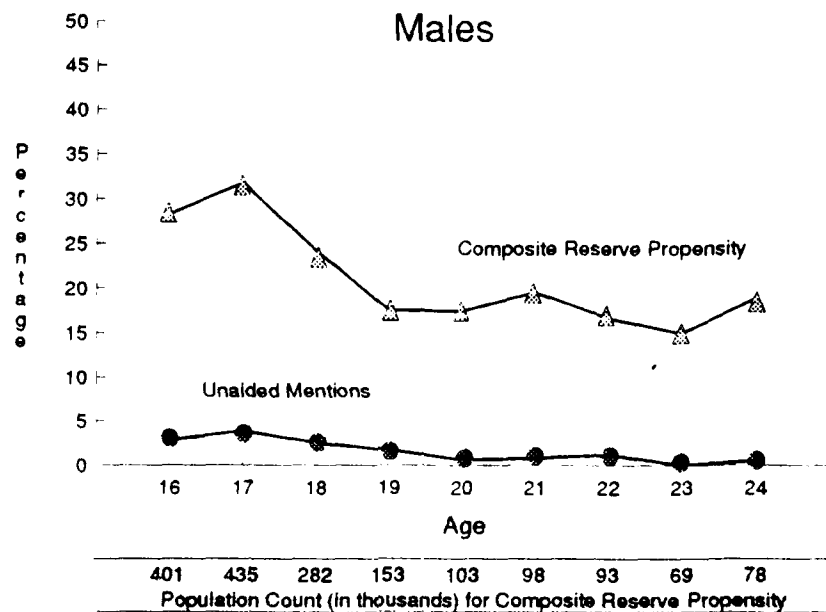
Reserves. Even taking this into account, however, the active military was clearly more appealing than the Reserve Components.

2. Propensity by Race/Ethnicity, Sex, and Age

Table 4.2 presents the estimated population counts and percentages of males and females who expressed positive composite Reserve propensity by race/ethnicity and by age group for males and females. As shown, race/ethnicity was related to Reserve propensity much as was observed for active propensity. More specifically, Blacks were substantially more likely to express positive propensity than were their white counterparts for all age groups. For males, the difference between Blacks and whites was over two-fold for 22- to 24-year-olds (30.9% vs. 12.2%) and for 18- to 21-year-olds (40.1% vs. 15.8%). For males aged 16 to 17, the difference was about one and a half times greater (41.0% vs. 26.5%). Blacks and Hispanics did not show the normal decline

Table 4.2 Positive Composite Reserve Propensity by Race/Ethnicity, Sex, and Age Range

	Age range					
	16-17		18-21		22-24	
	Estimated population		Estimated population		Estimated population	
Sex/race-ethnicity	Count	Percent	Count	Percent	Count	Percent
Males						
White	549	26.5	364	15.8	134	12.2
Black	116	41.0	130	40.1	41	30.9
Hispanic	120	40.6	126	29.9	59	35.9
Other	46	35.2	16	19.0	5	13.0
Total	832	29.9	636	20.3	239	16.7
Females						
White	160	8.5	132	6.0	36	2.8
Black	126	31.1	74	19.4	39	17.3
Hispanic	77	30.2	24	7.4	17	11.3
Other	9	8.2	8	5.7	--	--
Total	372	14.0	237	7.9	96	5.5

Note. Population counts are in thousands. Estimates are based on some variables for which there may be missing information.

-- = Sample size less than 30; estimate not reliable.

Source. 1989 Youth Attitude Tracking Study.

in propensity across age groups. For Blacks, propensity of 18- to 21-year-olds was the same as that of 16- to 17-year-olds. For Hispanics, propensity of 22- to 24-year-olds was higher than that of 18- to 21-year-olds.

For females, the contrast in propensity between Blacks and whites was even more striking than for males. Black females aged 16 to 17 and those aged 18 to 21 were over three times as likely to express positive composite Reserve propensity than were their white counterparts (31.1% vs. 8.5% and 19.4% vs. 6.0%, respectively). Black females aged 22 to 24 were nearly six times more likely to do so than were comparably aged white females (17.3% vs. 2.8%).

Both male and female Hispanic respondents also expressed significantly higher propensity than did whites. Hispanic 16- to 17-year-olds were about as likely as their Black counterparts to express positive Reserve propensity. Among 18- to 21-year-olds and 22- to 24-year-olds, Hispanics were generally less likely than Blacks to express positive propensity. Among 22- to 24-year-old Hispanic and Black males, however, Hispanics had a higher positive propensity (35.9%) than did Blacks (30.9%).

It is not clear why greater percentages of nonwhites had positive propensity for military service and why this difference was so highly pronounced for the Reserve Components. Nonwhites may have perceived the Guard and Reserves as an excellent second job where they could receive appropriate pay and recognition, have opportunities for advancement, and be treated fairly.

Table 4.2 also shows population counts for these race/ethnicity groups across the age range. For example, among 18- to 21-year-old males, 40.1% or about 130,000 Blacks and 29.9% or about 126,000 Hispanics expressed positive propensity compared to 15.8% or about 364,000 whites. These data indicate that, although larger percentages of Blacks and Hispanics expressed positive propensity, there were still numerically many more whites with positive propensity.

3. Propensity by Marital Status, Sex, and Age

Table 4.3 provides population counts and composite Reserve propensity estimates for the YATS population by marital status and age group for males and females. Among males, similar levels of propensity were expressed by those who had never married and those who are currently married. This held both among 18- to 21-year-olds (20.3% [601,000] vs. 20.9% [32,000]) and among 22- to 24-year-olds (17.1% [163,000] vs. 16.1% [66,000]). In contrast, females followed the pattern previously observed in Chapter 3 for active propensity in which singles expressed higher propensity than did females who were currently married. For example, among 18- to 21-year-old females who had never married, 8.8% (216,000) expressed positive propensity as opposed to 3.5% (17,000) females who were currently married.

Generally speaking, among males there were no distinguishable differences in propensity due to marital status. Those who were married and those who were single

Table 4.3 Positive Composite Reserve Propensity by Marital Status, Sex, and Age Range

	Age range					
	16-17		18-21		22-24	
	Estimated population		Estimated population		Estimated population	
Sex/marital status	Count	Percent	Count	Percent	Count	Percent
Males						
Never married	831	29.9	601	20.3	163	17.1
Currently married	--	--	32	20.9	66	16.1
Other[a]	--	--	--	--	10	14.8
Total	834	29.9	636	20.3	239	16.7
Females						
Never married	371	14.1	216	8.8	67	9.5
Currently married	--	--	17	3.5	24	2.8
Other[a]	--	--	4	8.0	5	3.2
Total	372	14.0	237	7.9	96	5.5

Note. Population counts are in thousands. Estimates are based on some variables for which there may be missing information.

-- = Sample size less than 30; estimate not reliable.

[a]"Other" includes widowed, divorced, and separated.

Source. 1989 Youth Attitude Tracking Study.

were equally likely to show an interest in the military. Among females, on the other hand, being married was associated with a lower level of propensity than was being single. These data suggest that perceptions of the Reserve Components may be shifting among married males who typically have expressed lower propensity than have single males (e.g., Bray et al., 1989).

4. Propensity by School Status, Sex, and Age

Table 4.4 provides estimates for males and females of population size and composite Reserve propensity for the YATS population partitioned by school status, sex, and age range. In general, years of education completed were negatively related to interest in the military as measured by composite Reserve propensity.

Table 4.4 Positive Composite Reserve Propensity by School Status, Sex, and Age Range

	Age range					
	16-17		18-21		22-24	
	Estimated population		Estimated population		Estimated population	
Sex/school status[a]	Count	Percent	Count	Percent	Count	Percent
Males						
Postsecondary student	16	28.0	132	14.1	16	11.9
High school graduate	7	16.8	171	15.4	136	15.1
High school senior	246	27.7	105	34.5	N/A	N/A
Nonsenior high school student	447	31.2	29	47.5	N/A	N/A
Noncompleter	120	31.8	200	27.6	82	20.8
Total	837	29.9	637	20.3	239	16.7
Females						
Postsecondary student	4	6.9	72	6.7	18	9.1
High school graduate	--	--	83	6.6	56	4.8
High school senior	118	11.4	32	24.1	N/A	N/A
Nonsenior high school student	184	16.0	--	--	N/A	N/A
Noncompleter	66	17.2	44	8.4	23	6.0
Total	372	14.0	237	7.8	96	5.5

Note. Population counts are in thousands. Estimates are based on some variables for which there may be missing information.

N/A = Not applicable.

-- Sample size less than 30; estimate not reliable.

[a]Postsecondary students are high school graduates currently attending college or a business/vocational school. High school graduates are respondents who are not students and have graduated from high school. Noncompleters are respondents who are not high school students and have not graduated from high school.

Source. 1989 Youth Attitude Tracking Study.

For males aged 16 to 17, more than one quarter of the current high school students (27.7% [246,000]) of the high school seniors and 31.2% (447,000) of the nonsenior high school students) expressed positive Reserve propensity. Nonseniors are high school students below the 12th grade. Overall, this amounted to some 693,000 individuals in this age range with enlistment interest. Among males aged 18 to 21, Reserve propensity for high school students was even higher (34.5% [105,000] for high school seniors and 47.5% [29,000] for nonsenior high school students). Those in the 18 to 21 age group who had higher educational status, however, had far less interest in the military. For example, 15.4% (171,000) of high school graduates and 14.1% (132,000) of postsecondary students (high school graduates attending college or vocational/technical school) expressed positive Reserve propensity.

For females, the pattern of Reserve propensity for school status and age group was similar to that for males, although the pattern was less pronounced. Among 16- to 17-year-olds, 11.4% (118,000) of the high school seniors had positive Reserve propensity. Among 18- to 21-year-olds, the percentage was higher (24.1% [32,000]).

Table 4.4 also shows that 18- to 21-year-old high school seniors, both male and female, had higher positive propensity than did 16- to 17-year-olds, a finding that was initially counterintuitive. This finding was unexpected because other analyses had shown decreasing propensity with increasing age. One explanation for this finding is that the 18- to 21-year-olds in this group tended to be students who progressed more slowly than normal. As will be shown later in this section, lower aptitude individuals, on average, had higher enlistment propensity than did higher aptitude individuals.

5. Propensity by Employment Status, School Status, and Age

Table 4.5 examines the relationship of employment status, school status, and age to Reserve propensity for males. The totals for the age groups showed that propensity was highest (or not significantly lower) for those who were not employed but looking for work (e.g., 33.7% for 18- to 21-year-old males). In contrast, as might be expected, Reserve propensity was lowest among the not employed who were not looking for work (e.g., 12.9% for 18- to 21-year-old males). Reserve propensity was higher for males aged 16 to 17 than for females or older males for all school status/employment categories. No additional striking relationships in the data were due to school groups and employment status.

Table 4.6 provides estimates of Reserve propensity for females in YATS by employment status, school status, and age. The findings for females paralleled those for males. Reserve propensity among the employment groups was highest or not significantly lower among the not employed who were looking for work (11.6% for 18- to 21-year-old females). Consistent with other age-related data, propensity for this employment group was lower for those who were older. Propensity tended to be lowest among those who were not employed and not looking (4.8% for 18- to 21-year-old females). Aside from

Table 4.5 Positive Composite Reserve Propensity by Employment Status, School Status, and Age for Males

Age/school status[a]	Employment status							
	Employed full time		Employed part time		Not employed, looking		Not employed, not looking	
16-17 year olds								
Postsecondary student	--	--	--	--	--	--	--	--
High school graduate	--	--	--	--	--	--	--	--
High school senior	33.8	(7.7)	2ɔ.6	(2.7)	40.0	(4.7)	18.3	(3.1)
Nonsenior high school student	33.0	(6.3)	29.3	(2.4)	36.4	(2.7)	27.2	(2.6)
Noncompleter	43.6	(6.4)	27.0	(4.6)	, 36.4	(5.6)	20.9	(5.4)
Total	33.9	(3.5)	28.1	(1.7)	37.5	(2.2)	23.1	(1.9)
18-21 year olds								
Postsecondary student	18.5	(3.3)	12.2	(2.3)	20.7	(4.5)	8.1	(2.0)
High school graduate	13.8	(1.5)	12.1	(3.4)	30.0	(5.6)	9.6	(5.6)
High school senior	--	--	35.2	(5.3)	40.8	(6.4)	23.4	(6.8)
Nonsenior high school student	--	--	--	--	--	--	--	--
Noncompleter	23.9	(2.7)	26.5	(5.8)	40.2	(5.4)	19.0	(6.6)
Total	17.7	(1.2)	19.4	(1.9)	33.7	(2.7)	12.9	(2.0)
22-24 year olds								
Postsecondary student	16.6	(5.7)	--	--	--	--	--	--
High school graduate	15.4	(1.8)	9.6	(4.1)	15.9	(7.4)	--	--
High school senior	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nonsenior high school student	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Noncompleter	21.6	(3.3)	14.8	(7.7)	24.4	(8.0)	--	--
Total	17.2	(1.5)	13.7	(4.0)	17.9	(4.8)	8.3	(5.6)

Note. Tabled values are percentages with standard errors in parentheses.

N/A = Not applicable.

-- = Sampie size less than 30; estimate not reliable.

[a]Postsecondary students are high school graduates currently attending college or a business/vocational school. High school graduates are respondents who are not students and have graduated from high school. Noncompleters are respondents who are not high school students and have not graduated from high school.

Source. 1989 Youth Attitude Tracking Study.

Table 4.6 Positive Composite Reserve Propensity by Employment Status, School Status, and Age for Females

Age/school status[a]	Employment status							
	Employed full time		Employed part time		Not employed, looking		Not employed, not looking	
16-17 year olds								
Postsecondary student	--	--	--	--	--	--	--	--
High school graduate	--	--	--	--	--	--	--	--
High school senior	2.9	(2.8)	11.0	(2.0)	16.4	(3.4)	9.0	(2.9)
Nonsenior high school student	--	--	11.8	(2.5)	25.5	(3.3)	12.5	(2.8)
Noncompleter	--	--	16.5	(4.6)	30.1	(7.3)	6.0	(3.0)
Total	6.7	(2.8)	11.5	(1.4)	22.7	(2.4)	10.3	(1.8)
18-21 year olds								
Postsecondary student	11.2	(3.6)	5.7	(1.8)	10.5	(3.5)	2.5	(1.3)
High school graduate	6.3	(1.3)	5.1	(1.9)	12.7	(3.2)	2.7	(1.6)
High school senior	--	--	39.1	(10.3)	--	--	--	--
Nonsenior high school student	--	--	--	--	--	--	--	--
Noncompleter	12.5	(4.2)	7.3	(3.2)	5.1	(2.6)	7.1	(3.3)
Total	8.0	(1.2)	7.6	(1.4)	11.6	(2.0)	4.8	(1.3)
22-24 year olds								
Postsecondary student	4.3	(3.0)	8.5	(4.8)	--	--	--	--
High school graduate	4.0	(1.1)	9.7	(3.7)	7.3	(3.7)	2.3	(1.3)
High school senior	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nonsenior high school student	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Noncompleter	6.8	(2.7)	--	--	14.7	(6.9)	1.2	(1.2)
Total	4.5	(1.0)	9.2	(2.7)	12.4	(3.9)	2.4	(1.1)

Note. Tabled values are percentages with standard errors in parentheses.

N/A = Not appliable.

-- = Sample size less than 30; estimate not reliable.

[a]Postsecondary students are high school graduates currently attending college or a business/vocational school. High school graduates are respondents who are not students and have graduated from high school. Noncompleters are respondents who are not high school students and have not graduated from high school.

Source. 1989 Youth Attitude Tracking Study.

these patterns, few other significant differences in Table 4.6 were due to the large varia
tion of the estimates.

6. Propensity by Region, Sex, and Age Range

Table 4.7 presents data describing expressed propensity for service in the
Reserve Components classified by Census regions of the Nation. For males, the findings
showed a consistent ranking across age groups of highest expressed propensity in the
South, followed by the West, Northeast, and North Central regions. In general,
expressed propensity toward service in the Reserve Components was significantly
higher among males in the South than among those in the West, Northeast, or North
Central regions.

Table 4.7 Positive Composite Reserve Propensity by Region, Sex, and Age Range

	Age range					
	16-17		18-21		22-24	
	Estimated population		Estimated population		Estimated population	
Sex/region	Count	Percent	Count	Percent	Count	Percent
Males						
Northeast	154	28.5	122	18.7	24	8.3
North Central	178	25.5	138	17.4	46	13.2
South	330	33.7	259	23.8	119	23.3
West	175	30.3	119	19.6	50	17.7
Total	837	29.9	637	20.3	239	16.7
Females						
Northeast	88	17.6	37	6.0	25	7.6
North Central	82	11.0	62	8.2	18	4.3
South	164	16.6	108	10.7	38	6.0
West	38	8.8	30	4.7	15	4.2
Total	372	14.0	237	7.8	96	5.5

Note. Population counts are in thousands. Estimates are based on some variables for
which there may be missing information. Percentage distributions may not sum to 100.0
due to rounding.

Source. 1989 Youth Attitude Tracking Study.

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Overall, expressed propensity declined with age for all regions. One exception was 22- to 24-year-old males in the South and the West. They showed about the same expressed propensity as did their 18- to 21-year-old counterparts.

Propensity patterns for females differed across regions from those noted for males. The Northeast and the South were the regions with highest expressed propensity. The West was the region with the lowest expressed propensity.

7.   Propensity by Aptitude, Sex, and Age Range

As noted in Chapter 3, youth aptitude was assessed with respect to scores on the Armed Forces Qualification Test (AFQT). Those scoring in the top half of the score scale (50th percentile and higher) comprised Categories I-IIIA (see Chapter 3, Section B.7, for a discussion of the AFQT categories) and were considered to have higher aptitude. Those scoring below the 50th percentile comprised Categories IIIB-V and were considered to have lower aptitude.

