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GEOGRAPHIC LOCATION AND ENLISTMENT PROPENSITY OF YOUNG MEN:

FINDINGS FROM THE 1984-1988 WAVES OF THE YOUTH ATTITUDE TRACKING STUDY

Market Research Branch

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Geographic Location and Enlistment Propensity of Young Men: Findings from the 1984-1988 Waves of the Youth Attitude Tracking Study

by

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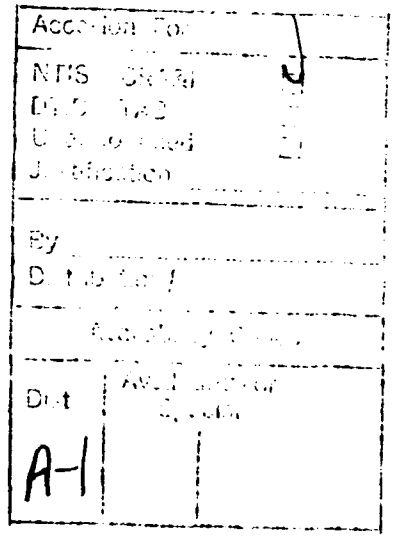

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ACKNOWLEDGMENTS

This report is one of a series of topical reports for the Youth Attitude Tracking Study II (YATS II). YATS II is a study performed by the Research Triangle Institute (RTI) under Contract MDA903-86-C-0066 as part of the Joint Market Research Program sponsored by the Office of the Assistant Secretary of Defense (Force Management and Personnel) (OASD[FM&P]).

YATS II is a key component of the Joint Market Research Program, which contributes to policy formulation and development of recruitment marketing strategies. The Military Services provide comments and guidance through the Joint Market Analysis and Research Committee (JMARC). YATS II provides annual data about the propensity of young men and women to enlist in the active Military Services and in the Reserve Components. It also measures awareness of military advertising, contact with recruiters, and knowledge of the financial incentives for enlisting. This report describes enlistment propensity in Census regions and divisions and military recruiting districts. Data were drawn from the 1984-1988 waves of YATS II.

The Project Directors for YATS II were Dale S. DeWitt and Dr. Robert M. Bray of RTI. Barbara J. York of RTI was responsible for the sampling design, and Ronald Smith coordinated data collection at Amrigon, RTI's subcontractor, for some of the data collection. Teresa F. Gurley completed the typing and clerical requirements, and Richard S. Straw edited the report. Special thanks are due to the tireless efforts of the telephone survey staff in completing the interviews, both at RTI and Amrigon; to Cheryl Whitacre for computer-assisted telephone interviewing (CATI) design and implementation; and to Dr. James R. Chromy for his interest and support. Of course, we are indebted to the respondents who provided the data for the study.

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EXECUTIVE SUMMARY

This report examines the relationship of geographical location and expressed propensity for enlistment among young men aged 16 to 21. Geographical locations included U.S. Census regions, U.S. Census divisions, and military recruiting districts. Data were merged from five waves of the Youth Attitude Tracking Study II (YATS II), 1984-1988, and included interviews with more than 27,000 young men.

Key questions were asked about the likelihood that young men would be serving in the active Military Services during the next few years. Enlistment propensity was reported as the percentage who indicated they would "definitely" or "probably" enlist in one or more of the Department of Defense (DoD) Services (Army, Navy, Air Force, Marine Corps) within the next few years.

Analyses showed that enlistment propensity varied significantly by Census region, but not by Census division within each region. Young men were significantly more likely to express enlistment propensity in the South (36%) than in the West (31%), the North Central (28%), or the Northeast (28%). Moreover, the percentage of young men residing in the South (34%) was larger than the number in the West (20%), the North Central (25%), or the Northeast (21%). These findings suggest that recruiting should be easier in the South and more difficult in the Northeast, assuming that those with positive propensity also qualify for the Military.

Descriptive crosstabulations showed associations among sociodemographic characteristics and enlistment propensity across the Census regions. Propensity among young men at each yearly age level (16, 17, 18, 19, 20, 21) followed the overall pattern of regional variation. Expressed propensity was highest in the South for all age levels.

Propensity among racial/ethnic groups helped explain overall Census region results. Propensity of whites among the regions was relatively stable, which meant propensity of nonwhites largely accounted for the observed regional variation. The South had a higher level of positive propensity than the other regions largely because the majority of Blacks expressed positive propensity (57%) and Blacks comprised nearly a fifth of the region's population. Similarly, in the West, a sizable percentage of Hispanics expressed positive propensity (42%) and also comprised about a fifth of that region's population.

Among school status groups, propensity findings paralleled the overall pattern of regional variation and were also related to age. Propensity was highest among high school students (youngest) and lowest among postsecondary students (oldest).

For lower- and higher-aptitude groups, propensity followed overall regional variation and was highest in the South. Propensity was significantly higher among those with lower aptitude than among those with higher aptitude.