This section examines the relationship between aptitude and expressed Reserve propensity. AFQT scores for assessing aptitude were not available for YATS respondents. However, the probability that 16- to 21-year-old males and 16- to 21-year-old females would fall in the upper and lower half of the AFQT score distribution was estimated using procedures discussed in Appendix A.

Table 4.8 presents positive Reserve propensity for males and females with higher and lower aptitude. A very strong and clear pattern was evident in the data. Those with higher aptitude were less likely to express positive propensity than were those with lower aptitude. Among 16- to 17-year-old males, for example, 24.1% of those with higher aptitude were positive toward military service compared to 37.7% of those with lower aptitude. Similarly, among 16- to 17-year-old females, 9.4% of those with higher aptitude expressed positive interest in the military compared to 19.4% of those with lower aptitude. This same pattern was also evident among males and females aged 18 to 21 years and among parallel findings observed for active propensity.

Table 4.8 also presents estimated population counts of higher and lower aptitude youths who expressed composite Reserve propensity. For males aged 16 to 17, approximately 837,000 expressed positive propensity. Only about 387,000 higher aptitude males, however, expressed positive propensity. For 18- to 21-year olds, approximately 637,000 expressed positive propensity, and 230,000 higher aptitude males expressed positive interest in the military.

Females aged 16 to 21 followed the same general pattern observed for 16- to 21-year-old males but at lower levels. For example, among females aged 18 to 21, 237,000 expressed positive propensity. Of these, about 85,000 with higher aptitude

were positive toward military service. Overall, not only did fewer females express positive propensity than did males, but also a smaller percentage had higher aptitude.

These data showed sizable differences in positive Reserve propensity for those with higher aptitude and those with lower aptitude. Individuals with positive propensity for the Guard and Reserves, on average, were not those who had the aptitude most sought by the Reserve forces. Taken together, these data reinforced the findings observed in Chapter 3 for active propensity. They also suggested that composite Reserve propensity, although a useful gauge of youth's interest in the Guard and Reserves, should be combined with predicted aptitude scores to determine how many of those who expressed interest in the military could be of high interest to the military.

Table 4.8 Positive Composite Reserve Propensity by Aptitude Status, Sex, and Age Range

	Age range				
	16-17		18-21		
	Estimated population		Estimated population		
Sex/aptitude[a]	Count	Percent		Count	Percent
Males					
Higher aptitude	387	24.1		230	14.2
Lower aptitude	450	37.7		407	26.9
Total	837	29.9		637	20.3
Females					
Higher aptitude	136	9.4		85	5.6
Lower aptitude	236	19.4		153	10.1
Total	372	14.0		237	7.8

Note. Population counts are in thousands. Estimates are based on some variables for which there may be missing information. Percentage distributions may not sum to 100.0 due to rounding. Data are not available for 22- to 24-year-olds.

[a]Higher aptitude is defined as the predicted probability of scoring in Categories I-IIIA (percentiles 50-99) of the Armed Forces Qualification Test. Lower aptitude is defined as the predicted probability of scoring in Categories IIIB-V (percentiles 1-49).

Source. 1989 Youth Attitude Tracking Study.

C. Multivariate Analyses of Sociodemographic Variables and Propensity

This section describes results of multivariate regression analyses of sociodemographic variables on composite Reserve propensity. The analytical approach, including the independent variables in the analyses, was the same as that described in Section 3.C for active propensity and is not repeated here. The following paragraphs describe the results of the regression analyses for 16- to 21- year-old males and 16- to 21-year-old females. As with the results for active propensity, we note significant main effects and interactions, but focus our discussion on the results of the interactions.

1. Reserve Propensity for 16- to 21-Year-Old Males

The regression analyses of expressed propensity of 16- to 21- year-old males to enlist in the Reserve Components showed the same pattern of results observed for active propensity in Chapter 3. More specifically, analyses showed significant main effects findings for age, race, employment status, and aptitude and significant interactions for age with race/ethnicity and age with aptitude.

The interacting effects of age and race/ethnicity on Reserve propensity are shown in Figure 4.3. As with results for active propensity, we again see significantly different patterns of change in propensity with age among the different racial/ethnic groups. Propensity for whites was relatively constant for 16 and 17 year-olds and then generally showed a declining pattern with age. Propensity among Blacks, in contrast, remained relatively constant across age. Propensity for Hispanic youths was more erratic. The relatively consistent high interest in the military by Blacks across the age groups contrasted with typical findings showing a decline in propensity with age.

Figure 4.4 shows the interacting effects of aptitude and race/ethnicity on 16- to 21-year-old males' propensity to enlist in the Reserves. These results were quite similar to those found for propensity to enlist in active military service. Propensity declined with an increase in aptitude for members of all three racial/ethnic groups, but the rate of decline was significantly greater for Blacks than for either Hispanics or whites. These results suggested that, although all higher aptitude males were less likely to express enlistment propensity for the Reserve Components than were lower aptitude males, this was especially true for Blacks. It should be noted that the lines on the graph are not plots of specific data points, but rather are plots of predicted regression lines. Thus, the straight lines represent slopes (i.e., degree of change in propensity with aptitude) and intercepts (i.e., overall level of propensity). With these lines, we can examine the overall pattern of results, but we are unable to infer exact data points along the line.

As with findings for active propensity, these regression results for Reserve propensity have helped us to interpret the pattern of tabular results presented

**Figure 4.3 Positive Composite Reserve Propensity of
16- to 21-Year-Old Males by Age for Whites,
Blacks, and Hispanics**
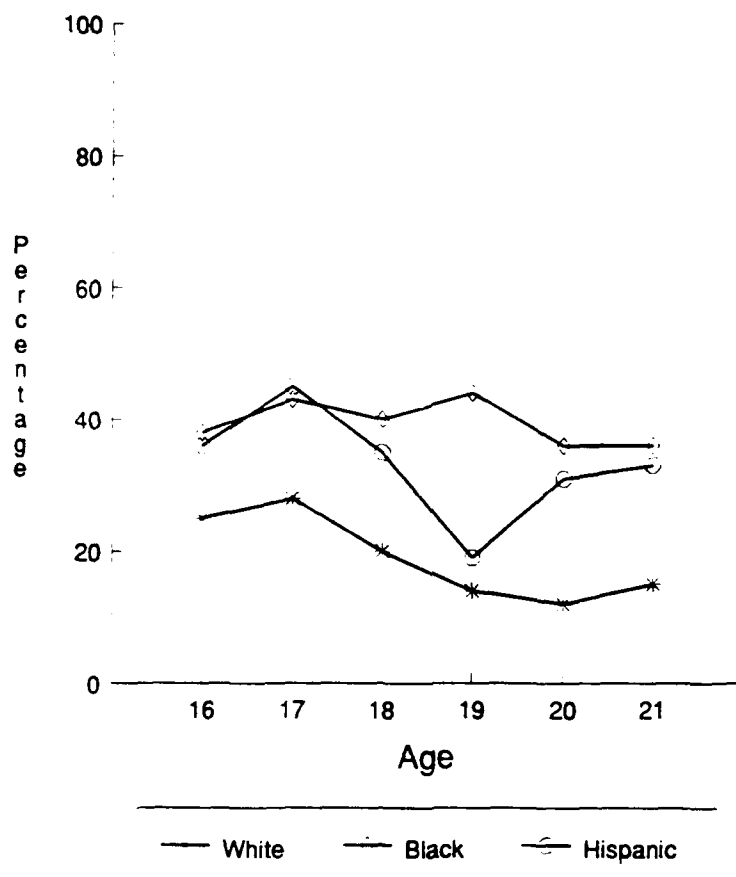
previously. The findings, shown earlier in Table 3.11 for active propensity, can also be
applied to findings for Reserve propensity.

2. Reserve Propensity for 16- to 21-Year-Old Females

Regression results showed that the propensity of 16- to 21-year-old females to
enlist in the Reserve Components was significantly affected by age, race/ethnicity,
employment status, Census region, and aptitude and the interactions of age with

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**Figure 4.4 Positive Composite Reserve Propensity of
16- to 21-Year-Old Males by Probability of Higher Aptitude for
Whites, Blacks, and Hispanics**
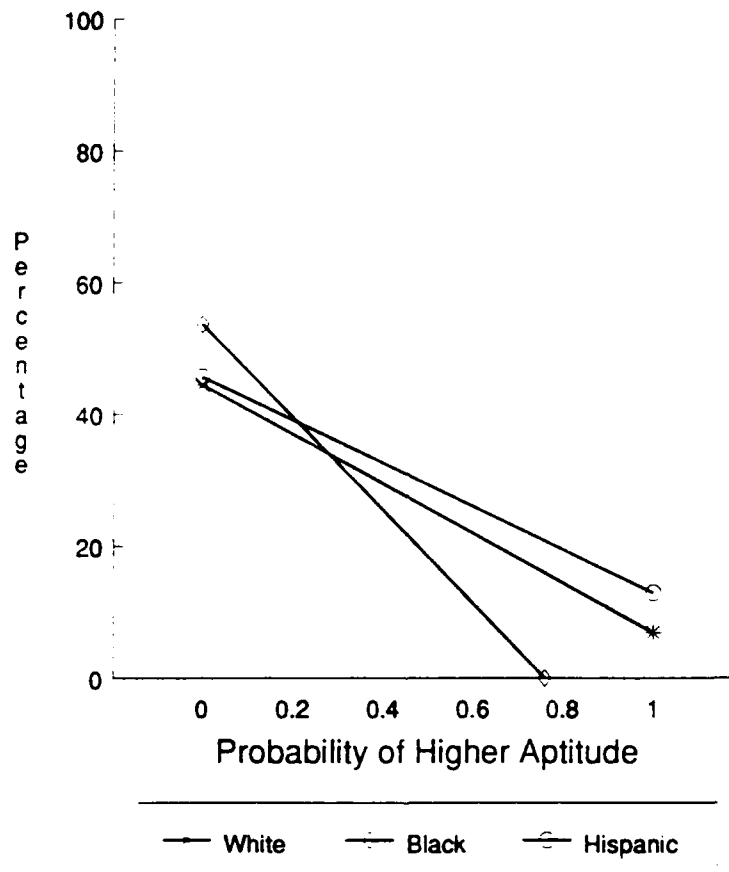
race/ethnicity and race/ethnicity with aptitude. As with the earlier regression presentations, we discuss only the interaction results here.

The interacting effects of age and race/ethnicity on female Reserve propensity are shown in Figure 4.5. Propensity declined with age for all three racial/ethnic groups, but the patterns of decline differed notably. Propensity of white females was the lowest of the groups and showed a very slight decline with age. Propensity of Black females also generally showed a declining pattern with age although with some minor fluctuations in

Figure 4.5 Positive Composite Reserve Propensity of 16- to 21-Year-Old Females by Age for Whites, Blacks, and Hispanics
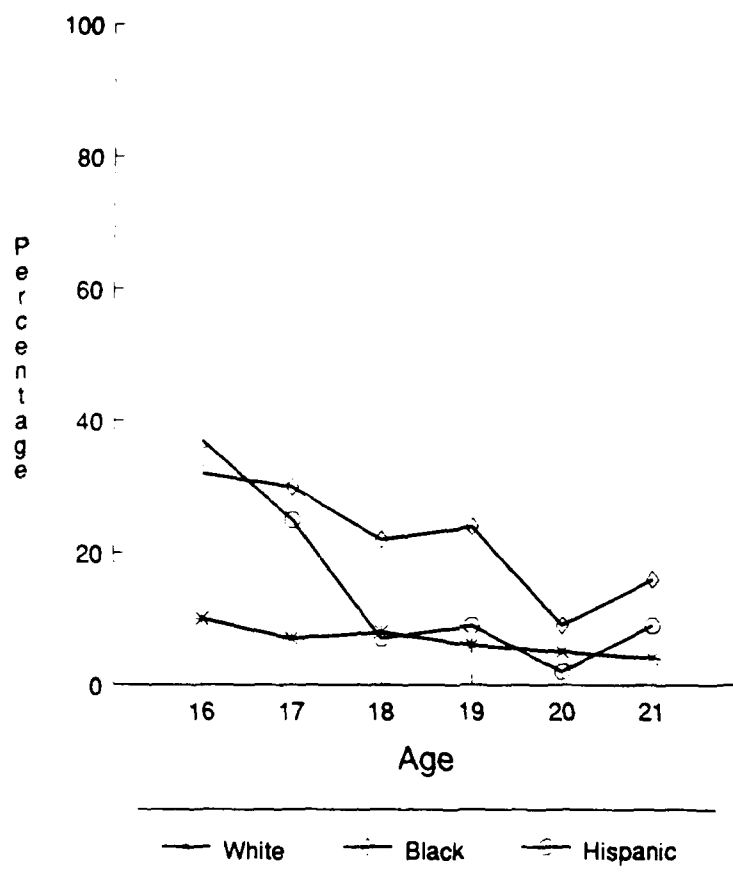
Source. 1989 Youth Attitude Tracking Study.

the pattern. Propensity for Hispanic females declined sharply across the first 3 years to the level of propensity for whites by age 18 and generally remained at that level through age 21.

Figure 4.6 shows the interacting effects of aptitude and race/ethnicity on the propensity of 16- to 21-year-old females to enlist in the Reserve Components. As in the previous subgroups, propensity declined with aptitude for all three racial/ethnic groups, but Blacks showed a much steeper rate of decline than did whites or Hispanics. The

Figure 4.6 Positive Composite Reserve Propensity of 16- to 21-Year-Old Females by Probability of Higher Aptitude for Whites, Blacks, and Hispanics
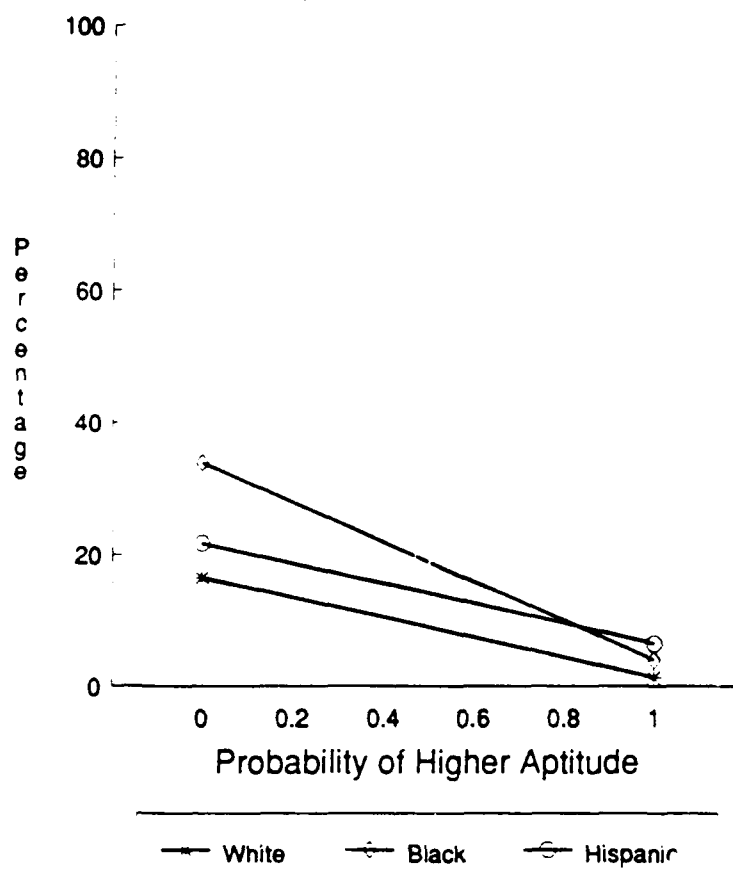
rates of decline for whites and Hispanics were almost equal. As noted previously for figures with aptitude, the lines on the graph are not plots of specific data points, but rather are plots of predicted regression lines. Thus, the straight lines represent slopes (i.e., degree of change in propensity with aptitude) and intercepts (i.e., overall level of propensity). With these lines, we can examine the overall pattern of results, but we are unable to infer exact data points along the line.

5. TRENDS IN ENLISTMENT PROPENSITY FOR ACTIVE DUTY MILITARY

The attitudes and levels of interest for military service are thought to vary in relation to variables such as age, aptitude, educational status, and employment (Davis & Sheatsley, 1985; Hosek, Peterson, & Eden, 1986; Orvis & Gahart, 1989). This chapter examines and describes trends in young peoples' propensity to join the active military. We first examine and describe trends in propensity for active military service and then discuss the relationship of propensity to unemployment rates.

A. Positive Active Propensity

To track trends on survey items over time, research methodology and questionnaire items must be comparable for the data to be interpreted correctly. Throughout the YATS surveys, key items such as propensity have remained constant, although there have been differences in the sampling methods, sampling strata, and weighting schemes. The effects of these changes on estimates made from data obtained before 1983 were analyzed, and the propensity data for the earlier years were adjusted for differences in sampling and weighting. This section describes the reweighted estimates for positive propensity to join each Service and composite active propensity across the series of YATS surveys.

1. 16- to 21-Year-Old Male Propensity Trends

Figure 5.1 presents the propensity data for 16- to 21-year-old males from 1976 to 1989 for each Service and for one or more Services (composite active propensity). Inspection of the figure indicates that there may be year-to-year fluctuations in the propensities. Statistical tests confirmed that the fluctuations were greater than would be expected due to random chance alone (p<.001). This was true for each Service as well as for composite propensity.

Having tested and confirmed that the fluctuations were not due solely to random chance, we proceeded to assess trends in the data. We first noted that the composite propensity was greater during the 1980-1983 time period than during the previous 4 years (1976-1979) and the subsequent 6 years (1984-1989). Although this hypothesis was identified merely by inspecting the data, the statistical significance level of the test was very strong (p<.001).

Trends in Service-specific propensity for the Army, Marine Corps, and Air Force were consistent with trends in composite propensity. That is, propensity for these

Figure 5.1 Trends in Positive Propensity to Serve on Active Duty in Specific Services and Any Service for 16- to 21-Year-Old Males, 1976-1989

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Any Service	30.5	34.1	32.4	30.0	33.7	34.3	35.8	35.4	29.9	29.8	32.0	32.4	32.1	33.7
Army	11.4	14.8	13.9	12.9	14.6	15.0	16.0	17.5	14.3	14.7	15.8	15.5	15.2	17.1
Navy	13.8	17.5	16.2	14.5	14.4	15.4	14.4	13.0	10.9	10.6	11.1	12.3	12.3	13.1
Marine Corps	9.3	12.7	11.8	10.8	12.3	12.4	11.7	12.1	9.6	10.2	11.2	11.4	12.0	12.6
Air Force	15.4	18.3	17.7	16.6	20.6	20.9	18.7	18.8	15.3	14.9	16.0	18.2	16.4	17.8

Note. Estimates prior to 1983 have been reweighted to be comparable to those from 1983 through 1989.

Source. Youth Attitude Tracking Study, 1976-1989.

Services was greater for the 1980-1983 period than for the 1976-1979 or 1984-1989 periods. Expressed propensity for the Navy, however, has declined steadily. Propensity for Naval enlistment was lower for the last 5-year period than it was for the 1980-1983 period. and propensity in the 1980-1983 period was lower than it was for the 1976-1979 period.

A shift in Service preference patterns is also evident in Figure 5.1. Since 1976, propensity for the Services shows a shift from four distinct preferences to two distinct preferences. During the 1970s, preferences for all Services were clearly differentiated. From 1980 to 1989, preferences for the Air Force and the Army converged as did those for the Navy and the Marine Corps.

2. 16- to 21-Year-Old Female Propensity Trends

Figure 5.2 presents data for 16- to 21-year-old females that are comparable to the data shown in Figure 5.1 for 16- to 21-year-old males. Females were first included in the YATS series in 1980, so data are available for only 10 years. Comparison of Figures 5.1 and 5.2 shows that females' positive propensities for each active Service and composite active propensity were all lower than the corresponding propensities for males.

Differences between the yearly propensity estimates of 16- to 21-year-old females were less obvious than those seen for 16- to 21-year-old males. However, statistical analysis of composite active propensity for any Service indicated significant differences, but no pattern was discernible. Differences in yearly propensity estimates for the individual Services were generally not statistically significant.

Figure 5.2 Trends in Positive Propensity to Serve on Active Duty in Specific Services and Any Service for 16- to 21-Year-Old Females, 1980-1989

		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Any Service		14.8	15.7	14.5	11.7	13.2	11.9	12.8	15.0	12.2	14.2
Army		6.3	7.0	6.1	4.4	5.6	5.9	5.8	6.8	5.8	6.2
Navy		6.6	7.1	5.6	4.7	4.3	4.4	4.1	5.3	4.6	5.0
Marine Corps		5.2	5.0	3.8	2.6	3.3	3.0	3.0	3.6	3.2	3.6
Air Force		9.5	9.4	8.8	6.8	9.0	6.5	8.0	8.6	7.7	8.7
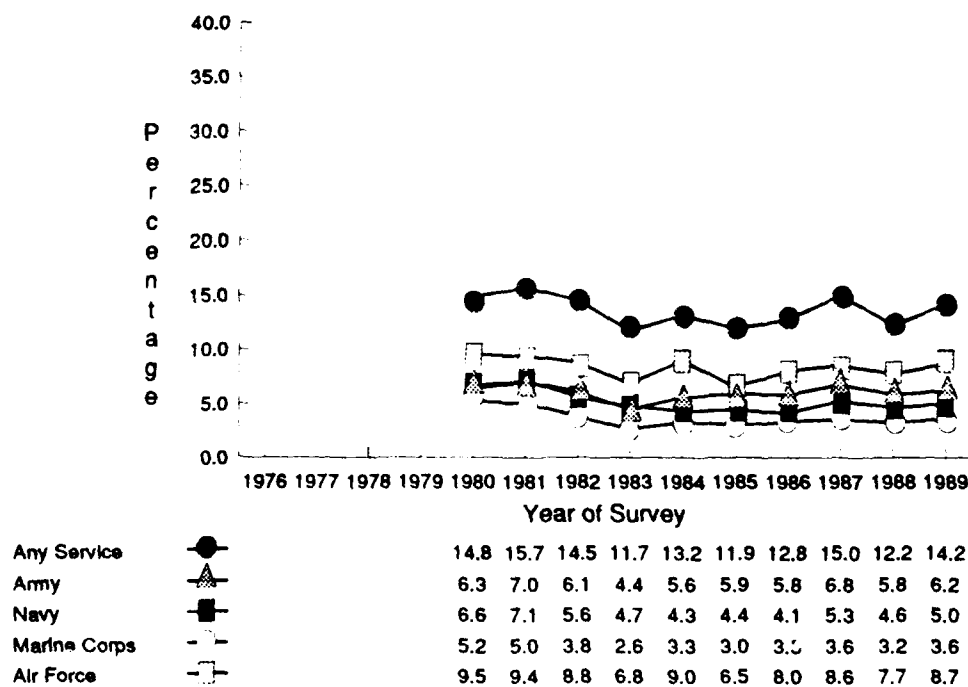
Note. Data for young females are available since 1980. Estimates prior to 1983 have been reweighted to be comparable to those from 1983 through 1989.

Source. Youth Attitude Tracking Study, 1980-1989.

Individual Service preference patterns showed little change over the years. The Air Force has consistently been the most preferred Service and the Marine Corps the least preferred by 16- to 21-year-old females. From 1980 to 1983, the Army and Navy were nearly identical in their preference (wedged between the Air Force and Marine Corps). Since 1984, the Army has been the second most preferred Service and the Navy the third.

3. 22- to 24-Year-Old Male and Female Propensity Trends

Figure 5.3 presents the 7 years of available trend data (1983-1989) for the 22- to 24-year-old males. Because the definition of this male sample was changed in 1986 to include only 22- to 24-year-olds (rather than 22- to 29-year-olds), the data presented for 1983 through 1985 were calculated for the corresponding 22- to 24-year-old subset of respondents.

Figure 5.3 Trends in Positive Propensity to Serve on Active Duty in Specific Services and Any Service for 22- to 24-Year-Old Males, 1983-1989

		1983	1984	1985	1986	1987	1988	1989
Any Service	●	14.3	12.4	12.6	14.2	16.1	14.0	18.0
Army	△	7.5	4.3	5.2	7.9	8.4	6.3	9.4
Navy	■	6.0	5.8	3.7	5.6	6.7	4.7	7.9
Marine Corps	○	5.3	5.0	3.6	5.4	5.7	4.8	6.5
Air Force	□	7.6	7.7	6.9	6.9	8.9	6.8	9.9
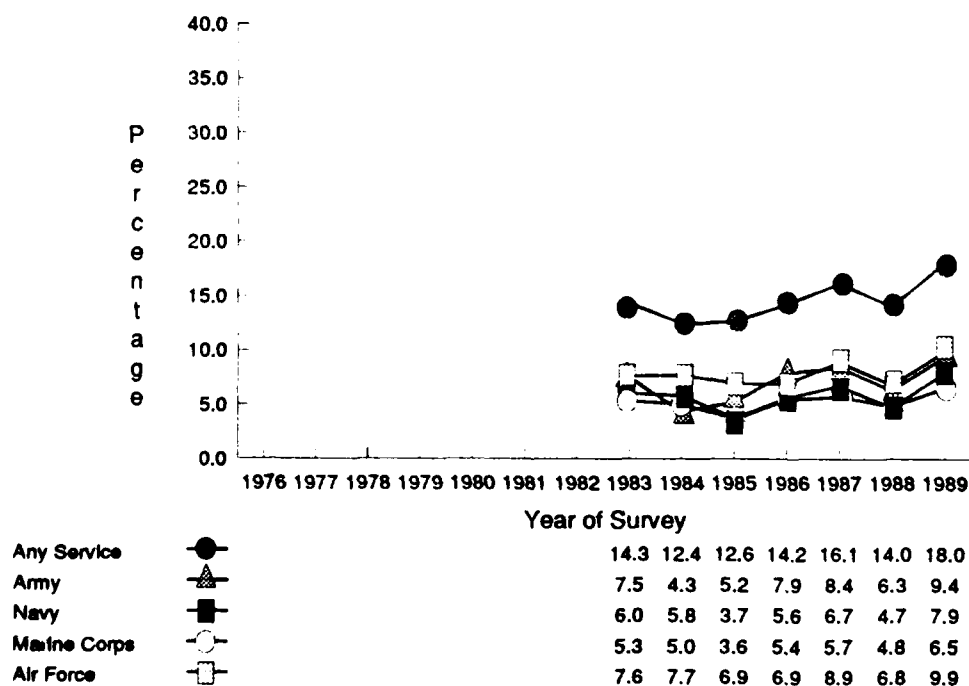
Note. Data are for older males between the ages of 22 and 24 and are available since 1983. Estimates for 1983 through 1985 obtained for males aged 22 and 29 have been reanalyzed for the restricted age group to be comparable to the 1986-1989 data.

Source. Youth Attitude Tracking Study, 1983-1989.

Statistical examinations of yearly differences in propensity for 22- to 24-year-old males showed no statistically significant changes between 1983 and 1988. The apparent 1983-1988 differences shown in Figure 5.3 may only be attributed to random variation. In 1989, composite and Service-specific propensities for these males, however, were at their highest levels ever. These increases were statistically significant for composite propensity and for the Army and Navy. Further years of data will be required to determine if this is the start of a trend.

For 22- to 24-year-old females, only 4 years of data are available because 1986 was the first year that they were included in the YATS series. Composite active propensity remained low and relatively constant at about 5% to 6% across the 4 years. There were no statistically significant yearly changes between 1986 and 1989 in composite or Service-specific propensity among these females.

B. Propensity and Unemployment Rates

In the context of social, political, and cultural considerations, the military may appear more attractive when a weak economy limits civilian career options. If this presumption is correct, then propensity will be low or declining when the economy is strong or strengthening (when unemployment rates are low or falling), and propensity will be high or rising when the economy is weak or weakening (unemployment rates are high or rising). To examine this assumption, the estimates of positive propensity were compared with the annual unemployment rates for males and females aged 16 to 21 years. Unemployment rates are from the U.S. Bureau of Labor Statistics for the calendar year of the corresponding YATS survey.

1. 16- to 21-Year-Old Males' Composite Propensity and Unemployment

Figure 5.4 presents trend data for unemployment and composite active propensity. A positive relationship exists between the unemployment rate for males aged 16 to 21 and their level of positive propensity to enlist in the military. Years of low or declining unemployment rates generally correspond with low or declining positive propensity, and years of high or increasing unemployment rates correspond with high or increasing positive propensity. The correlation between the two rates is .52.

The pattern of changes in the respective rates has been close until recently. From 1977 through 1984, there were large year-to-year shifts in the unemployment rate. Composite propensity mirrored the shifts in the unemployment rate during this time period. Since 1984, the year-to-year shifts in the unemployment rate have been relatively small, and composite propensity has not tracked as closely with the

Figure 5.4 16- to 21-Year-Old Males' Annual Unemployment Rate and Positive Propensity for Any Active Duty Service, 1976-1989
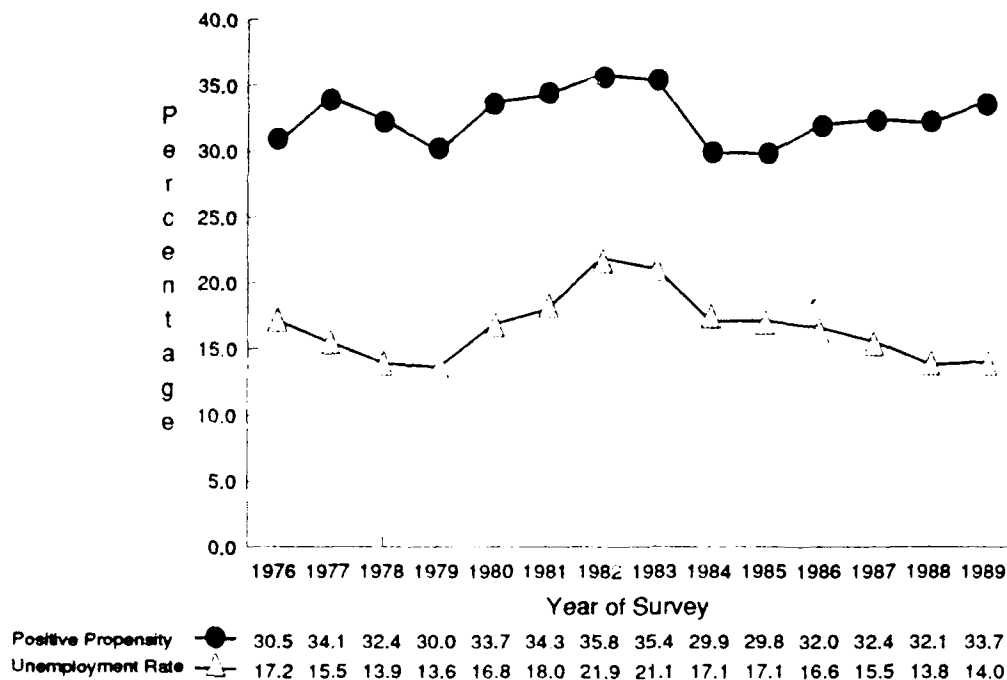
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Positive Propensity	30.5	34.1	32.4	30.0	33.7	34.3	35.8	35.4	29.9	29.8	32.0	32.4	32.1	33.7
Unemployment Rate	17.2	15.5	13.9	13.6	16.8	18.0	21.9	21.1	17.1	17.1	16.6	15.5	13.8	14.0

Note. Propensity estimates are based on surveys in the fall of each year. Estimates before 1983 were reweighted to make them comparable to those from 1983 through 1989. Unemployment figures are annual estimates provided by the Bureau of Labor Statistics for 16- to 21-year-old males. Correlation of the two curves is 0.52.

Source. Youth Attitude Tracking Study, 1976-1989; Bureau of Labor Statistics, 1976-1989.

unemployment rate. These results suggest that, although there is a positive relationship between employment rates and composite positive propensity, other factors also shape propensity toward enlistment in the military.

2.   16- to 21-Year-Old Males' Service Propensity and Unemployment

To better understand the relationship between unemployment and composite active propensity, Service-level analyses were conducted. Correlations were computed between the unemployment rates for 16- to 21-year-old males and positive propensity for the Army, Navy, Marine Corps, and Air Force. The goal of these analyses was to determine whether there was a pattern between Service propensity and unemployment rates. The correlations were calculated twice--first for all of the years (1976-1989) and

Table 5.1 Correlations Between Unemployment Rate and Positive Propensity to Enlist in the Military

Propensity measure	Years	
	1976-1989	1977-1989
Composite	0.52	0.58
Army	0.29	0.50
Air Force	0.25	0.30
Navy	0.09	0.10
Marine Corps	0.03	0.02

Source. Youth Attitude Tracking Study, 1976-1989.

then excluding 1976 (1977-1989). We did this because 1976 appears to be an outlier for the relationship. The correlations are presented in Table 5.1.

We see that for all of the years (1976-1989) the Army and Air Force propensities had the highest correlation with the unemployment rate, although neither correlation is statistically significant. The correlations for the Navy and Marine Corps were very small. Excluding 1976 (1977-1989), a slightly different picture appears. The Army's propensity correlation with the unemployment rate was nearly as high as the composite propensity correlation and is marginally statistically significant (p<.10). The correlations of the other Services and unemployment remained at about their same level. Figure 5.5 displays the relationship between positive propensity for the Army and the unemployment rate for 16- to 21-year-old males.

Taken together, these data suggest that the relationship between unemployment and composite active propensity is explained primarily by propensity for the Army. That is, because composite propensity is computed from the individual Service propensities (and the Army shows a significant relationship to unemployment rates but the other Services do not), it follows that the Army propensity explains most of the composite propensity relationship with the unemployment rate. This finding may partly result from the fact that the Army has shorter enlistment periods than do the other Services. If military service during periods of higher unemployment is viewed as a temporary (but not long-term) employment solution, then shorter enlistment periods would have greater appeal. These data, of course, do not address this issue directly, but they do suggest that something is distinctive about propensity for the Army and unemployment rates.

3. 16- to 21-Year-Old Females' Composite Active Propensity and Unemployment

Figure 5.6 compares annual unemployment rates and positive propensity for 16- to 21-year-old females over the 10-year period from 1980 through 1989. The data showed no particular relationship, which indicated that unemployment for these females was not associated with propensity to join the military. They may not have viewed the military as a logical alternative to civilian employment.

Figure 5.5 16- to 21-Year-Old Males' Annual Unemployment Rate and Positive Propensity for the Army, 1976-1989
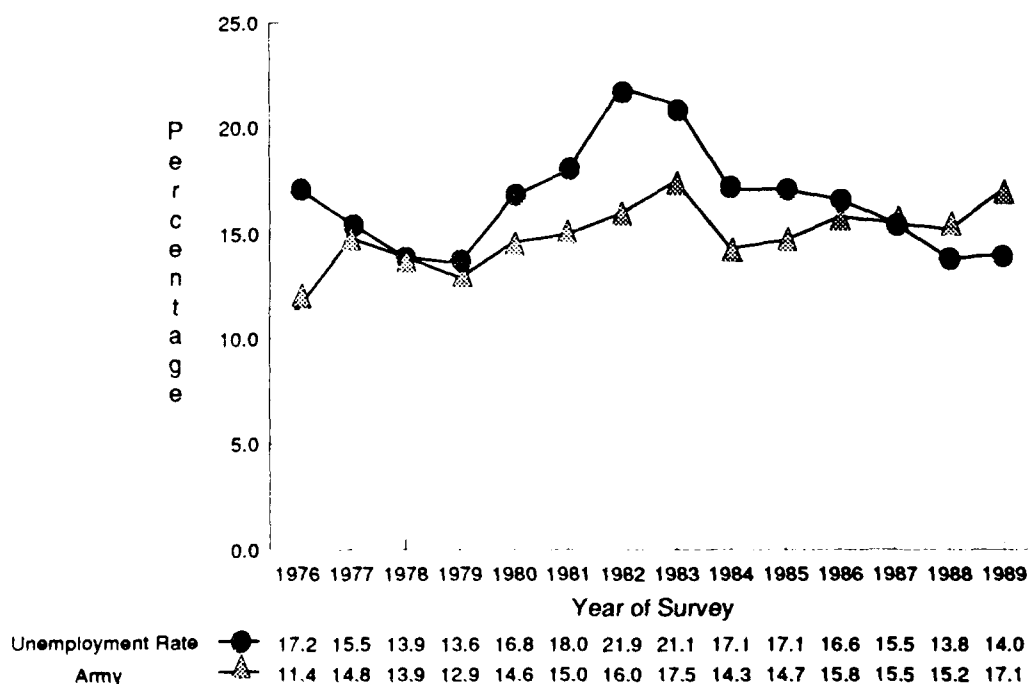
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Unemployment Rate	17.2	15.5	13.9	13.6	16.8	18.0	21.9	21.1	17.1	17.1	16.6	15.5	13.8	14.0
Army	11.4	14.8	13.9	12.9	14.6	15.0	16.0	17.5	14.3	14.7	15.8	15.5	15.2	17.1

Year of Survey

Note. Propensity estimates are based on surveys in the fall of each year. Estimates before 1983 were reweighted to make them comparable to those from 1983 through 1989. Unemployment figures are annual estimates provided by the Bureau of Labor Statistics for 16- to 21-year-old males. Correlation of the unemployment rate and positive propensity for the Army is 0.29.