Multivariate analyses provided additional insight about the effects of Census region on propensity. Five sociodemographic variables (age, race/ethnicity, employment status, Census region, aptitude) and selected two-way interactions were included in the analyses. The interaction of Census region with race/ethnicity was of particular interest and indicated that whites showed no significant regional variation in propensity, whereas Blacks and Hispanics did. Hispanics were more likely to express positive propensity in the Northeast than in the other three regions. Blacks were more likely to express positive propensity in the South and in the Northeast than in the other two regions.

Thus, regression findings indicated that, after adjusting for sociodemographic variation, regional differences were still evident among Blacks and Hispanics. This means that regional differences in propensity were not explained solely by different patterns of sociodemographic characteristics among young men in the regions.

Each Service has formed recruiting districts to meet its mission requirements. These districts have divided the geography of the country into broad areas that are roughly similar, although distinct in detail. The Army and Air Force each has five recruiting districts, whereas the Navy and Marine Corps each has six districts. Propensity among the Services' respective recruiting districts and the corresponding Census regions was remarkably similar. This can be explained by the large overlap of recruiting districts and Census regions. Differences in propensity between recruiting districts and Census regions are a function of where the boundaries are drawn. Within recruiting districts, just as within Census regions, propensity is shaped by the configuration of sociodemographic characteristics, attitudes, and perceptions of the young men who comprise them.

1. INTRODUCTION

This report examines the relationship between the geographic location of 16- to 21-year-old men and their propensity to enlist in the active Military. Understanding the sentiment of youths toward enlistment in different locations of the country may aid policymakers in making decisions about the placement and distribution of recruiters and may help in setting recruiting goals.

Data were drawn from the 1984-1988 waves of the Youth Attitude Tracking Study (YATS), a 30-minute, computer-assisted telephone interview. During the 5 years considered, over 27,000 16- to 21-year-old men were interviewed. This combined data set had sufficient statistical power to permit an examination of propensity patterns in different geographic areas of the country. This report builds on earlier analyses that have focused primarily on national-level estimates of propensity (Bray, Curtin, Theisen, & York, 1989; Bray, Curtin, York, Williams, Helms, & Fountain, 1990) or preliminary assessments of regional estimates of propensity using a single year of YATS data (Bray et al., 1990).

Key questions asked about the likelihood that young men would be serving in the active Military Services 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. Analyses provide estimates of propensity of young men by Census region and division and Military Service recruiting district (i.e., Army Recruiting Brigades, Navy Recruiting Areas, Marine Corps Recruiting Districts, and Air Force Recruiting Groups). Predicted aptitude and other correlates of propensity such as age, race/ethnicity, school status, and employment status are also considered in relation to geographic location.

The rest of this chapter highlights the approach employed to merge data from five individual YATS II surveys into a single data set, and it provides both the objectives and organization of the rest of the report.

A. 1984-1988 Combined Data Set

Analyses for this report were conducted with a data set that combined five annual YATS surveys. It was possible to combine these data because the five surveys were based on independent samples, they had identical measures of propensity, and they had identical or highly similar measures of sociodemographic characteristics. Further, propensity estimates were relatively constant over the 5-year period. The YATS data sets for 16- to 21-year-old men from 1984 through 1988 were concatenated into a single data set using the year of the survey as an extra level of stratification. This approach takes weighted averages for the years and allows the appropriate estimation of the

variances for the means and ratios. Some variables of interest (e.g., years of education) were recoded as needed to take into account the changes in questions over time. Appendix A describes the sampling procedures and response rates obtained in each of the 5 years of the study.

B. Report Objectives

The objectives of this report are to:

- Assess the association of propensity to enlist for the geographic locations of Census regions, Census divisions, and the Military's recruiting districts.
- Assess the interrelationship of enlistment propensity and selected sociodemographic groups within Census regions.

C. Organization of This Report

The remaining chapters of this report are structured as follows. Chapter 2 describes the measurement approach for the key variables used in this report and also includes a summary of the sociodemographic characteristics of the YATS population. Chapter 3 details the enlistment propensity measure in relation to Census regions and divisions. This analysis also includes an examination of propensity by the various sociodemographic characteristics for each region. The chapter concludes with a discussion of a regression model of propensity that takes into account sociodemographic and geographic factors. Chapter 4 examines and describes enlistment propensity for Military recruiting districts. Data are presented separately for Army Recruiting Brigades, Navy Recruiting Areas, Marine Corps Recruiting Districts, and Air Force Recruiting Groups. Chapter 5 provides a summary of key findings from the report.

The appendixes contain additional supporting details and information not discussed within the chapters. Appendix A details the survey methodology, including sample design, data collection, response rates, and the method used for combining the data sets. Appendix B summarizes sociodemographic characteristics of the Census regions and divisions, as well as the enlistment propensity in each Census division. Appendixes C through F provide enlistment propensity and sociodemographic characteristics in the Army Recruiting Brigades, Navy Recruiting Areas, Marine Corps Recruiting Districts, and Air Force Recruiting Groups, respectively. Appendix G provides technical details for the regression analysis.