Source. Youth Attitude Tracking Study, 1976-1989; Bureau of Labor Statistics, 1976-1989.

Figure 5.6   16- to 21-Year-Old Females' Annual Unemployment Rate and Positive Propensity for Any Active Duty Service, 1980-1989
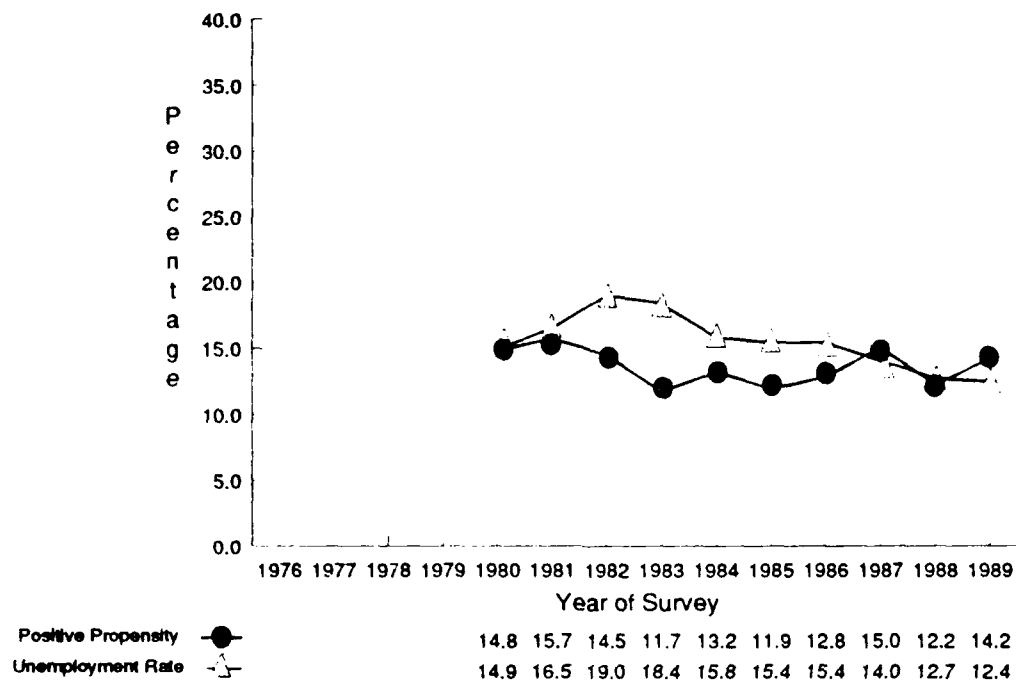
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Positive Propensity					14.8	15.7	14.5	11.7	13.2	11.9	12.8	15.0	12.2	14.2
Unemployment Rate					14.9	16.5	19.0	18.4	15.8	15.4	15.4	14.0	12.7	12.4

Note. Propensity estimates are based on surveys in the fall of each year. Estimates before 1983 were reweighted to make them comparable to those from 1983 through 1989. Unemployment figures are annual estimates provided by the Bureau of Labor Statistics for 16- to 21-year-old females. Correlation of the two curves is 0.15.

Source. Youth Attitude Tracking Study, 1980-1989; Bureau of Labor Statistics, 1980-1989.

6. SUMMARY AND DISCUSSION

The Youth Attitude Tracking Study (YATS) II provides data about the background of young people and estimates the expressed propensity of male and female youths and young adults for military service. This chapter summarizes and highlights key propensity findings of the 1989 YATS II survey. We first briefly summarize the 1989 YATS survey and YATS population characteristics. We then highlight the results and implications of enlistment propensity for the active Military Services and Reserve Components and conclude with a discussion about trends in enlistment propensity from 1976 to 1989.

A. 1989 YATS Survey and YATS Population Characteristics

1. 1989 YATS Survey

The 1989 YATS II survey was designed to obtain information from four market groups of interest to the military: males and females aged 16 to 21 years and males and females aged 22 to 24 years. For analysis purposes, the 16- to 21-year-olds were divided into two groups: those aged 16 to 17 and those aged 18 to 21. Data for the study were collected between July and November 1989 and consisted of responses to a 30-minute computer-assisted telephone interview (CATI). Analyses were based on 11,575 interviews that included 5,801 16- to 21-year-old males, 1,178 22- to 24-year-old males, 3,479 16- to 21-year-old females, and 1,117 22- to 24-year-old females. Response rates were over 70% for all groups except 22- to 24-year-old males, which was 65%.

The survey assessed the self-reported likelihood that young people will serve in the active Military Services or in the Reserve Components in the next few years. This likelihood is referred to as "propensity" and for active Services was measured by five questions about serving in the Army, Navy, Marine Corps, Air Force, or Coast Guard. For the Reserve Components, two questions were asked about the likelihood of serving in the National Guard or Reserves with subsequent questions specifying the appropriate Reserve Component.

Responses to the individual propensity questions of the active Army, Navy, Marine Corps, and Air Force were combined to form a composite measure of propensity for these DoD Services. Responses to the propensity question for the National Guard and the Reserves were combined to form a composite measure of propensity for the Reserve Components. These two composite indicators were the primary measures for analyses in this report.

2. YATS Population Characteristics

The 1989 YATS population was estimated to include approximately 5.9 million 16- to 21-year-old males and 5.7 million 16- to 21-year-old females. Approx-

imately one half of these males and females were aged 16 or 17. The numbers in the YATS population decreased as age increased from 18 to 21 years. For males and females aged 22 to 24, the estimated population counts were 1.4 million and 1.7 million, respectively.

The YATS population is part of the larger youth and young adult population that also includes the non-YATS college population, the military population, and an "other" population (those living in Alaska and Hawaii who were not sampled, military veterans, those beyond the second year of college, and those without telephones). The size of the total youth and young adult population aged 16 to 24 was estimated to consist of 17.0 million males and 16.2 million females. The size of the population was relatively constant for each age from ages 16 to 24, ranging from 1.7 million to 2.0 million for males and from 1.6 million to 2.0 million for females.

The YATS population comprised the majority of the youth population for 16- and 17-year-olds (approximately 80% for both males and females), but became proportionately smaller for those aged 18 to 20 and remained at low levels for those aged 21 to 24 (about 20% for males and 30% for females).

Age was related to a number of sociodemographic characteristics of the YATS population (marital, school, and employment status, as well as aptitude). Few 16- to 17-year-olds had ever married (less than 1% of males, about 1% of females), but among those aged 22 to 24, approximately 60% of females and 33% of males had married. For employment and school status, younger individuals were more likely to be full-time students and to have part-time jobs or no jobs. Older individuals were more likely to be employed and to hold full-time positions, and consequently, less likely to be in school.

B. Active and Reserve Components Enlistment Propensity

1. Overall Active Duty Propensity Findings

Expressed propensity to enlist for active duty was examined for three age groups: youths and young adults aged 16 to 17, 18 to 21, and 22 to 24. Results showed a clear pattern for propensity to decline significantly as age increased. For males, composite active propensity (i.e., expressed propensity to enlist in at least one of the DoD Services) was:

- 43.4% for 16- to 17-year-olds,
- 25.1% for 18- to 21-year-olds, and
- 18.0% for 22- to 24-year-olds.

Females showed the same pattern of results as males. However, positive composite active propensity in each female age group was lower than the percentage for the comparable male group:

- 19.3% for 16- to 17-year-olds,
- 9.7% for 18- to 21-year-olds, and
- 6.2% for 22- to 24-year-olds.

In general, propensity for individual Services was highest for the Air Force and the Army. The 16- to 17-year-old males, for example, expressed significantly higher propensity for the Air Force (22.8%) and the Army (21.5%) than for the Navy (16.3%), Marine Corps (16.2%), or Coast Guard (11.6%).

Propensity for the individual active Services showed the same general age pattern observed for composite active propensity: Males aged 16 to 17 expressed the highest levels of positive propensity for the Services (between 11.6% and 22.8%) followed by those aged 18 to 21 (between 7.9% and 13.3%) and those aged 22 to 24 (6.5% to 9.9%). Similarly, females aged 16 to 17 (4.8% to 11.7%) also expressed the highest levels of positive propensity followed by those aged 18 to 21 (2.5% to 6.0%) and those aged 22 to 24 (1.3% to 3.5%).

Comparisons of 1988 and 1989 data showed an increasing pattern in enlistment propensity. Expressed propensity for military service was significantly higher in 1989 for 22- to 24-year-old males (4.0 percentage point increase) and for 16- to 17-year-old females (4.4 percentage point increase), and of borderline significance for 16- to 17-year-old males (3.5 percentage point increase).

2. Overall Reserve Component Propensity Findings

Propensity to serve in the Reserve Components showed a similar, though lower, overall pattern than did propensity to serve in the active military. Again, a decrease occurred with an increase in age. For males, composite Reserve propensity was:

- 29.9% for 16- to 17-year-olds,
- 20.3% for 18- to 21-year-olds, and
- 16.7% for 22- to 24-year-olds.

For females, composite Reserve propensity was:

- 14.0% for 16- to 17-year-olds,
- 7.8% for 18- to 21-year-olds, and
- 5.5% for 22- to 24-year-olds.

Respondent age was also associated with propensity for serving in the individual National Guard or Reserve Components. Those who were younger (16- to 21-years-old)

expressed higher propensity than did those who were older (22- to 24-years-old). For the National Guard, propensity levels were generally higher for the Army National Guard than they were for the Air National Guard. For example, among 16- to 17-year-old males, 10.3% expressed positive propensity for the Army National Guard compared with 6.8% for the Air National Guard. For the Reserves, enlistment propensity was highest for the Army and Air Force Reserves and lowest for the Coast Guard Reserve. For example, among 16- to 17-year-old males, 8.3% and 7.6% expressed positive propensity for the Army Reserve and Air Force Reserve, respectively, compared to 1.6% for the Coast Guard Reserve. These patterns generally held for all age groups for both males and females.

Comparisons of 1988 and 1989 data showed an increasing pattern in enlistment propensity. Expressed propensity for the Reserve Components was significantly higher in 1989 for 16- to 17-year-old males (6.6 percentage point increase) and for females (4.2 percentage point increase) and for 22- to 24-year-old males (4.2 percentage point increase).

3. Sociodemographic Correlates of Propensity

Initial analyses consisted of descriptive crosstabulations of active and Reserve propensity data for the 1989 YATS. Tabular data examined seven sociodemographic correlates of propensity for all respondents aged 16 to 24. The sociodemographic characteristics examined were age, race/ethnicity, marital status, school status, employment status, Census region, and aptitude. Results for age were presented above. Age was crosstabulated with the other sociodemographic characteristics because of its strong association with propensity. In general, the patterns of results were similar for the measures of active and Reserve propensity. For convenience, the results illustrated here focus on active propensity findings.

Race/ethnicity showed a strong relationship to propensity, with nonwhites more likely than whites to express positive propensity. This pattern occurred across all age groups and for both males and females. Among 16- to 17-year-old males, for example, Blacks (61.7%) and Hispanics (63.7%) were much more likely to express positive propensity than were whites (37.9%). Among 16- to 17-year-old females, only 12.2% of whites reported positive propensity compared with 39.6% of Blacks and 36.7% of Hispanics. Although Blacks and Hispanics had proportionately more individuals with positive propensity, the much larger white population still yielded higher population counts. For example, among males aged 18 to 21, the YATS population with positive propensity was estimated to be 154,000 Blacks, 143,000 Hispanics, and 462,000 whites.

Marital status was related to propensity. Generally, individuals who had never been married were more likely to express positive propensity than were those who were currently married. This pattern occurred for both males and females. For example,

among males aged 18 to 21, 25.4% of those who had never married expressed positive propensity compared with 18.8% of those currently married.

Propensity also varied by school status. Overall, males in high school (i.e., high school seniors and nonsenior high school students) reported the highest levels of propensity. (Nonseniors are high school students below the 12th grade.) High school graduates (who were not students) and postsecondary students showed the lowest levels of propensity. For example, among males aged 16 to 17, positive propensity was expressed by 48.7% of nonsenior high school students and 36.9% of high school seniors. These numbers compare with 19.9% of high school graduates and 20.8% of postsecondary students. The relationship between propensity, age, and school status for females was similar to that observed for males.

Respondents' employment status was related to the expression of positive active propensity. In general, males and females who were not employed but looking for work expressed the highest levels of propensity, and those who were not employed and not looking expressed the lowest levels of propensity. Among 18- to 21-year-old males, for example, 38.6% of those who were not employed and looking for work expressed positive propensity compared with 19.4% of those not employed and not looking for work.

Tabulations of propensity by Census region of the United States showed systematic variation by expressed propensity. Overall for both males and females, expressed propensity was highest for those living in the South. For males, the West was the region with next highest propensity, whereas for females it was the Northeast. For example, among 16- to 17-year-old males 48.6% expressed positive propensity in the South compared to 44.8% in the West, 40.9% in the Northeast, and 37.0% in the North Central region.

The final sociodemographic variable examined was aptitude. The standard measure of aptitude for those enlisting in the military is estimated performance on the Armed Forces Qualification Test (AFQT). Those scoring in the top half and bottom half of this enlistment test are considered to have higher aptitude and lower aptitude, respectively. AFQT scores were not available for YATS respondents, but estimates were made of the likelihood that 16- to 21-year-old males and females would fall in the upper and lower half of the AFQT score distribution. Estimates could not be made for 22- to 24-year-olds.

Analyses showed a strong relationship of aptitude and propensity. Positive propensity was significantly more likely to be expressed by those with lower aptitude than by those with higher aptitude. Furthermore, those with lower aptitude comprised a larger segment of the population. For example, among 18- to 21-year-old males, expressed propensity for those with lower aptitude was almost twice that of those with

higher aptitude (33.7% vs. 17.1%, respectively), and the counts of lower aptitude youths were larger than the counts of higher aptitude youths (509,000 vs. 278,000, respectively). Data for females showed a similar pattern to males although propensity levels were lower. These data suggest that propensity is a useful measure to gauge the interest of youths in the military, but it should be combined with aptitude information to determine and target youths who will be of greatest interest to the military.

Findings for the association of sociodemographic characteristics and Reserve propensity generally followed the patterns discussed for active propensity. As a rule, however, enlistment propensity for serving in the Reserve Components was lower than enlistment propensity for the active military. In general, this held for age, race/ethnicity, school status, employment status, Census region, and aptitude. One notable difference occurred for the association of Reserve propensity and marital status among males. Those who were married expressed propensity at about the same level as did those who were not married. This was in contrast to the pattern of lower propensity for the active Military Services among marrieds relative to nonmarrieds.

In summary, patterns of results for youths expressing positive composite active propensity and composite Reserve propensity were similar for sociodemographic characteristics, but propensity for active duty service was higher than that for the Reserve Components. Overall, findings showed that composite active and composite Reserve propensity were more likely to be expressed by males and females who were

- Young,
- Black or Hispanic,
- Unmarried (except among males for Reserve propensity),
- Still in high school,
- Not employed but looking for a job,
- Living in the South, and
- Of lower aptitude.

4. Multivariate Analyses

Results presented above described the association with propensity of several sociodemographic factors examined one at a time and crosstabulated with age. These analyses provide useful information about associations of the selected variables and propensity, but they are limited because they do not take into account the possible correlations among variables or their interactions. Regression analyses were conducted to overcome this limitation.

Regression analyses permit us to determine if the one-at-a-time associations observed in the tabular analyses adequately explain the associations in the data or whether they need some qualification due to correlations or interactions among the

variables. By correlations, we mean that two variables are either positively or negatively related such that variation in one is predictable by variation in the other. By interactions, we mean that the pattern of results for the dependent measure of interest (e.g., positive propensity) varies for different combinations of two (or more) independent variables.

The data for the regression analyses were restricted to males and females aged 16 to 21, and the sociodemographic variables for the analyses were limited to five characteristics shown to be associated with propensity:

- Age,
- Race/ethnicity,
- Employment status,
- Census region, and
- Aptitude.

The other sociodemographic variables of marital status and school status were omitted from these analyses because of their strong dependence on age. In addition to the five sociodemographic variables, we included combinations of pairs of variables to examine interactions. We limited these variables to two-way interactions to facilitate interpretation of results. The two-way interactions were:

- Age by race/ethnicity,
- Age by employment status,
- Age by Census region,
- Age by aptitude,
- Race/ethnicity by employment status,
- Race/ethnicity by Census region,
- Race/ethnicity by aptitude,
- Employment status by Census region,
- Employment status by aptitude, and
- Aptitude by Census region.