2. MEASUREMENT APPROACH AND POPULATION CHARACTERISTICS

This chapter describes our measurement approach, including key variables used to conduct the analyses. Key variables in this report are composite active propensity measures of geographic location and selected sociodemographic characteristics.

The chapter also presents sociodemographic characteristics of the YATS population of young men including age, race/ethnicity, school status, and employment status. Because employment status for young men aged 16 to 21 is often predicated on whether or not they are in school, employment status is shown in relation to school status.

A. Measurement Approach

This section describes the measures of composite active propensity, geographic location, aptitude, and school status.

1. Composite Active Propensity

Propensity for active military service was assessed by asking the youths a series of questions concerning the likelihood of their serving in the active Army, Navy, Marine Corps, or Air Force. Specifically, youths were asked the following questions:

> Now, I'm going to read you a list of several things which young men your age might be doing 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 in the _____ (Army, Navy, Marine Corps, Air Force)? Would you say
>
> - Definitely,
> - Probably,
> - Probably not, or
> - Definitely not?

Positive propensity is defined as having answered "definitely" or "probably" to any of the four Services; *negative propensity* is defined as having answered "probably not," "definitely not," "don't know," or "refuse" to any of the questions.

The Service-specific propensity items for the Army, Navy, Marine Corps, and Air Force form the measure of composite active propensity used in this report. Respondents saying they would "definitely" or "probably" enlist in at least one of the active Services were considered to have positive composite propensity; otherwise, they were considered to have negative composite propensity.

2. Geographic Location

This report uses two measures of geographic location. The first is the U.S. Census definition of regions and divisions in the continental United States. The other is the definition of Military recruiting districts adopted by the Army, Navy, Marine Corps, and Air Force. The term "recruiting district" is used in a generic sense because each Service refers to its recruiting areas by different terms as noted below.

a. Census Regions and Divisions

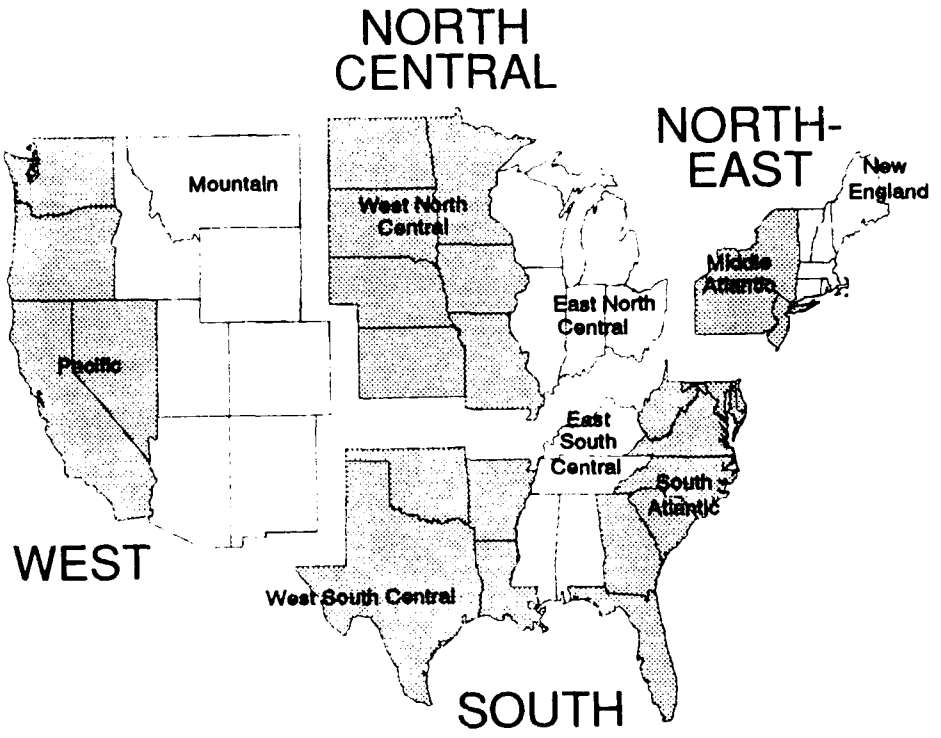
Figure 2.1 illustrates the geographic breakdown of the United States by regions and divisions as defined by the U.S. Bureau of the Census. As shown in the figure, the four regions roughly divide the U.S. land mass into quarters, and the nine divisions further subdivide each of the regions. Census regions and divisions follow State boundaries.

b. Military Recruiting Districts

Each Service has its own geographic configuration according to what best serves that individual Service's recruiting needs. Figure 2.2 presents the four Military Service recruiting districts. In the United States, these districts include five Army Recruiting Brigades, six Navy Recruiting Areas, six Marine Corps Recruiting Districts, and five Air Force Recruiting Groups. The districts are developed at the level of counties and are then aggregated to the district level. Unlike Census regions, however, they do not necessarily follow State boundaries. Consequently, some States appear in more than one Military recruiting district.