Four sets of regression analyses were conducted: one for males and one for females aged 16 to 21 for active propensity and one for males and one for females aged 16 to 21 for Reserve propensity. The patterns of significant results were generally consistent across the analyses for the male and female groups. As shown in Table 6.1, age, race/ethnicity, employment status, and aptitude appeared as significant main effects (i.e., these characteristics showed statistically significant results referred to as main effects) in all of the analyses, as did Census region for females for Reserve propensity.

Table 6.1 Summary of Regression Analyses'
Significant Effects

| Significant effects | Age group/propensity measure[a] | | | |
	Males active	Females active	Males Reserve	Females Reserve
Age	X	X	X	X
Race/ethnicity	X	X	X	X
Employment status	X	X	X	X
Census region				X
Aptitude	X	X	X	X
Age by race/ethnicity	X	X	X	X
Aptitude by race/ethnicity	X	X	X	X
Aptitude by employment status		X		

[a]The age group for this table is 16- to 21-year-old males and females.

Source. 1989 Youth Attitude Tracking Study.

Because these results for the individual sociodemographic variables were generally consistent with the patterns discussed above for the marginal tabulations, they are not discussed further. Of greater interest to this discussion are the interaction findings. All of the models showed significant interaction effects for age by race/ethnicity and for aptitude by race/ethnicity. An aptitude by employment status interaction was also significant for females for active propensity.

The age by race/ethnicity interactions across the four groups indicated an overall declining pattern of propensity with age, but differing rates of decline for the different racial/ethnic groups. In general, propensity for whites showed a steady decline with age, whereas propensity for Blacks and Hispanics showed more increasing and decreasing fluctuations with age. Reserve propensity for Black males showed the most unexpected pattern of near-level propensity across the years. This suggests that it is possible to maintain youths' high interest in the military at more than just very young ages.

The aptitude by race/ethnicity interaction indicated high interest in the military among those with lower aptitude and a declining pattern of expressed propensity as the probability of higher aptitude increased. The rate of decline, however, was greater for

Blacks than it was for whites or Hispanics. This aptitude by race/ethnicity interaction was especially interesting in view of the preference by the military to recruit higher aptitude youths. Further examination of the effects of aptitude showed little variation with age, but striking variation with race/ethnicity. For males and females, whites were over two times more likely to score in the higher aptitude range than were Blacks and over one and one half times more likely than were Hispanics. Thus, these data indicate that it would be more difficult to find higher aptitude youths among nonwhites than among whites and that, for Blacks especially, those with higher aptitude were not likely to express positive propensity for military service.

C. Trends in Enlistment Propensity for Active Duty Military

1. Trends in Positive Propensity

Trend data were examined for the four market groups of males and females aged 16 to 21 and males and females aged 22 to 24. Generally, the YATS data showed few statistically significant changes in propensity from year to year. Analyses did indicate, however, that composite active propensity and propensity for the Army, Marine Corps, and Air Force were higher during the 1980-1983 period than during the 1976-1979 or 1984-1989 periods. The Navy, however, experienced a decline over the three periods from 1976 to 1989.

A shift in the patterns of Service preference expressed by 16- to 21-year-old males was also evident. Since 1976, propensity for the Army, Navy, Marine Corps, and Air Force showed a shift from four distinct preferences to two distinct preferences. During the 1970s, preferences for all Services were clearly differentiated. From 1980 to 1989, preferences for the Air Force and the Army converged as did those between the Navy and the Marine Corps. Differences between the yearly propensity estimates of 16- to 21-year-old females were less obvious than those seen for 16- to 21-year-old males. Composite active propensity of females for any Military Service, however, was significantly higher from 1980 to 1983 than from 1984 to 1989. Differences among females in yearly propensity estimates for the individual Services were very small, however. Individual Service preference patterns for females showed little change over time. The Air Force has consistently been the most preferred Service and the Marine Corps the least preferred.

The composite active propensity of 22- to 24-year-old males and females was relatively low and highly stable from 1983 to 1988 with no statistically significant changes for men or for women. This pattern also continued for women in 1989. The pattern showed a significant upward shift from 1988 to 1989 in propensity. The increase was statistically significant for composite propensity (4.0 percentage points) and for the Army (3.1 percentage points) and Navy (3.2 percentage points).

2. Positive Propensity and the Unemployment Rate

The overall correlation between propensity and unemployment rates for 16- to 21-year-old males remained relatively strong (r=.52). The pattern of changes in the respective rates has been close until recently. From 1977 through 1984, propensity data mirrored the shifts in the unemployment rate. Since 1984, the year-to-year shifts in the unemployment rate have been relatively small, and composite propensity has not tracked as closely with the unemployment rate. This suggests that, although there is a positive relationship between employment rates and composite positive propensity, other factors also shape propensity toward enlistment in the military.

To better understand the relationship between unemployment and composite active propensity, Service-level analyses were conducted. The correlation between the youth unemployment rate and propensity for the Army was strongest when 1976 data were omitted (r=.50) because 1976 may have been an outlier. Under this condition, the correlation among the individual Services was nearly as strong as the correlation with composite active propensity (r=.58). The correlations between the unemployment rate and propensity for the other Services were much lower (r=.10 for the Navy, .02 for the Marine Corps, and .30 for the Air Force).

Taken together, these data suggest that the relationship between unemployment and composite active propensity is explained primarily by propensity for the Army. That is, because composite propensity was computed from the individual Service propensities, and the Army showed a significant relationship to unemployment rates but the other Services did not, it followed that the Army propensity explained most of the relationship between composite active propensity and unemployment.

This finding may partly result from the fact that the Army has shorter enlistment periods than do the other Services. If military service during periods of higher unemployment is viewed as a temporary (but not long-term) employment solution, then shorter enlistment periods would have greater appeal. These data, of course, do not address this issue directly, but they do suggest that something is distinctive about propensity for the Army and unemployment rates.

In contrast to the findings for 16- to 21-year-old males, the correlation between unemployment rates and propensity for 16- to 21-year-old females was low (r=.15). This suggests that economic or employment conditions of the surrounding community had little influence on these females and that they did not see the military as a logical alternative to civilian employment.

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APPENDIX A

METHODOLOGY AND MEASUREMENT APPROACH

APPENDIX A

METHODOLOGY AND MEASUREMENT APPROACH

This appendix describes the methodology for the 1989 YATS II survey. The discussion of methods includes the sampling design, data collection, and measurement approaches. The measurement approach provides definitions of the key measures used for analysis in this report.

A. Sampling Design

The 1989 YATS II survey was designed to obtain information from four market groups most likely to enlist in the military:

- Males aged 16 to 21,
- Males aged 22 to 24,
- Females aged 16 to 21, and
- Females aged 22 to 24.

To be eligible for inclusion in this study, individuals had to reside in the continental United States in households or noninstitutional group quarters with telephones. This includes traditional households of close relatives and households of up to 10 unrelated individuals living together who share the same phone (e.g., roommates in an apartment). Students in college dormitories were included if they had private phones in their rooms, but they were excluded if they were served only by a central hall phone. Eligible individuals could have completed no more than 2 years of college. Military personnel, including those in the Delayed Entry Program and those with prior military service (other than high school ROTC), were excluded.

The sample size and allocation for each of the four markets were determined from DoD specifications of precision requirements for estimates of propensity. Males aged 16 to 21 were the market of primary interest for YATS II; accordingly, the sample size was determined by the number of households needed to meet the precision requirements specified for this group. Because the number of households required to meet the sample size for these males produced more eligible individuals for the other three market groups than were needed to satisfy the precision requirements, subsamples of these groups were selected for interviewing.

The YATS II sampling design is based on the Waksberg random digit dialing procedure (Waksberg, 1978). Under this procedure, telephone numbers are called in two stages to identify households. First-stage calls are made to randomly selected telephone exchanges. Exchanges yielding a household on the first number called are

designated as clusters. In the second stage, numbers within these clusters are generated to find additional households. This approach is efficient because many exchanges have disproportionately high percentages of residential telephone numbers. When the first call to an exchange reaches a household, subsequent calls to the same exchange are more likely to reach households than when the first call to an exchange does not reach a household.

B. Data Collection

1. Survey Questionnaire

Data for the YATS II survey consisted of responses to a questionnaire administered in a 30-minute computer-assisted telephone interview. The 1989 survey questionnaire was similar to the 1988 questionnaire and consisted of four sections. Section A contained primarily education and employment items. Sections B and C contained items about propensity toward the active Services and the Reserve Components, and general awareness about military pay, bonuses, educational benefits, requirements of the Reserve Components, and other selected issues. Section D contained items on advertising, recruiter contact, and respondent demographics.

Selected items dealing with attitudes toward National Service in 1988 were replaced with items exploring new enlistment incentives that may be offered by the military such as varying levels of benefits to be used for educational expenses or a down payment on a house. New items also examined recruiter contact for the Coast Guard as well as including the Coast Guard as a response option in questions asking about active duty Services. A copy of the questionnaire is in the volume of supplementary tabulations (Bray, Cobb, & Theisen, 1990).

2. Procedures

The 1989 YATS II used a computer-assisted telephone interviewing (CATI) system for all phases of data collection. With this system, questionnaires for screening (eligibility determination), interviewing, and verification are programmed, entered, and stored within the computer. Instructions and questionnaire items appear on the screen in the proper sequence. Inconsistent, invalid, and incomplete responses are resolved as an ongoing part of the interview.

Data were collected in a two-phased approach from July 23 to November 10, 1989. Phase 1 consisted of calls to identify households, and Phase 2 consisted of household screening to identify members eligible for the study and then interviewing these individuals. Overall, 268,736 telephone numbers were called to identify 107,952 households. From these households, 13,953 eligibles for the study were identified and selected for interviews. Analyses for the study were based on 11,575 interviews (5,801 for 16- to 21-year-old males, 1,178 for 22- to 24-year-old males, 3,479 for 16- to 21-year-old females, 1,117 for 22- to 24-year-old females).

3. Performance Rates

Interview completion rates and overall response rates were calculated for each of the four market groups to assess the quality of survey field operations and the potential for nonresponse in the data. Table A.1 describes the performance rates achieved during the survey by sex and age groups. As shown in Table A.1, interview completion rates, which were computed as the percentage of completed interviews out of the total number of eligibles selected, were highest among males and females aged 16 to 21 followed by females and males aged 22 to 24. Overall response rates, which were computed by multiplying the interview completion rates by the household screening rates, followed the same ranking noted for interview completion rates.

A thorough effort was made to obtain high response rates within the given schedule constraints. Numerous calls were made to complete household screening for all sample telephone numbers and to administer a questionnaire to all selected eligibles.

Table A.1 Survey Performance Rates

	Market group			
Performance rate	Males aged 16-21	Males aged 22-24	Females aged 16-21	Females aged 22-24
Interview completion rate	77.3	67.9	76.9	74.9
Overall response rate	74.2	65.3	73.0	71.4

Note. Tabled values are percentages.

C. Measurement Approach

The analyses in the study focus on enlistment propensity for the military and the association of propensity to sociodemographic subgroups. This section describes the measures of active and Reserve propensity, unaided mentions, aptitude, Census region, and school status.

1. Measures of Active Propensity

Propensity for active military service was assessed by five questions asking the likelihood of serving in the active Army, Navy, Marine Corps, Air Force, or Coast Guard.

These questions were asked with the following format:

Now, I'm going to read you a list of several things which young (men/women) your age might do in the next few years. For each one I read, please tell me how likely it is that you will be doing that.

How likely is it that you will be serving on active duty in the _____ (Army, Navy, Marine Corps, Air Force, Coast Guard)? Would you say

Definitely,
Probably,
Probably not, or
Definitely not?

For each of the Services, <u>positive propensity</u> is defined as having answered "definitely" or "probably"; <u>negative propensity</u> is defined as having answered "probably not," "definitely not," "don't know," or "refuse" to the question.

The Service-specific propensity items for the Army, Navy, Marine Corps, and Air Force (Coast Guard is omitted) form the measure of composite active propensity used in this report. Composite active propensity is defined as the most positive response given to any of the four questions measuring interest for enlisting in one of these individual active duty Services. A respondent who indicated that he or she would "probably enlist" in the Army, but "probably not enlist" in the Navy, Air Force, or Marine Corps, for example, was assigned a value of "probably enlist" on the composite active propensity measure. Respondents with values of "definitely enlist" or "probably enlist" on the composite measure were considered to have "positive propensity." Respondents with values of "probably not," "definitely not," "don't know," or "refuse" on the composite measure were considered to have "negative propensity."

2. Measures of Reserve Propensity

The assessment of Reserve propensity was similar to that used for active propensity. It was based on answers to a question about joining the National Guard and a question about joining the Reserves. Respondents were asked as follows:

How likely is it that you will be serving in the _____
(National Guard, Reserves)? Would you say

Definitely,
Probably,
Probably not, or
Definitely not?

The answers to these two questions became the respective measures of propensity to join the National Guard and propensity to join the Reserves. A composite Reserve propensity measure was constructed from the answers to these two likelihood items in the same manner as the composite active propensity measure.

3. Measure of Unaided Mentions

Another measure used to assess level of interest for enlisting in one of the active Military Services or Reserve Components is termed "unaided mentions" and refers to an answer that was volunteered without a prompt from the interviewer. The unaided mention measure was obtained by asking:

> Now, let's talk about your plans for the next few years. What do you think you might be doing?

An unaided mention was recorded when the respondent indicated his or her intention to join the military in general or one of the specific Services. After stating such an intention, the respondent was asked which Service he or she planned to join (where not already indicated) and whether the type of Service would be active, Reserves, or National Guard.

4. Measure of Aptitude

High-aptitude recruits generally are defined as those who score in Categories I-IIIA (percentiles 50-99) on the Armed Forces Qualification Test (AFQT). AFQT scores generally were not available for those surveyed in the YATS survey because most of the YATS population had not taken this test. Therefore, the study used the predicted AFQT approach developed by Orvis and Gahart (1989) of the Rand Corporation for estimating AFQT categories for those interviewed.

Predicted AFQT categories were determined by using a series of equations to estimate the probability that an individual would score at or above the 50th percentile on the AFQT (Categories I-IIIA). The baseline for these equations was developed using young male respondents from the 1976 to 1980 fall administrations of YATS who subsequently took the AFQT. The equations were used to estimate the probability that an individual would fall in Categories I-IIIA or, conversely, would be placed in Categories IIIB-V (percentiles 1-49).[1]

_____

[1]Note that each of the two AFQT-category subgroups is composed of the entire set of respondents. Data for all individuals (or the appropriate subgroup such as high school seniors) were entered into the calculations for both Categories I-IIIA and IIIB-V. This step was accomplished by using the probability that each individual would fall into Categories I-IIIA (High Wt.) for the first set of calculations and then using the probability that that individual would fall into Categories IIIB-V (1-High Wt.) for the second set. In each case, this probability was used to weight the propensity measure. The female YATS sample in the years measured was too small to develop meaningful equations. Thus, the models developed for the male respondents were used for the females as well. This may account in part for the lower probabilities of females scoring in Categories I-IIIA.

The variables used to predict AFQT categories included such objective information as age, race/ethnicity, geographic region, father's education, number and type of high school math courses completed, approximate high school grades, current job and educational status, and other information such as general intention to enlist, recruiter contact, perceived ease of finding full-time employment, and having talked with one's parents about enlisting. For analyses presented in this report, the probability that individuals would fall into Categories I-IIIA is referred to as high aptitude and the probability that individuals would fall into Categories IIIB-V is referred to as low aptitude.

5. Measure of School Status

The school status measure divides respondents into five categories that characterize their educational attainment:

- Postsecondary students,
- High school graduates,
- High school seniors,
- Nonsenior high school students, or
- Noncompleters.

Postsecondary students are defined as high school graduates attending college or a business vocational school; high school diploma graduates are defined as graduates not enrolled in further schooling; high school seniors are those enrolled in the 12th grade; nonsenior high school students are high school students below the 12th grade who are younger than seniors, primarily juniors; and noncompleters are defined as those not in high school who do not have regular high school diplomas, including those with GED or ABE certificates. School status is clearly a function of age and opportunity for education.

6. Region

Region corresponds to the Census categorization of the contiguous United States into four areas. Figure A.1 presents the locations of these regions and the U.S. Postal Service abbreviations for each State included in that region.

Figure A.1 Census Regions of the United States

NORTH CENTRAL

NORTH-EAST

WEST

SOUTH

WA MT ND MN WI VT ME SD OR ID WY NE IA MI NY NH MA CA NV UT CO KS MO IL IN OH PA NJ CT RI MD WV DE KY VA AZ NM OK TN NC AR SC MS AL GA TX LA FL
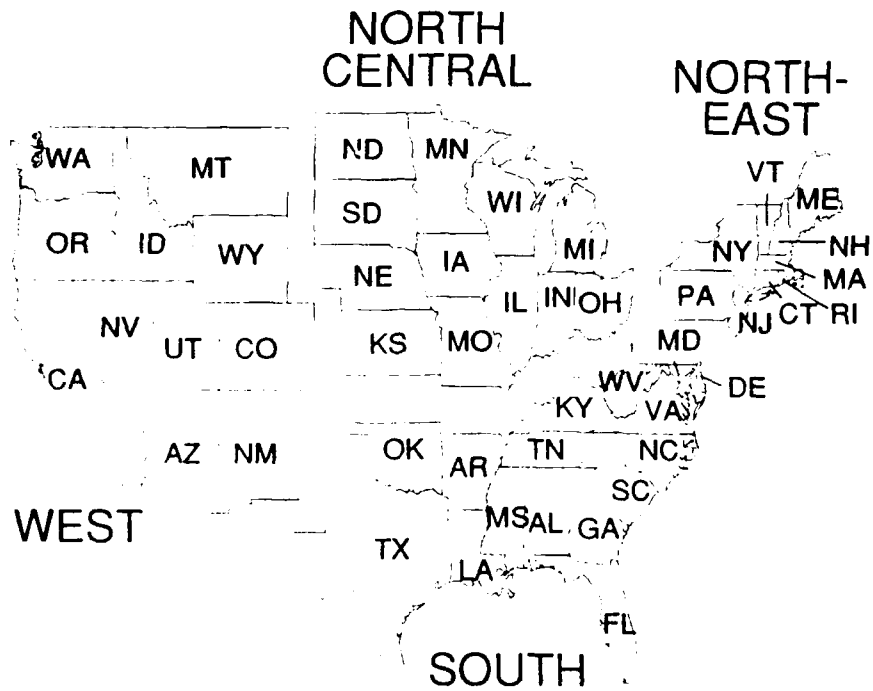
APPENDIX B

SUPPLEMENTARY TABLES

Table B.1 Estimates of Sociodemographic Characteristics
of Survey Population

Characteristic	16-21 males (N=5,801)		22-24 males (N=1,178)		16-21 females (N=3,479)		22-24 females (N=1,117)	
Age								
16 (22)	24.0	(0.7)	38.8	(1.9)	22.9	(0.8)	33.8	(1.6)
17 (23)	23.2	(0.7)	32.4	(1.7)	24.0	(0.8)	31.6	(1.6)
18 (24)	19.6	(0.6)	28.8	(1.6)	17.6	(0.7)	34.6	(1.6)
19	14.8	(0.6)			15.8	(0.7)		
20	10.0	(0.5)			10.3	(0.6)		
21	8.5	(0.5)			9.5	(0.6)		
Race/ethnicity								
White	73.9	(0.8)	76.7	(1.6)	72.0	(1.0)	75.3	(1.6)
Black	10.3	(0.5)	9.2	(1.0)	13.9	(0.7)	13.0	(1.2)
Hispanic	12.1	(0.6)	11.6	(1.2)	10.2	(0.7)	8.8	(1.1)
Other	3.7	(0.3)	2.5	(0.6)	4.0	(0.4)	2.9	(0.6)
Marital status								
Never married	97.1	(0.3)	66.6	(1.7)	89.7	(0.6)	40.4	(1.7)
Currently married	2.7	(0.3)	28.6	(1.7)	9.3	(0.6)	50.4	(1.7)
Other[a]	0.3	(0.1)	4.8	(0.7)	1.0	(0.2)	9.2	(1.0)
School status[b]								
Postsecondary school student	16.7	(0.6)	9.3	(1.1)	20.1	(0.8)	11.1	(1.1)
High school graduate	19.5	(0.6)	62.9	(1.8)	22.8	(0.8)	66.9	(1.6)
High school senior	20.1	(0.6)	N/A	N/A	20.5	(0.8)	N/A	N/A
Nonsenior high school student	25.1	(0.7)	N/A	N/A	20.7	(0.8)	N/A	N/A
Noncompleter	18.6	(0.7)	27.4	(1.7)	15.9	(0.7)	22.0	(1.4)
Employment status								
Employed full time	29.9	(0.7)	80.1	(1.5)	19.1	(0.8)	52.1	(1.7)
Employed part time	30.8	(0.8)	8.3	(1.0)	34.7	(0.9)	14.8	(1.2)
Not employed, looking	21.7	(0.7)	9.2	(1.1)	22.1	(0.8)	10.4	(1.1)
Not employed, not looking	17.6	(0.6)	2.4	(0.5)	24.2	(0.8)	22.7	(1.5)

Note. Tabled values are column percentages with standard errors in parentheses. Percentage distributions may not sum to 100.0 due to rounding.

N/A = Not applicable.

[a]"Other" includes widowed, divorced, and separated.

[b]Postsecondary students are high school graduates currently attending college or a business/vocational school. High school graduates are respondents who are not students and have graduated from high school. Noncompleters are respondents who are not high school students and have not graduated from high school.

Source. 1989 Youth Attitude Tracking Study.

Table B.2 Positive Propensity to Serve in the Active Military

Propensity measures	Market groups[a]							
	16-21 males (N=5,801)		22-24 males (N=1,178)		16-21 females (N=3,479)		22-24 females (N=1,117)	
Composite active propensity[a]	33.7	(0.8)	18.0	(1.4)	14.2	(0.7)	6.2	(0.9)
Army	17.1	(0.6)	9.4	(1.0)	6.2	(0.5)	2.3	(0.5)
Navy	13.1	(0.6)	7.9	(1.0)	5.0	(0.4)	2.5	(0.6)
Marine Corps	12.6	(0.6)	6.5	(0.9)	3.6	(0.4)	1.4	(0.4)
Air Force	17.8	(0.6)	9.9	(1.1)	8.7	(0.5)	3.5	(0.7)
Coast Guard	9.7	(0.5)	7.2	(0.9)	4.0	(0.4)	1.3	(0.4)
Unaided mentions	5.6	(0.4)	1.0	(0.3)	0.8	(0.2)	0.1	(0.1)

Note. Tabled values are percentages of each category with positive propensity. Standard errors are in parentheses.

[a]Propensity to serve in at least one active Service. Coast Guard propensity is not included in the composite.

Source. 1989 Youth Attitude Tracking Study.

Table B.3 Service-Specific and Composite Active Propensity

Market group/ response	Composite active propensity[a]		Army		Navy		Marine Corps		Air Force	
16- to 21-year-old males										
Definitely	7.0	(0.4)	2.1	(0.2)	1.6	(0.2)	2.0	(0.2)	2.8	(0.3)
Probably	26.7	(0.7)	14.9	(0.6)	11.5	(0.5)	10.6	(0.5)	15.0	(0.6)
Total positive	33.7	(0.8)	17.1	(0.6)	13.1	(0.6)	12.6	(0.6)	17.8	(0.6)
Probably not	26.8	(0.7)	31.0	(0.7)	32.2	(0.7)	31.6	(0.7)	31.8	(0.7)
Definitely not	39.3	(0.8)	51.4	(0.8)	54.4	(0.8)	55.5	(0.8)	49.9	(0.8)
Don't know/refuse	0.2	(0.1)	0.4	(0.1)	0.3	(0.1)	0.3	(0.1)	0.4	(0.1)
Total negative	66.3	(0.8)	82.9	(0.6)	86.9	(0.6)	·87.4	(0.6)	82.2	(0.6)
22- to 24-year-old males										
Definitely	2.4	(0.5)	0.9	(0.3)	0.8	(0.3)	0.6	(0.3)	1.7	(0.5)
Probably	15.5	(1.3)	8.4	(1.0)	7.0	(1.0)	5.9	(0.9)	8.1	(1.0)
Total positive	18.0	(1.4)	9.4	(1.0)	7.9	(1.0)	6.5	(0.9)	9.9	(1.1)
Probably not	26.7	(1.7)	28.5	(1.7)	26.6	(1.7)	27.2	(1.7)	28.2	(1.7)
Definitely not	55.3	(1.8)	62.1	(1.8)	65.4	(1.8)	66.3	(1.8)	61.9	(1.8)
Don't know/refuse	0.1	(0.1)	0.1	(0.1)	0.1	(0.1)	0.1	(0.1)	0.1	(0.1)
Total negative	82.0	(1.4)	90.6	(1.0)	92.1	(1.0)	93.5	(0.9)	90.1	(1.1)
16- to 21-year-old females										
Definitely	2.9	(0.3)	1.1	(0.2)	0.5	(0.2)	0.5	(0.1)	1.6	(0.2)
Probably	11.3	(0.6)	5.1	(0.4)	4.6	(0.4)	3.2	(0.3)	7.1	(0.5)
Total positive	14.2	(0.7)	6.2	(0.5)	5.0	(0.4)	3.6	(0.4)	8.7	(0.5)
Probably not	20.4	(0.8)	20.2	(0.8)	19.5	(0.8)	19.9	(0.8)	20.7	(0.8)
Definitely not	65.4	(0.9)	73.4	(0.9)	75.4	(0.8)	76.3	(0.8)	70.5	(0.9)
Don't know/refuse	0.1	(b)	0.2	(0.1)	0.1	(b)	0.1	(b)	0.1	(0.1)
Total negative	85.8	(0.7)	93.8	(0.5)	95.0	(0.4)	96.4	(0.4)	91.3	(0.5)
22- to 24-year-old females										
Definitely	0.7	(0.3)	0.3	(0.2)	0.1	(0.1)	0.3	(0.2)	0.3	(0.1)
Probably	5.5	(0.8)	2.0	(0.5)	2.5	(0.6)	1.1	(0.3)	3.2	(0.6)
Total positive	6.2	(0.9)	2.3	(0.5)	2.5	(0.6)	1.4	(0.4)	3.5	(0.7)
Probably not	13.9	(1.2)	14.1	(1.2)	13.3	(1.2)	13.3	(1.2)	14.7	(1.3)
Definitely not	79.8	(1.4)	83.4	(1.3)	84.0	(1.3)	85.1	(1.3)	81.6	(1.4)
Don't know/refuse	0.2	(0.1)	0.2	(0.1)	0.2	(0.1)	0.2	(0.1)	0.2	(0.1)
Total negative	93.8	(0.9)	97.7	(0.5)	97.5	(0.6)	98.6	(0.4)	96.5	(0.7)

Note. Tabled values are percentages with standard errors in parentheses. Estimates are based on interviews with 5,801 16- to 21-year-old males, 1,178 22- to 24-year-old males, 3,479 16- to 21-year-old females, and 1,117 22- to 24-year-old females. Total positive and total negative values may differ slightly from the sum of their respective components due to rounding error.

[a]Propensity to serve in at least one active Service.

[b]Informative standard error is not available, but it is expected to be very close to zero.

Source. 1989 Youth Attitude Tracking Study.

Table B.4 Positive Composite Active Propensity as a Function of Selected Sociodemographic Characteristics

Characteristic	16-21 males (N=5,801)		22-24 males (N=1,178)		16-21 females (N=3,479)		22-24 females (N=1,117)	
Age								
16 (22)	44.0	(1.6)	17.1	(2.2)	22.2	(1.8)	9.0	(1.8)
17 (23)	42.8	(1.6)	17.8	(2.4)	16.5	(1.4)	3.4	(1.0)
18 (24)	30.5	(1.7)	19.4	(2.5)	12.8	(1.5)	5.9	(1.5)
19	24.7	(1.9)			10.8	(1.8)		
20	20.9	(2.2)			6.5	(1.4)		
21	18.3	(2.2)			5.5	(1.4)		
Race/ethnicity								
White	28.6	(0.8)	13.6	(1.3)	8.9	(0.6)	3.5	(0.7)
Black	54.2	(2.6)	32.0	(5.2)	32.2	(2.5)	14.8	(3.5)
Hispanic	46.1	(2.7)	32.7	(5.5)	24.6	(3.0)	15.9	(4.9)
Other	40.3	(4.7)	22.4	(8.4)	20.1	(4.5)	--	--
Marital status								
Never married	34.1	(0.8)	19.2	(1.8)	15.5	(0.8)	10.0	(1.6)
Currently married	20.2	(3.9)	14.3	(2.2)	2.3	(1.0)	3.0	(1.0)
Other[a]	--	--	19.9	(5.3)	7.3	(4.3)	5.9	(2.3)
School status[b]								
Postsecondary school student	14.6	(1.4)	10.5	(3.4)	9.0	(1.3)	13.6	(3.7)
High school graduate	19.8	(1.5)	15.4	(1.6)	7.6	(1.2)	4.1	(0.8)
High school senior	38.8	(1.8)	N/A	N/A	17.4	(1.6)	N/A	N/A
Nonsenior high school student	49.1	(1.6)	N/A	N/A	23.1	(1.9)	N/A	N/A
Noncompleter	39.1	(1.9)	25.3	(2.9)	14.3	(1.7)	8.6	(2.3)
Employment status								
Employed full time	25.0	(1.3)	18.8	(1.6)	9.8	(1.3)	4.9	(1.0)
Employed part time	32.8	(1.4)	14.5	(4.3)	12.6	(1.1)	9.9	(2.7)
Not employed, looking	48.8	(1.8)	16.0	(3.9)	22.9	(1.8)	14.2	(4.1)
Not employed, not looking	31.2	(1.8)	11.2	(6.2)	12.0	(1.4)	3.0	(1.3)

Note. Tabled values are percentages of each category with positive propensity. Standard errors are in parentheses.

N/A = Not applicable.

-- = Sample size less than 30; estimate not reliable.

[a]"Other" includes widowed, divorced, and separated.

[b]Postsecondary students are high school graduates currently attending college or a business/vocational school. High school graduates are respondents who are not students and have graduated from high school. Noncompleters are respondents who are not high school students and have not graduated from high school.

Source. 1989 Youth Attitude Tracking Study.

Table B.5 Propensity to Enlist in the National Guard and Reserves

Market group/ response	Composite Reserve propensity[a]		National Guard		Reserves	
16- to 21-year-old males						
Definitely	2.2	(0.2)	1.0	(0.2)	1.5	(0.2)
Probably	22.7	(0.7)	14.1	(0.6)	17.8	(0.6)
Total positive	24.8	(0.7)	15.1	(0.6)	19.3	(0.6)
Probably not	31.5	(0.7)	33.2	(0.8)	33.8	(0.8)
Definitely not	43.4	(0.8)	51.3	(0.8)	46.2	(0.8)
Don't know/refuse	0.3	(0.1)	0.4	(0.1)	0.6	(0.1)
Total negative	75.2	(0.7)	84.9	(0.6)	80.7	(0.6)
22- to 24-year-old males						
Definitely	1.9	(0.5)	1.3	(0.4)	1.2	(0.4)
Probably	14.8	(1.3)	10.2	(1.1)	12.5	(1.2)
Total positive	16.7	(1.3)	11.5	(1.2)	13.7	(1.3)
Probably not	28.0	(1.7)	⌐⌐0	(1.7)	28.8	(1.7)
Definitely not	55.0	(1.9)	.0	(1.8)	57.2	(1.8)
Don't know/refuse	0.3	(0.2)	0.4	(0.2)	0.3	(0.2)
Total negative	83.3	(1.3)	88.5	(1.2)	86.3	(1.3)
16- to 21-year-old females						
Definitely	1.0	(0.2)	0.5	(0.1)	0.4	(0.1)
Probably	9.8	(0.6)	5.7	(0.5)	7.8	(0.5)
Total positive	10.7	(0.6)	6.3	(0.5)	8.3	(0.5)
Probably not	21.5	(0.8)	21.5	(0.8)	21.5	(0 8)
Definitely not	67.7	(0.9)	72.1	(0.9)	70.1	(0.9)
Don't know/refuse	0.1	(0.1)	0.1	(0.1)	0.2	(0.1)
Total negative	89.3	(0.6)	93.7	(0.5)	91.7	(0.5)
22- to 24-year-old females						
Definitely	0.8	(0.3)	0.3	(0.2)	0.6	(0.3)
Probably	4.7	(0.7)	2.5	(0.5)	4.0	(0.7)
Total positive	5.5	(0.8)	2.8	(0.5)	4.6	(0.7)
Probably not	14.4	(1.2)	14.1	(1.2)	14.4	(1.2)
Definitely not	79.9	(1.4)	82.9	(1.3)	80.7	(1.4)
Don't know/refuse	0.1	(0.1)	0.2	(0.1)	0.2	(0.2)
Total negative	94.5	(0.8)	97.2	(0.5)	95.4	(0.7)

Note. Tabled values are percentages with standard errors in parentheses. Estimates are based on interviews with 5,801 16- to 21-year-old males, 1,178 22- to 24-year-old males, 3,479 16- to 21-year-old females, and 1,117 22- to 24-year-old females. Total positive and total negative values may differ slightly from the sum of their respective components due to rounding error.

[a]Propensity to serve in at least one Reserve Component.

Source. 1989 Youth Attitude Tracking Study.

Table B.6 Positive Composite Reserve Propensity to Serve in the Reserve Components

Propensity measures	Market groups			
	16-21 males (N=5,801)	22-24 males (N=1,178)	16-21 females (N=3,479)	22-24 females (N=1,117)
Composite Reserve propensity[a]	24.8 (0.7)	16.7 (1.3)	10.7 (0.6)	5.5 (0.8)
National Guard				
Army National Guard	9.1 (0.5)	6.7 (0.9)	3.4 (0.4)	1.3 (0.4)
Air National Guard	5.7 (0.4)	4.4 (0.8)	2.6 (0.3)	1.5 (0.4)
Total National Guard	15.1 (0.6)	11.5 (1.2)	6.3 (0.5)	8.3 (0.5)
Reserves				
Army Reserve	6.7 (0.4)	5.2 (0.8)	3.2 (0.4)	1.3 (0.4)
Navy Reserve	2.6 (0.3)	1.2 (0.4)	1.2 (0.2)	1.2 (0.4)
Marine Corps Reserve	2.3 (0.2)	1.6 (0.4)	0.8 (0.2)	0.5 (0.2)
Air Force Reserve	5.8 (0.4)	3.4 (0.7)	2.6 (0.3)	1.2 (0.4)
Coast Guard Reserve	1.6 (0.2)	1.8 (0.6)	0.4 (0.1)	0.3 (0.2)
Total Reserves	19.3 (0.6)	13.7 (1.3)	2.8 (0.5)	4.6 (0.7)
Unaided mentions	2.4 (0.3)	0.6 (0.3)	0.9 (0.2)	0.5 (0.3)

Note. Tabled values are percentages of each category with positive propensity. Standard errors are in parentheses.

[a]Positive propensity to serve in at least one Reserve Component.

Source 1989 Youth Attitude Tracking Study.