Army Recruiting Brigades 1 and 3 are highly similar to Air Force Recruiting Groups 1 and 3, respectively. However, there are notable differences in the other three districts. For example, Group 6 of the Air Force is geographically the largest district for any of the Services and includes all or part of 15 Western, Northwestern, and Mountain States. Navy Recruiting Areas 1, 4, 3, and 8 are very similar to Marine Corps Recruiting Districts 1, 4, 6, and 12, respectively. The major boundary differences for the Navy and Marine Corps occur in the remaining two districts. Navy Recruiting Areas 5 and 7 include roughly equal land mass, whereas Marine Corps Recruiting District 8 is much larger than District 9.

Figure 2.1 Census Regions and Divisions of the United States

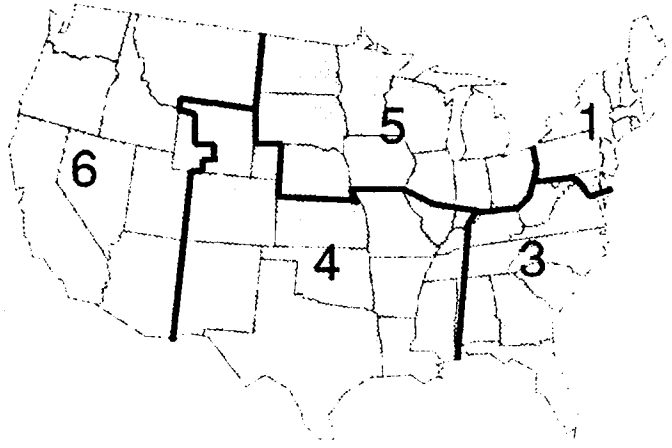


3. Youth Aptitude

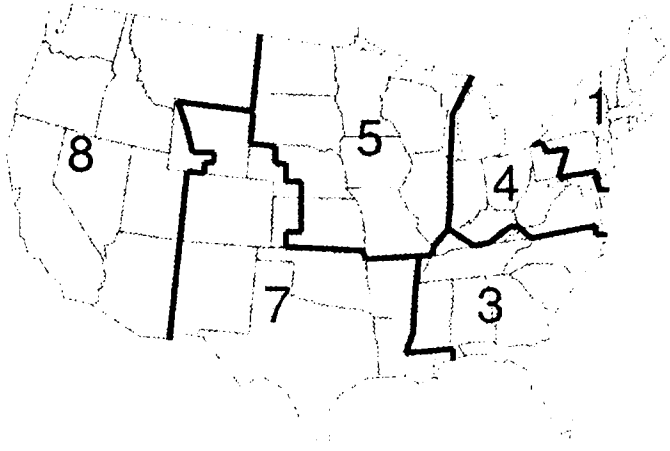
Higher aptitude military recruits generally are defined as those who score in Categories I-IIIA (percentiles 50-99) on the Armed Forces Qualification Test (AFQT). AFQT scores were unavailable for much of the YATS population because most had not taken the test. Therefore, the predicted AFQT approach developed by Orvis and Gahart (1989) was used to estimate the AFQT categories for youths.

Predicted AFQT categories were determined for this report by the application of a series of equations to estimate the probability that an individual would score at or above the 50th percentile on the test. 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 education status, as well as intention to enlist, contacts with military recruiters, perceived ease of finding full-time employment, and having talked with parents about military enlistment.

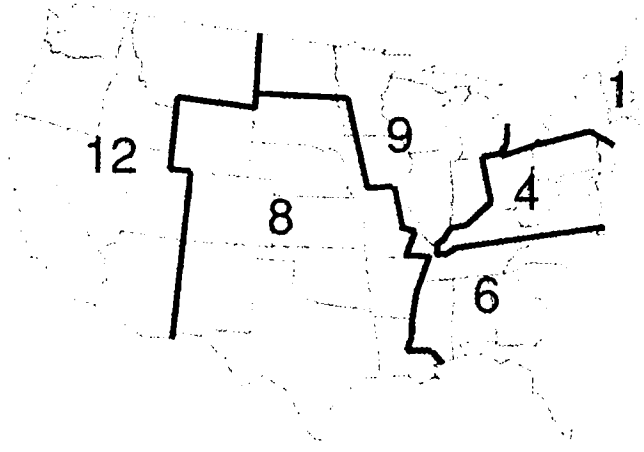
Figure 2.2 Military Service Recruiting Districts