Table B.7 Positive Composite Reserve Propensity as a Function of Selected Sociodemographic Characteristics

Characteristic		16-21 males (N=5,801)		22-24 males (N=1,178)		16-21 females (N=3,479)		22-24 females (N=1,117)	
Age									
16	(22)	28.2	(1.4)	16.6	(2.2)	15.9	(1.5)	7.1	(1.6)
17	(23)	31.7	(1.6)	14.9	(2.4)	12.1	(1.3)	4.3	(1.3)
18	(24)	24.2	(1.6)	18.8	(2.5)	10.1	(1.4)	5.1	(1.3)
19		17.5	(1.7)			8.1	(1.4)		
20		17.4	(2.0)			4.9	(1.2)		
21		19.5	(2.3)			6.4	(1.5)		
Race/ethnicity									
White		20.9	(0.7)	12.2	(1.3)	7.1	(0.6)	2.8	(0.6)
Black		40.5	(2.5)	30.9	(5.0)	25.4	(2.3)	17.3	(3.6)
Hispanic		34.3	(2.6)	35.9	(5.6)	17.6	(2.6)	11.3	(4.3)
Other		28.8	(4.2)	13.0	(5.5)	7.4	(2.5)	--	--
Marital status									
Never married		24.9	(0.7)	17.1	(1.7)	11.5	(0.7)	9.5	(1.6)
Currently married		21.5	(3.9)	16.1	(2.4)	3.6	(1.2)	2.8	(0.9)
Other[a]		--	--	14.8	(4.7)	7.3	(4.4)	3.2	(1.9)
School status[b]									
Postsecondary school student		15.0	(1.5)	11.9	(3.6)	6.7	(1.2)	9.1	(3.3)
High school graduate		15.4	(1.3)	15.1	(1.6)	6.5	(0.9)	4.8	(0.9)
High school senior		29.5	(1.7)	N/A	N/A	12.8	(1.4)	N/A	N/A
Nonsenior high school student		31.9	(1.4)	N/A	N/A	16.1	(1.6)	N/A	N/A
Noncompleter		29.0	(1.8)	20.8	(2.8)	12.1	(1.7)	6.0	(1.6)
Employment status									
Employed full time		20.0	(1.2)	17.2	(1.5)	7.9	(1.1)	4.5	(1.0)
Employed part time		24.4	(1.3)	13.7	(4.0)	9.7	(1.0)	9.2	(2.7)
Not employed, looking		36.0	(1.7)	17.9	(4.8)	18.0	(1.6)	12.4	(3.9)
Not employed, not looking		19.9	(1.5)	8.3	(5.6)	7.9	(1.2)	2.4	(1.1)

Note. Tabled values are percentages of each category with positive propensity. Standard errors are in parentheses.

N/A = Not applicable.

-- = Sample size less than 30; estimate not reliable.

[a]"Other" includes widowed, divorced, and separated.

[b]Postsecondary students are high school graduates currently attending college or a business/vocational school. High school graduates are respondents who are not students and have graduated from high school. Noncompleters are respondents who are not high school students and have not graduated from high school.

Source. 1989 Youth Attitude Tracking Study.

APPENDIX C

TECHNICAL DISCUSSION OF REGRESSION MODELING

APPENDIX C

TECHNICAL DISCUSSION OF REGRESSION MODELING

A. Introduction

This appendix describes the multivariate regression analyses of sociodemographic variables on composite active propensity and on composite Reserve propensity for males and for females aged 16 to 21. The goal of the analyses was to identify the significant factors in the model as opposed to building a predictive model.

The approach to the analyses was to fit a series of linear regression models corresponding to the main effects variables and various sets of interactions of these variables. Use of linear regression when the outcome variable is categorical, as with propensity, cannot be handled properly by some linear regression software packages; however, linear regression using RTI's software was an appropriate modeling method to study the joint effects of the independent variables. RTI's software, SURREGR (Holt, 1977; revised by Shah, 1982), produces consistent estimates of linear model regression coefficients and their variance-covariance matrix. The estimation formulae account for the complex survey design (e.g., unequal weights, stratification, and clustering). Also, SURREGR does not assume an underlying homoscedastic variance when estimating the variance-covariance matrix. Thus, SURREGR can properly be used with binary dependent variables such as propensity.

We systematically fit a series of linear regression models, removing nonsignificant effects, to arrive at the simplest model that was significantly related to propensity. Note that in cases where variables appeared both as significant main effects and as part of a significant interaction, we discuss only the latter when the main effects' results are fully described by the interaction results, as is the case when both variables are categorical. The weight variable used was the final YATS analysis weight, WINT.

The initial model included five sociodemographic variables as main effects:

- Age,
- Race/ethnicity,
- Employment status,
- Census region, and
- Aptitude.

All 10 possible pairs of these variables are included as interactions in the model:

- Age by race/ethnicity,
- Age by employment status,
- Age by Census region,
- Age by aptitude,

- Race/ethnicity by employment status,
- Race/ethnicity by Census region,
- Race/ethnicity by aptitude,
- Employment status by Census region,
- Employment status by aptitude, and
- Census region by aptitude.

Four of the sociodemographic variables were treated as categorical: age, race/ethnicity, employment status, and Census region. The fifth sociodemographic variable, aptitude, was treated as continuous. These variables were chosen because the tabular analyses indicated a relationship between propensity and these variables. Marital status and school status, which are also related to propensity, were omitted because of their strong dependence on age. The SAS procedure called General Linear Models (GLM) was used to fit this model and to screen for effects that would potentially be statistically significant (with the knowledge that SAS does not account for complex survey designs such as the YATS sample design). GLM is relatively cheap to execute and yields p-values that are usually smaller (more likely to be judged significant) than analyses accounting for the design.

The squared multiple correlation coefficients (expressed as percentages) for this initial model are:

- 16- to 21-year-old males' composite active propensity, 18.79%,
- 16- to 21-year-old females' active propensity, 16.01%,
- 16- to 21-year-old males' composite Reserve propensity, 12.10%, and
- 16- to 21-year-old females' composite Reserve propensity, 13.32%.

GLM indicated several of the interactions involving race/ethnicity to be highly significant; for 16- to 21-year-old females' composite active propensity, aptitude by employment status was highly significant.

The balance of the regression modeling was performed using SURREGR, RTI's software package for linear regression for survey data analysis, which properly accounts for the YATS sample design and the heteroscedastic variance of propensity. The initial models fit using SURREGR for 16- to 21-year-old males' composite active propensity, 16- to 21-year-old males' composite Reserve propensity, and the 16- to 21-year-old females' composite Reserve propensity included all main effects and the following interactions:

- Age by race/ethnicity,
- Race/ethnicity by employment status,
- Race/ethnicity by Census region, and
- Aptitude by race/ethnicity.

The initial model fit using SURREGR for 16- to 21-year-old females' composite active propensity included all main effects and the following interactions:

- Age by race/ethnicity,
- Race/ethnicity by employment status,
- Race/ethnicity by Census region,
- Aptitude by race/ethnicity, and
- Aptitude by employment status.

Nonsignificant interactions were dropped in a stepwise manner to arrive at a final model containing all main effects and only significant interactions. As an additional check, the squared multiple correlation coefficients were compared at each step to ensure that effects being dropped from the models did not adversely affect the fit.

The sequence of SURREGR models is shown in Tables C.1, C.3, C.5, and C.7; p-values are shown for the effects tested. The following sections describe the models.

B. 16- to 21-Year-Old Males' Composite Active Propensity

The initial GLM run indicated that the following interactions would potentially be statistically significant:

- Age by race/ethnicity,
- Race/ethnicity by employment status,
- Race/ethnicity by Census region, and
- Aptitude by race/ethnicity.

A SURREGR model containing all main effects and these interactions was then fit. Model 1 in Table C.1 summarizes the p-values for this regression. These interactions subsume the five main effects; there were no tests of these even though they were included in the model specification. SURREGR reports "not testable" when an effect should not be tested because it is included in the linear space spanned by another effect. Model 1 for 16- to 21-year-old males' composite active propensity yielded significant effects ($p < .05$) for age by race/ethnicity and aptitude by race/ethnicity. Race/ethnicity by employment status and race/ethnicity by Census region were not significant. Models 2 and 3 dropped these nonsignificant interactions one at a time to investigate whether the omission of one promoted the significance of the other. Each of the two intermediate models reports a p-value for the main effect not spanned by the interactions in the model specification.

Model 4 for 16- to 21-year-old males' composite active propensity is the final model and included:

Table C.1 Regression Models for 16- to 21-Year-Old Males' Composite Active Propensity

Independent variable	Model 1 D.F.	p-value	Model 2 D.F.	p-value	Model 3 D.F.	p-value	Model 4 D.F.	p-value
Age								
Race/ethnicity								
Employment status			3	0.0000			3	0.0000
Census region					3	0.4635	3	0.4687
Aptitude								
==
Age by race/ethnicity	15	0.0282	15	0.0110	15	0.0336	15	0.0107
Age by employment status								
Age by Census region								
Age by Aptitude								
Race/ethnicity by employment status	9	0.1570			9	0.2740		
Race/ethnicity by Census region	9	0.3992	9	0.5678				
Aptitude by race/ethnicity	3	0.0250	3	0.0456	3	0.0438	3	0.0600
Employment status by Census region								
Aptitude by employment status								
Aptitude by Census region								
	coeff.	p-value	coeff.	p-value	coeff.	p-value	coeff.	p-value
Squared multiple correlation (%)	17.9	0.0000	17.6	0.0000	17.7	0.0000	17.4	0.0000

Note. All model specifications included all main effects. The interactions included, however, were limited to those indicated by a p-value.

D.F. = Degrees of freedom.

Source. 1989 Youth Attitude Tracking Study.

- Age,
- Race/ethnicity,
- Employment status,
- Census region,
- Aptitude,
- Age by race/ethnicity, and
- Aptitude by race/ethnicity.

We see that age, race/ethnicity and aptitude were important variables for explaining 16- to 21-year-old males' composite active propensity. The effect of Census region, however, was mitigated by the effects of the other variables in the model (p-value = 0.4687).

Figures 3.3 and 3.4 in Chapter 3 graphically present the interacting effects of age by race/ethnicity and of aptitude by race/ethnicity, respectively, on 16- to 21-year-old males' composite active propensity. These figures use actual mean population propensities, not adjusted model propensities.

Figure 3.3 examines the age by race/ethnicity interaction effect on 16- to 21-year-old males' propensity to enlist in an active Service. We have plotted the age by race/ethnicity relationship to propensity in this figure. The other effects in the final model (i.e., Census region, employment status, aptitude, and aptitude by race/ethnicity) have been evaluated at the population means of the independent variables corresponding to those effects. This plot presents the age by race/ethnicity interaction as it exists on average in the YATS population.

Figure 3.4 examines the aptitude by race/ethnicity interaction effect on 16- to 21-year-old males' propensity to enlist in an active Service. The graphed lines are not plots of specific data points, but rather are plots of regression lines. We have only plotted the aptitude by race/ethnicity relationship to propensity in this figure. Again, like Figure 3.3, the other effects in the final model (i.e., age, Census region, employment status, and age by race/ethnicity) have been evaluated at the population means of the independent variables corresponding to those effects. This plot presents the aptitude by race/ethnicity interaction as it exists on average in the YATS population.

The squared multiple correlation coefficient for the final model was 17.5%, as compared to the value of 18.9% produced by GLM in the initial model testing all possible interactions. The regression coefficients for this final model are presented in Table C.2, along with their standard errors, Z statistic, and p-values.

C. 16- to 21-Year-Old Females' Composite Active Propensity

Table C.3 presents SURREGR models for 16- to 21-year-old females' composite active propensity. Model 1 tests the interactions that the initial GLM run indicated would potentially be statistically significant:

Table C.2 Final Model Regression Coefficients for 16- to 21-Year-Old Males' Composite Active Propensity

Model parameter	Regression coefficient	Standard error	Z	p-value
Intercept	0.445425	0.042969	10.37	0.00
Age				
16	0.261722	0.029458	8.88	0.00
17	0.268950	0.029546	9.10	0.00
18	0.145060	0.028586	5.07	0.00
19	0.092191	0.026740	3.45	0.00
20	0.048197	0.029746	1.62	0.11
21	0.000000	0.000000	0.00	1.00
Race/ethnicity				
Black	0.156096	0.095566	1.63	0.10
Hispanic	0.024529	0.085853	0.29	0.78
Other	-0.135381	0.109551	-1.24	0.22
White	0.000000	0.000000	0.00	1.00
Employment status				
Full time	-0.021268	0.023511	-0.90	0.37
Part time	0.028484	0.020712	1.38	0.17
Not emp looking	0.079390	0.023477	3.38	0.00
Not emp not looking	0.000000	0.000000	0.00	1.00
Census region				
Northeast	0.006105	0.024042	0.25	0.80
North Central	-0.024050	0.023407	-1.03	0.30
South	0.000006	0.021648	0.00	1.00
West	0.000000	0.000000	0.00	1.00
Aptitude	-0.546858	0.034906	-15.67	0.00
Age by race/ethnicity				
16, Black	-0.037749	0.099184	-0.38	0.70
16, Hispanic	0.035301	0.097954	0.36	0.72
16, Other	0.222173	0.124091	1.79	0.07
16, White	0.000000	0.000000	0.00	1.00
17, Black	-0.135798	0.101023	-1.34	0.18
17, Hispanic	0.188400	0.089497	2.11	0.04
17, Other	0.318318	0.141381	2.25	0.02
17, White	0.000000	0.000000	0.00	1.00
18, Black	-0.167927	0.103655	-1.62	0.11
18, Hispanic	-0.046071	0.093493	-0.49	0.62
18, Other	0.131823	0.126740	1.04	0.30
18, White	0.000000	0.000000	0.00	1.00
19, Black	-0.050926	0.109180	-0.47	0.64
19, Hispanic	-0.066879	0.096905	-0.69	0.49
19, Other	0.187719	0.141917	1.32	0.19
19, White	0.000000	0.000000	0.00	1.00
20, Black	-0.046756	0.115861	-0.40	0.69
20, Hispanic	-0.053746	0.115967	-0.46	0.64
20, Other	0.302571	0.209547	1.44	0.15
20, White	0.000000	0.000000	0.00	1.00
21, Black	0.000000	0.000000	0.00	1.00
21, Hispanic	0.000000	0.000000	0.00	1.00
21, Other	0.000000	0.000000	0.00	1.00
21, White	0.000000	0.000000	0.00	1.00
Aptitude by race/ethnicity				
Aptitude, Black	-0.394820	0.155572	-2.54	0.01
Aptitude, Hispanic	-0.054352	0.106524	-0.51	0.61
Aptitude, Other	-0.195617	0.186369	-1.05	0.29
Aptitude, White	0.000000	0.000000	0.00	1.00

Source. Youth Attitude Tracking Study.

Table C.3 Regression Models for 16- to 21-Year-Old Females' Composite Active Propensity

Independent variable	Model 1 D.F.	p-value	Model 2 D.F.	p-value	Model 3 D.F.	p-value	Model 4 D.F.	p-value
Age								
Race/ethnicity								
Employment status			3	0.0027			3	0.0036
Census region					3	0.4203	3	0.4074
Aptitude								
=========================								
Age by race/ethnicity	15	0.0005	15	0.0013	15	0.0004	15	0.0006
Age by employment status								
Age by Census region								
Age by Aptitude								
Race/ethnicity by employment status	9	0.2048			9	0.1832		
Race/ethnicity by Census region	9	0.7656	9	0.7279				
Race/ethnicity by aptitude	3	0.0128	3	0.0216	3	0.0076	3	0.0139
Employment status by Census region								
Aptitude by employment status	3	0.0152	3	0.0140	3	0.0146	3	0.0155
Aptitude by Census region								
	coeff.	p-value	coeff.	p-value	coeff.	p-value	coeff.	p-value
Squared multiple correlation (%)	14.8	0.0000	14.2	0.0000	14.6	0.0000	13.9	0.0000

Note. All model specifications included all main effects. The interactions included, however, were limited to those indicated by a p-value.

D.F. = Degrees of freedom.

Source. 1989 Youth Attitude Tracking Study.

- Age by race/ethnicity,
- Race/ethnicity by employment status,
- Race/ethnicity by Census region,
- Aptitude by race/ethnicity, and
- Aptitude by employment status.

These interactions subsume the five main effects; as with the 16- to 21-year-old males' composite active propensity, there were no tests of these even though they were included in the model specification. The effects for race/ethnicity by employment status and race/ethnicity by Census region were not significant, and Models 2 and 3 dropped these interactions one at a time as was done with the 16- to 21-year-old males' composite active propensity.

Model 4 for 16- to 21-year-old females' composite active propensity is the final model and included:

- Age,
- Race/ethnicity,
- Employment status,
- Census region,
- Aptitude,
- Age by race/ethnicity,
- Aptitude by race/ethnicity, and
- Aptitude by employment status.

We see that age, race/ethnicity, and aptitude were important variables for explaining 16- to 21-year-old females' composite active propensity. The effect of Census region, however, was mitigated by the effects of the other variables in the model (p-value = 0.4074).

Figures 3.5, 3.6, and 3.7 in Chapter 3 graphically present the interacting effects of age by race/ethnicity, of aptitude by race/ethnicity, and of aptitude by employment status, respectively, on 16- to 21-year-old females' composite active propensity. These figures use actual mean population propensities, not adjusted model propensities.

Figure 3.5 examines the age by race/ethnicity interaction effect on 16- to 21-year-old females' propensity to enlist in an active Service. We have plotted the age by race/ethnicity relationship to propensity in this figure. The other effects in the final model (i.e., Census region, employment status, aptitude, aptitude by race/ethnicity, and aptitude by employment status) have been evaluated at the population means of the independent variables corresponding to those effects. This plot presents the age by race/ethnicity interaction as it exists on average in the YATS population.

Figure 3.6 examines the aptitude by race/ethnicity interaction effect on 16- to 21-year-old females' propensity to enlist in an active Service. The graphed lines are not

plots of specific data points, but rather are plots of regression lines. We have only plotted the aptitude by race/ethnicity relationship to propensity in this figure. Again, like Figure 3.3, the other effects in the final model (i.e., age, Census region, employment status, age by race/ethnicity, and aptitude by employment status) have been evaluated at the population means of the independent variables corresponding to those effects. This plot presents the aptitude by race/ethnicity interaction as it exists on average in the YATS population.

Figure 3.7 examines the aptitude by employment status interaction effect on 16- to 21-year-old females' propensity to enlist in an active Service. The graphed lines are not plots of specific data points, but rather are plots of regression lines. We have only plotted the aptitude by employment status relationship to propensity in this figure. Again, like Figure 3.3, the other effects in the final model (i.e., age, race/ethnicity, Census region, age by race/ethnicity, and aptitude by race/ethnicity) have been evaluated at the population means of the independent variables corresponding to those effects. This plot presents the aptitude by race/ethnicity interaction as it exists on average in the YATS population.