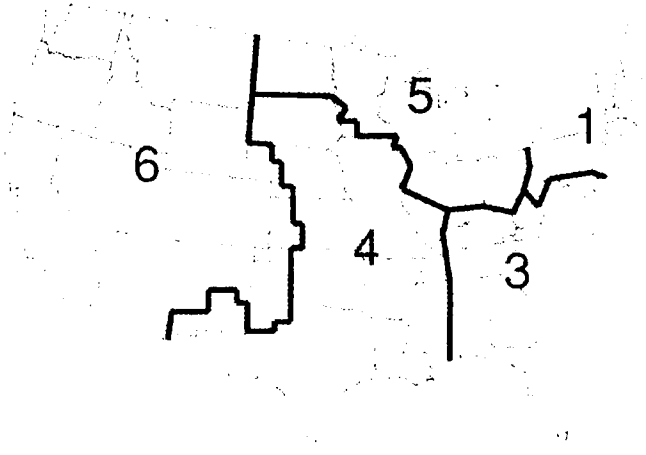
Army Recruiting Brigades



Navy Recruiting Areas



Marine Corps Recruiting Districts



Air Force Recruiting Groups

The baseline for these equations was developed using the young men aged 16 to 21 who were interviewed during the 1976 to 1980 fall administrations of YATS and who subsequently took the AFQT. The equations were used to estimate the probability that an individual would fall in Categories I-IIIA (percentiles 50-99) or, conversely, in Categories IIIB-V (percentiles 1-49).

For the analyses presented in this report, those who were predicted to fall in the 50 to 99 percentiles were considered to have *higher aptitude*, while those predicted to be in percentiles below 50 were considered to have *lower aptitude*.

4. School Status

The measure of school status is a four-level variable that characterizes the educational attainment of the YATS population. The four levels are:

- *Postsecondary students*--high school graduates who are currently enrolled in a college or vocational school;
- *High school graduates*--those who have received a high school diploma but are no longer students;
- *High school students*--students currently enrolled in high school; and
- *Noncompleters*--those who did not, or will not, graduate from high school and are currently not enrolled in any school; this includes those with GED or ABE certificates.

The definition of school status for this report differs in one respect from that used in previous YATS propensity reports. Previously, high school seniors and high school nonseniors were separated as two distinct categories of students. In the body of this report, they have been combined into one category--high school students. Tables in Appendixes B through F present data for school status using five categories.

B. YATS Population Characteristics

This section describes the distribution of young men across the Census regions and divisions and presents the sociodemographic characteristics of the young men across the Census regions. Because of the close correlation between employment status and school status, the employment status categories are presented by school status.

1. Population Projections by Census Region and Division

Table 2.1 presents the Census regions and divisions of the United States along with their estimated 1990 populations (U.S. Bureau of the Census, 1987)[1] and the corresponding percentages of the U.S. population. As shown, better than one third of the U.S. population (35%) is located in the 16 States and the District of Columbia comprising the South region. About half of this region resides along the eastern seaboard in the South Atlantic division (43.7 million). The second most populous Census region is the North Central (24%). This region includes 12 midwestern and plains States divided into the West and East North Central divisions. The remainder of the U.S. population, approximately 20% each, resides in the Northeast and Western regions. These regions are smaller because they include the relatively small land areas of the New England division and the sparsely populated desert and mountain States of the Mountain division.

Table 2.1 also presents the estimated counts of 16- to 21-year-old men in the YATS population based on the average yearly count across the 5-year period of this report (1984-1988). The YATS combined data set represents an estimated 7.2 million young males in the continental United States. The distribution of YATS young men within Census regions and divisions closely follows the distribution of the U.S. population at large.

2. Age

This report examines young men aged 16 to 21. Overall, the age distribution of young men in the YATS population was as follows:

- 24.6% were 16 years old
- 23.6% were 17 years old
- 17.8% were 18 years old
- 14.2% were 19 years old
- 10.4% were 20 years old
- 9.3% were 21 years old

Thus, nearly half of the 27,046 young men interviewed were 16- to 17-year-olds (48.2%).

Figure 2.3 depicts the age distribution for each Census region. As shown, the age distributions are highly similar across the regions.

[1]For the purpose of the YATS study, Alaska and Hawaii were omitted from the Pacific division and the estimated population in the division was adjusted accordingly.

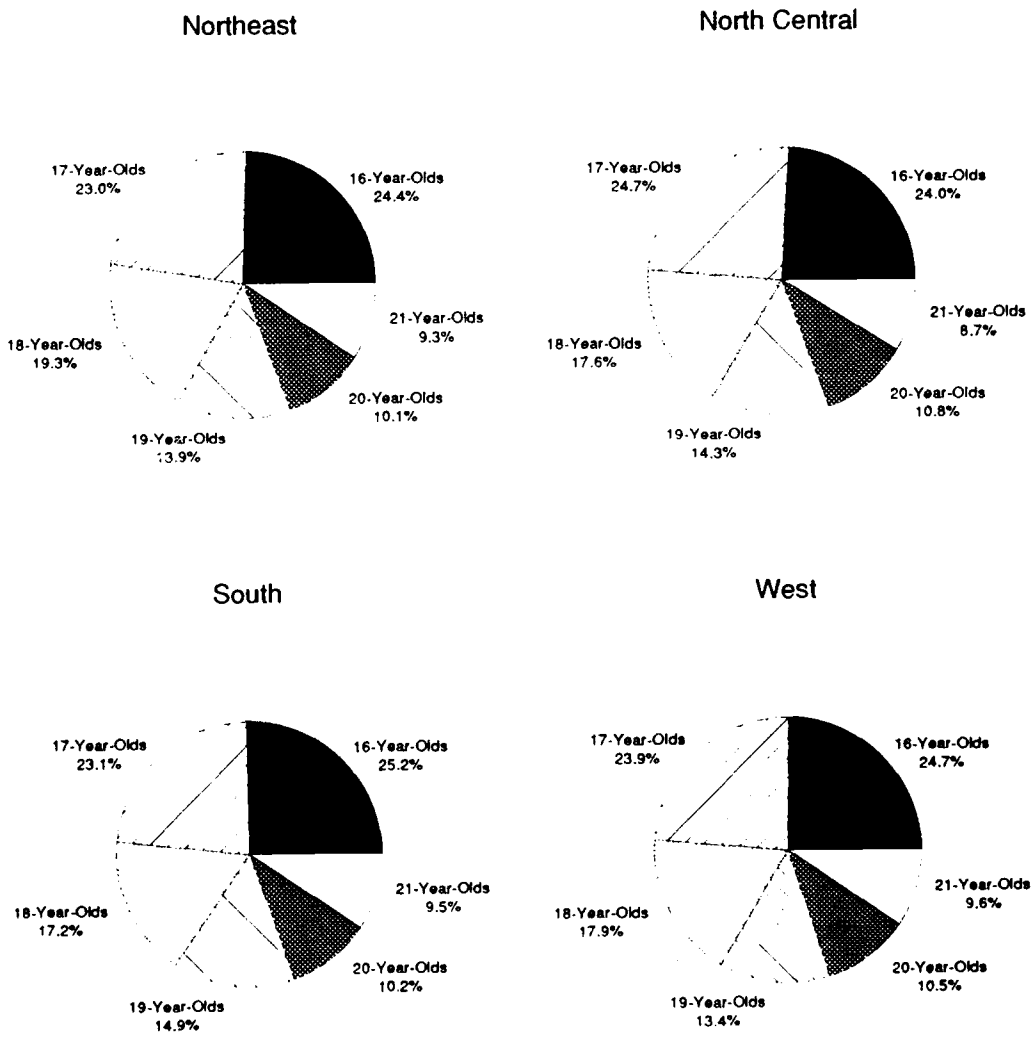
Table 2.1 Estimated Population Counts for the U.S. and YATS Young Men by Census Regions and Divisions

	1990 U.S. population		YATS young men	
Region/division	Count	Percent	Count	Percent
Northeast				
New England	13,078	5.3	393	5.4
Middle Atlantic	37,499	15.1	1,122	15.5
Total	50,577	20.4	1,515	21.0
North Central				
East North Central	42,055	16.9	1,306	18.1
West North Central	17,722	7.1	512	7.1
Total	59,577	24.0	1,818	25.2
South				
South Atlantic	43,742	17.6	1,174	16.3
East South Central	15,597	6.3	479	6.6
West South Central	27,937	11.3	823	11.4
Total	87,276	35.2	2,476	34.3
West				
Mountain	13,995	5.6	403	5.6
Pacific	36,548	14.7	1,008	14.0
Total	50,543	20.4	1,411	19.5
Total U.S.	248,174	100.0	7,220	100.0

Note. Data reported are for 16- to 21-year-old men; population counts are in thousands. Estimates are based on some variables for which there may be missing information.

Source. Youth Attitude Tracking Study, 1984-1988; U.S. Bureau of the Census, 1987.

Figure 2.3 Age by Census Region



Source. Youth Attitude Tracking Study, 1984-1988.

3. Race/Ethnicity

The overall distribution of young men by race and ethnic origin indicated that 76.5% were white, 11.4% were Black, and 9.0% were Hispanic. Figure 2.4 illustrates the racial/ethnic distribution for each Census region. As shown, there was notable variation in racial/ethnic composition of the regions. The West had a considerably higher percentage of Hispanics than any other region; the South had a higher percentage of Blacks. This is reflected in smaller percentages of whites located in the West and South regions compared to the Northeast and North Central regions.

4. School Status

Overall, the population was divided among the four school categories as follows: 16.6% were postsecondary students, 21.7% were high school graduates, 42.4% were high school students, and 19.3% were noncompleters.[2] Figure 2.5 shows the school status of young men for each Census region. Some slight regional variation is evident. For example, slightly more Southerners were noncompleters and slightly less were postsecondary students. Fewer Westerners were high school graduates (i.e., high school graduates not in school), yet more were postsecondary students. This indicates a greater tendency among men in this region to go on to college after high school.

5. Employment Status (by School Status)

Table 2.2 presents the data on employment status by school status of young men for each Census region. Overall, the employment characteristics of men in the West were consistent with national averages. Southern men on the other hand were more apt to be employed full time than part time when compared to the other regions. Men in the Northeast and North Central regions were more apt to be employed part time than their Southern and Western counterparts. Finally, only slight variation was detected across the regions within the school status groups.