The squared multiple correlation for the final model coefficient was 13.9%, as compared to the value of 16.0% produced by GLM in the initial model testing all possible interactions. The regression coefficients for this final model are presented in Table C.4, along with their standard errors, Z statistic, and p-values.

D. 16- to 21-Year-Old Males' Composite Reserve Propensity

Table C.5 presents SURREGR models for 16- to 21-year-old males' composite Reserve propensity. Model 1 tests the interactions that the initial GLM run indicated would potentially be statistically significant:

- Age by race/ethnicity,
- Race/ethnicity by employment status,
- Race/ethnicity by Census region, and
- Aptitude by race/ethnicity.

These interactions subsume the five main effects; as with the 16- to 21-year-old males' composite active propensity, there were no tests of these even though they were included in the model specification. The effects for race/ethnicity by employment status and race/ethnicity by Census region were not significant, and Models 2 and 3 drop these interactions one at a time as was done with the 16- to 21-year-old males' composite active propensity.

Model 4 for 16- to 21-year-old males' composite Reserve propensity is the final model and included (as was done for the 16- to 21-year-old males' composite active propensity):

Table C.4 Final Model Regression Coefficients for 16- to 21-Year-Old Females' Composite Active Propensity

Model parameter	Regression coefficient	Standard error	Z	p-value
Intercept	0.031320	0.033107	0.95	0.34
Age				
16	0.144618	0.024192	5.98	0.00
17	0.079611	0.021443	3.71	0.00
18	0.067471	0.021473	3.14	0.00
19	0.056059	0.021608	2.59	0.01
20	0.029219	0.020099	1.45	0.15
21	0.000000	0.000000	0.00	1.00
Race/ethnicity				
Black	0.122152	0.066632	1.83	0.07
Hispanic	-0.037709	0.046835	-0.81	0.42
Other	-0.020317	0.045791	-0.44	0.66
White	0.000000	0.000000	0.00	1.00
Employment status				
Full Time	0.099121	0.049049	2.02	0.04
Part Time	0.106408	0.044791	2.38	0.02
Not Emp Looking	0.153525	0.045029	3.41	0.00
Not Emp Not Looking	0.000000	0.000000	0.00	1.00
Census region				
Northeast	0.033054	0.020372	1.62	0.10
North Central	0.024314	0.019069	1.28	0.20
South	0.023867	0.018457	1.29	0.20
West	0.000000	0.000000	0.00	1.00
Aptitude	-0.098305	0.044373	-2.22	0.03
Age by race/ethnicity				
16, Black	0.208538	0.084053	2.48	0.01
16, Hispanic	0.238830	0.089603	2.67	0.01
16, Other	0.161875	0.107351	1.51	0.13
16, White	0.000000	0.000000	0.00	1.00
17, Black	0.225216	0.088778	2.54	0.01
17, Hispanic	0.277569	0.078010	3.56	0.00
17, Other	0.316121	0.120001	2.63	0.01
17, White	0.000000	0.000000	0.00	1.00
18, Black	0.069282	0.082664	0.84	0.40
18, Hispanic	0.100071	0.071065	1.41	0.16
18, Other	0.252909	0.124330	2.03	0.04
18, White	0.000000	0.000000	0.00	1.00
19, Black	0.102238	0.098029	1.04	0.30
19, Hispanic	0.135041	0.075080	1.80	0.07
19, Other	0.060534	0.062851	0.96	0.34
19, White	0.000000	0.000000	0.00	1.00
20, Black	-0.055100	0.082790	-0.67	0.51
20, Hispanic	0.019282	0.076235	0.25	0.80
20, Other	-0.015349	0.044108	-0.35	0.73
20, White	0.000000	0.000000	0.00	1.00
21, Black	0.000000	0.000000	0.00	1.00
21, Hispanic	0.000000	0.000000	0.00	1.00
21, Other	0.000000	0.000000	0.00	1.00
21, White	0.000000	0.000000	0.00	1.00

(continued)

Table C.4 (continued)

Model parameter	Regression coefficient	Standard error	Z	p-value
Aptitude by race/ethnicity				
Aptitude, Black	-0.371590	0.125106	-2.97	0.00
Aptitude, Hisp.	-0.116287	0.146328	-0.79	0.43
Aptitude, Other	-0.237274	0.186197	-1.27	0.20
Aptitude, White	0.000000	0.000000	0.00	1.00
Aptitude by employment status				
Aptitude, full time	-0.099386	0.072371	-1.37	0.17
Aptitude, part time	-0.134665	0.063691	-2.11	0.03
Aptitude, NE looking	-0.217561	0.071512	-3.04	0.00
Aptitude, NE not looking	0.000000	0.000000	0.00	1.00

Source. Youth Attitude Tracking Study.

Table C.5 Regression Models for 16- to 21-Year-Old Males'
Composite Reserve Propensity

Independent variable	Model 1		Model 2		Model 3		Model 4	
	D.F.	p-value	D.F.	p-value	D.F.	p-value	D.F.	p-value
Age								
Race/ethnicity								
Employment status			3	0.0001			3	0.0001
Census region					3	0.4452	3	0.4549
Aptitude								
=============	====	======	====	======	====	======	====	======
Age by race/ethnicity	15	0.1052	15	0.0320	15	0.1033	15	0.0129
Age by employment status								
Age by Census region								
Age by aptitude								
Race/ethnicity by employment status	9	0.3025			9	0.2661		
Race/ethnicity by Census region	9	0.5126	9	0.4535				
Race/ethnicity by aptitude	3	0.2437	3	0.1619	3	0.1435	3	0.0920
Employment status by Census region								
Aptitude by employment status								
Aptitude by Census region								
	coeff.	p-value	coeff.	p-value	coeff.	p-value	coeff.	p-value
Squared multiple correlation (%)	11.0	0.0000	10.8	0.0000	10.7	0.0000	10.5	0.0000

Note. All model specifications included all main effects. The interactions included, however, were limited to those indicated by a p-value.

D.F. = Degrees of freedom.

Source. 1989 Youth Attitude Tracking Study.

- Age,
- Race/ethnicity,
- Employment status,
- Census region,
- Aptitude,
- Age by race/ethnicity, and
- Aptitude by race/ethnicity.

We see that age, race/ethnicity, and aptitude were important variables for explaining 16- to 21-year-old males' composite Reserve propensity. The effect of Census region, however, was mitigated by the effects of the other variables in the model (p-value = 0.4549).

Figures 4.3 and 4.4 in Chapter 4 graphically present the interacting effects of age by race/ethnicity and of aptitude by race/ethnicity, respectively, on 16- to 21-year-old males' composite Reserve propensity. These figures use actual mean population propensities, not adjusted model propensities.

Figure 4.3 examines the age by race/ethnicity interaction effect on 16- to 21-year-old males' propensity to enlist in a Reserve component. We have plotted the age by race/ethnicity relationship to propensity in this figure. The other effects in the final model (i.e., Census region, employment status, aptitude, and aptitude by race/ethnicity) have been evaluated at the population means of the independent variables corresponding to those effects. This plot presents the age by race/ethnicity interaction as it exists on average in the YATS population.

Figure 4.4 examines the aptitude by race/ethnicity interaction effect on 16- to 21-year-old males' propensity to enlist in a Reserve component. The graphed lines are not plots of specific data points, but rather are plots of regresion lines. We have only plotted the aptitude by race/ethnicity relationship to propensity in this figure. Again, like Figure 4.3, the other effects in the final model (i.e., age, Census region, employment status, and age by race/ethnicity) have been evaluated at the population means of the independent variables corresponding to those effects. This plot presents the aptitude by race/ethnicity interaction as it exists on average in the YATS population.

The squared multiple correlation coefficient for the final model was 10.5%, as compared to the value of 12.1% produced by GLM in the initial model testing all possible interactions. The regression coefficients for this final model are presented in Table C.6, along with their standard errors, Z statistic, and p-values.

E. 16- to 21-Year-Old Females' Composite Reserve Propensity

Table C.7 presents SURREGR models for 16- to 21-year-old females' composite Reserve propensity. Model 1 tests the interactions that the initial GLM run indicated would potentially be statistically significant:

Table C.6 Final Model Regression Coefficients for 16- to 21-Year-Old Males' Composite Reserve Propensity

Model parameter	Regression coefficient	Standard error	Z	p-value
Intercept	0.362844	0.040731	8.91	0.00
Age				
16	0.095670	0.029289	3.27	0.00
17	0.138115	0.030426	4.54	0.00
18	0.043342	0.028419	1.53	0.13
19	-0.001033	0.027317	-0.04	0.97
20	-0.022425	0.029563	-0.76	0.45
21	0.000000	0.000000	0.00	1.00
Race/ethnicity				
Black	0.111398	0.106547	1.05	0.30
Hispanic	0.042660	0.092969	0.46	0.65
Other	-0.194187	0.071112	-2.73	0.01
White	0.000000	0.000000	0.00	1.00
Employment status				
Full time	0.001226	0.021328	0.06	0.95
Part time	0.046906	0.018347	2.56	0.01
Not emp looking	0.084858	0.021714	3.91	0.00
Not emp not looking	0.000000	0.000000	0.00	1.00
Census region				
Northeast	0.008281	0.022618	0.37	0.71
North Central	-0.016530	0.020913	-0.79	0.43
South	0.008575	0.019903	0.43	0.67
West	0.000000	0.000000	0.00	1.00
Aptitude	-0.391303	0.033157	-11.80	0.00
Age by race/ethnicity				
16, Black	-0.107970	0.112906	-0.96	0.34
16, Hispanic	-0.050540	0.103164	-0.49	0.62
16, Other	0.357118	0.099749	3.58	0.00
16, White	0.000000	0.000000	0.00	1.00
17, Black	-0.056438	0.114654	-0.49	0.62
17, Hispanic	0.026829	0.100935	0.27	0.79
17, Other	0.410844	0.112414	3.65	0.00
17, White	0.000000	0.000000	0.00	1.00
18, Black	-0.041438	0.114279	-0.36	0.72
18, Hispanic	-0.014682	0.098977	-0.15	0.88
18, Other	0.240235	0.106045	2.27	0.02
18, White	0.000000	0.000000	0.00	1.00
19, Black	0.035940	0.119917	0.30	0.76
19, Hispanic	-0.118549	0.092239	-1.29	0.20
19, Other	0.176848	0.083315	2.12	0.03
19, White	0.000000	0.000000	0.00	1.00
20, Black	-0.009857	0.126286	-0.08	0.94
20, Hispanic	0.022710	0.118028	0.19	0.85
20, Other	0.405658	0.173453	2.34	0.02
20, White	0.000000	0.000000	0.00	1.00
21, Black	0.000000	0.000000	0.00	1.00
21, Hispanic	0.000000	0.000000	0.00	1.00
21, Other	0.000000	0.000000	0.00	1.00
21, White	0.000000	0.000000	0.00	1.00
Aptitude by race/ethnicity				
Aptitude, Black	-0.337618	0.162915	-2.07	0.04
Aptitude, Hispanic	0.009501	0.110103	0.09	0.93
Aptitude, Other	-0.253952	0.169443	-1.50	0.13
Aptitude, White	0.000000	0.000000	0.00	1.00

Source. Youth Attitude Tracking Study.   C-16

Table C.7 Regression Models for 16- to 21-Year-Old Females' Composite Reserve Propensity

Independent variable	Model 1 D.F.	Model 1 p-value	Model 2 D.F.	Model 2 p-value	Model 3 D.F.	Model 3 p-value	Model 4 D.F.	Model 4 p-value
Age								
Race/ethnicity								
Employment status					3	0.0015	3	0.0023
Census region			3	0.0137			3	0.0120
Aptitude								
===
Age by race/ethnicity	15	0.0015	15	0.0016	15	0.0001	15	0.0001
Age by employment status								
Age by Census region								
Age by aptitude								
Race/ethnicity by employment status	9	0.3185	9	0.2866				
Race/ethnicity by Census region	9	0.3613			9	0.3049		
Race/ethnicity by aptitude	3	0.0073	3	0.0056	3	0.0130	3	0.0130
Employment status by Census region								
Aptitude by employment status								
Aptitude by Census region								

	coeff.	p-value	coeff.	p-value	coeff.	p-value	coeff.	p-value
Squared multiple correlation (%)	11.7	0.0000	11.3	0.0000	11.1	0.0000	10.7	0.0000

Note. All model specifications included all main effects. The interactions included, however, were limited to those indicated by a p-value.

D.F. = Degrees of freedom.

Source. 1989 Youth Attitude Tracking Study.

- Age by race/ethnicity,
- Race/ethnicity by employment status,
- Race/ethnicity by Census region, and
- Aptitude by race/ethnicity.

These interactions subsume the five main effects; as with the 16- to 21-year-old males' composite active Propensity, there were no tests of these even though they were included in the model specification. The effects for race/ethnicity by employment status and race/ethnicity by Census region were not significant, and Models 2 and 3 drop these interactions one at a time as was done with the 16- to 21-year-old males' composite active propensity.

Model 4 for 16- to 21-year-old females' composite Reserve propensity is the final model and included (as was done for the 16- to 21-year-old males' composite active propensity):

- Age,
- Race/ethnicity,
- Employment status,
- Census region,
- Aptitude,
- Age by race/ethnicity, and
- Aptitude by race/ethnicity.

We see that age, race/ethnicity, Census region, and aptitude were important variables for explaining 16- to 21-year-old females' composite Reserve propensity.

Figures 4.5 and 4.6 in Chapter 4 graphically present the interacting effects of age by race/ethnicity and of aptitude by race/ethnicity, respectively, on 16- to 21-year-old females' composite Reserve propensity. These figures use actual mean population propensities, not adjusted model propensities.

Figure 4.5 examines the age by race/ethnicity interaction effect on 16- to 21-year-old females' propensity to enlist in a Reserve component. We have plotted the age by race/ethnicity relationship to propensity in this figure. The other effects in the final model (i.e., Census region, employment status, aptitude, and aptitude by race/ethnicity) have been evaluated at the population means of the independent variables corresponding to those effects. This plot presents the age by race/ethnicity interaction as it exists on average in the YATS population.

Figure 4.6 examines the aptitude by race/ethnicity interaction effect on 16- to 21-year-old females' propensity to enlist in a Reserve component. The graphed lines are not plots of specific data points, but rather are plots of regression lines. We have only plotted the aptitude by race/ethnicity relationship to propensity in this figure. Again,

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like Figure 4.5, the other effects in the final model (i.e., age, Census region, employment status, and age by race/ethnicity) have been evaluated at the population means of the independent variables corresponding to those effects. This plot presents the aptitude by race/ethnicity interaction as it exists on average in the YATS population.

The squared multiple correlation coefficient for the final model was 10.7%, as compared to the value of 13.3% produced by GLM in the initial model testing all possible interactions. The regression coefficients for this final model are presented in Table C.8, along with their standard errors, Z statistic, and p-values.

Table C.8 Final Model Regression Coefficients for 16- to 21-Year-Old Females' Composite Reserve Propensity

Model parameter	Regression coefficient	Standard error	Z	p-value
Intercept	0.050557	0.025191	2.01	0.04
Age				
16	0.078992	0.018967	4.16	0.00
17	0.051181	0.018087	2.83	0.00
18	0.057956	0.019511	2.97	0.00
19	0.042762	0.018926	2.26	0.02
20	0.017298	0.018281	0.95	0.34
21	0.000000	0.000000	0.00	1.00
Race/ethnicity				
Black	0.104888	0.065050	1.61	0.11
Hispanic	0.039356	0.059807	0.66	0.51
Other	0.041164	0.115784	0.36	0.72
White	0.000000	0.000000	0.00	1.00
Employment status				
Full time	0.047781	0.015784	3.03	0.00
Part time	0.041105	0.014250	2.88	0.00
Not emp looking	0.058546	0.018921	3.09	0.00
Not emp not looking	0.000000	0.000000	0.00	1.00
Census region				
Northeast	0.046662	0.018006	2.59	0.01
North Central	0.025763	0.016285	1.58	0.11
South	0.048404	0.016121	3.00	0.00
West	0.000000	0.000000	0.00	1.00
Aptitude	-0.157057	0.029423	-5.34	0.00
Age by race				
16, Black	0.175456	0.077688	2.26	0.02
16, Hispanic	0.221505	0.095249	2.33	0.02
16, Other	-0.023648	0.136924	-0.17	0.86
16, White	0.000000	0.000000	0.00	1.00
17, Black	0.195300	0.083173	2.35	0.02
17, Hispanic	0.142161	0.076033	1.87	0.06
17, Other	-0.110087	0.121882	-0.90	0.37
17, White	0.000000	0.000000	0.00	1.00
18, Black	0.039387	0.079737	0.49	0.62
18, Hispanic	-0.056994	0.065697	-0.87	0.39
18, Other	-0.046583	0.153959	-0.30	0.76
18, White	0.000000	0.000000	0.00	1.00
19, Black	0.078263	0.084506	0.93	0.35
19, Hispanic	-0.046320	0.065788	-0.70	0.48
19, Other	-0.144156	0.117041	-1.23	0.22
19, White	0.000000	0.000000	0.00	1.00
20, Black	-0.079256	0.075247	-1.05	0.29
20, Hispanic	-0.091335	0.057938	-1.58	0.11
20, Other	-0.133906	0.116475	-1.15	0.25
20, White	0.000000	0.000000	0.00	1.00
21, Black	0.000000	0.000000	0.00	1.00
21, Hispanic	0.000000	0.000000	0.00	1.00
21, Other	0.000000	0.000000	0.00	1.00
21, White	0.000000	0.000000	0.00	1.00
Aptitude by race/ethnicity				
Aptitude, Black	-0.332521	0.110200	-3.02	0.00
Aptitude, Hispanic	-0.148746	0.124193	-1.20	0.23
Aptitude, Other	0.045544	0.093508	0.49	0.63
Aptitude, White	0.000000	0.000000	0.00	1.00

Source. Youth Attitude Tracking Study.