Additional information on the propensity levels of youths by sociodemographic characteristics and by Census regions is presented in Chapter 3 and in Appendix B.

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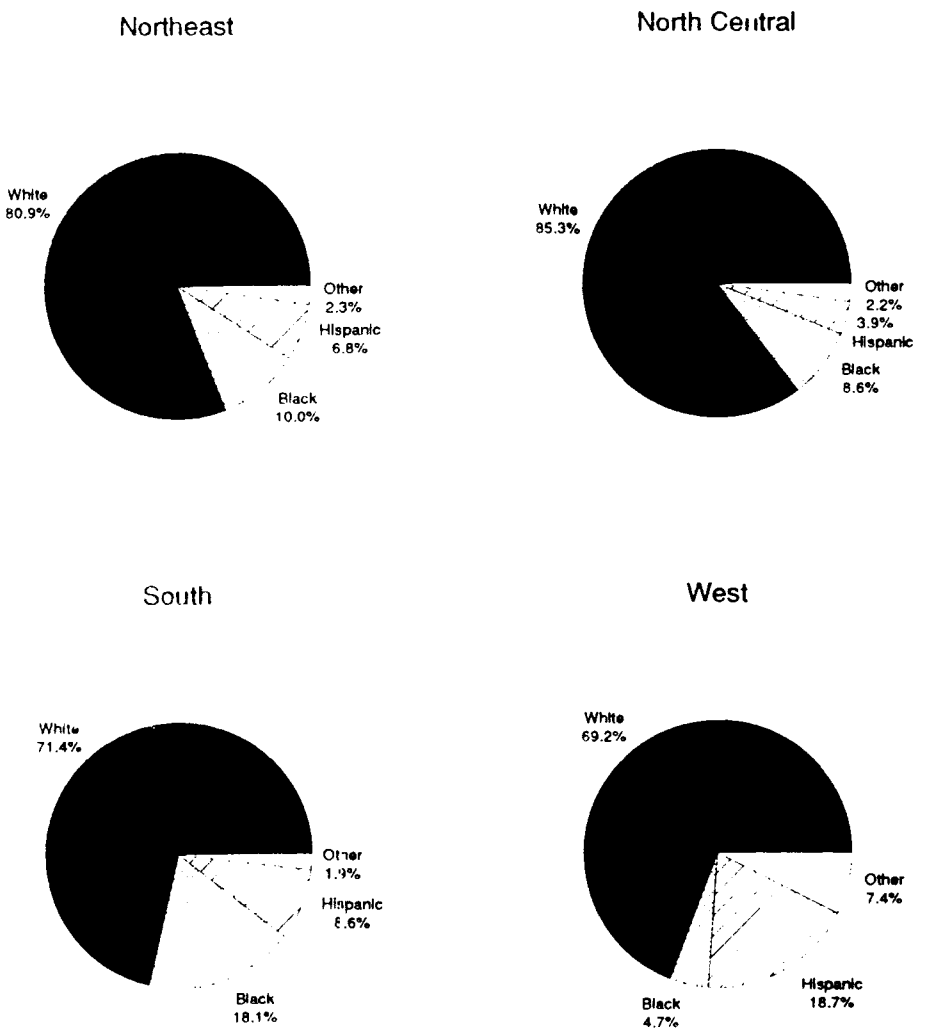
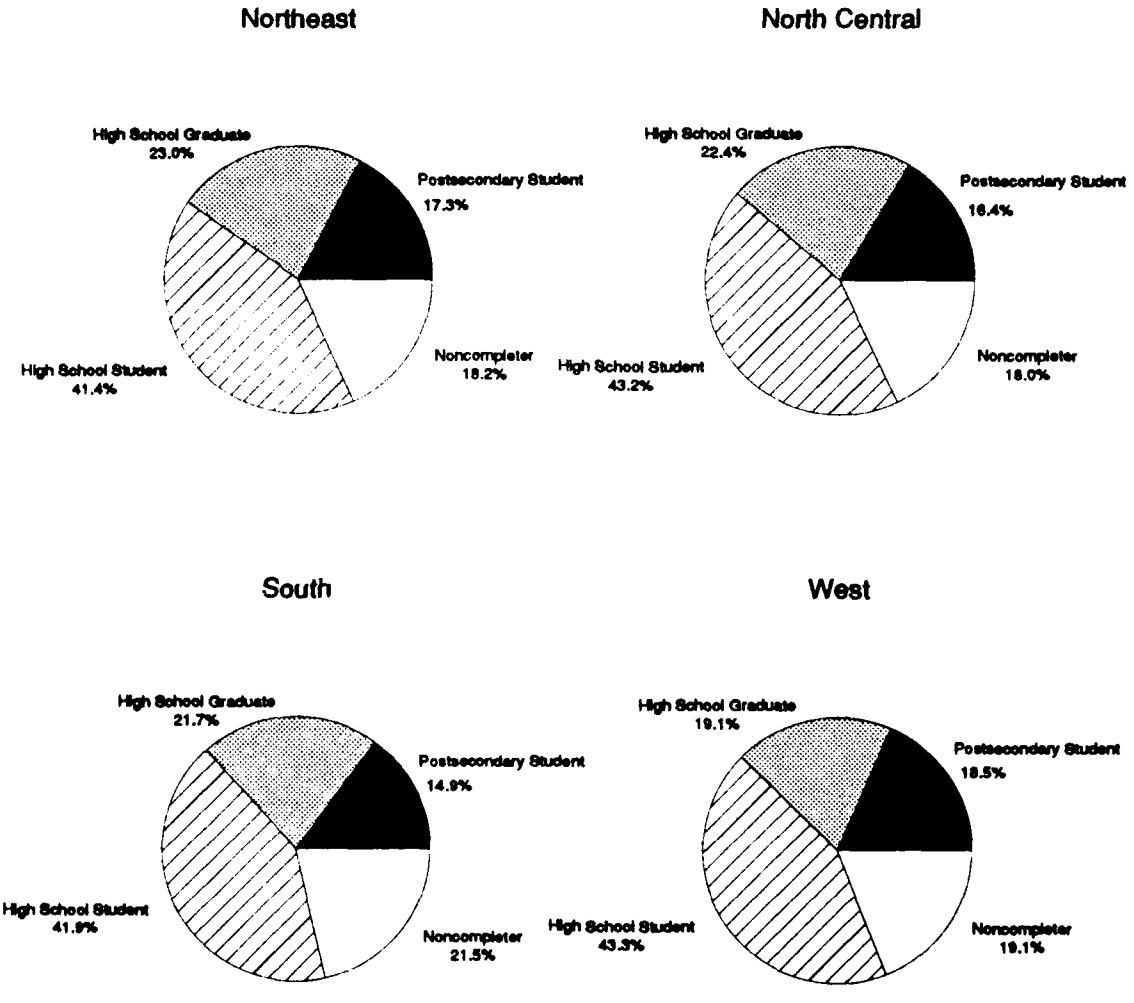
[2]Postsecondary students are high school graduates currently attending college or a business/vocational school. High school graduates are men who are not students and have graduated from high school. Noncompleters are men who are not high school students and have not graduated from high school.

Figure 2.4 Race/Ethnicity by Census Region



Source: Youth Attitude Tracking Study, 1984-1988.

Figure 2.5 School Status by Census Region



Note: Postsecondary students are high school graduates currently attending college or a business/vocational school. High school graduates are men who are not students and have graduated from high school. Noncompleters are men who are not high school students and have not graduated from high school.

Source: Youth Attitude Tracking Study, 1984-1988.

Table 2.2 School Status and Employment Status by Census Region

School status[a] and employment status	Census region: Northeast	North Central	South	West	Total U.S.
Postsecondary student					
Employed full time	24.8	25.3	26.6	26.3	25.8
Employed part time	37.9	41.6	33.8	39.3	37.9
Not employed, looking	14.4	12.1	15.9	15.4	14.5
Not employed, not looking	22.9	21.0	23.7	19.0	21.8
High school graduate					
Employed full time	74.0	75.3	74.6	72.1	74.2
Employed part time	12.6	12.3	11.1	13.8	12.2
Not employed, looking	8.8	10.6	11.5	9.3	10.3
Not employed, not looking	4.6	1.8	2.8	4.8	3.3
High school student					
Employed full time	9.5	6.9	8.0	5.4	7.5
Employed part time	41.7	42.2	32.2	37.5	37.8
Not employed, looking	24.5	26.7	29.6	28.7	27.6
Not employed, not looking	24.2	24.3	30.2	28.4	27.1
Noncompleter					
Employed full time	40.0	31.6	40.5	42.0	38.6
Employed part time	24.2	25.0	20.0	19.2	21.9
Not employed, looking	20.4	29.0	26.7	26.6	26.0
Not employed, not looking	15.4	14.4	12.7	12.3	13.6
Total					
Employed full time	32.6	29.7	32.2	29.0	31.0
Employed part time	31.2	32.3	25.3	29.8	29.2
Not employed, looking	18.4	21.1	23.0	22.1	21.4
Not employed, not looking	17.8	16.9	19.5	19.1	18.4

Note. Data reported are for 16- to 21-year-old men. Values are column percentages representing for each school status group and Census region the employment status distribution. Estimates are based on some variables for which there may be missing information. Standard errors range from less than 0.5% to 2%.

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

Source. Youth Attitude Tracking Study, 1984-1988.

3. ENLISTMENT PROPENSITY IN CENSUS REGIONS

This chapter examines the propensity of young men to enlist in the Military in the four U.S. Census regions. Understanding propensity in geographical areas may be helpful to recruiters and policymakers in developing recruiting strategies and policies. We first contrast propensity estimates for Census regions and Census divisions. Next we examine sociodemographic correlates of propensity by Census region. We then report multivariate analyses that assess the effects of Census region on propensity controlling for other sociodemographic characteristics.

A. Propensity Estimates by Census Region and Census Division

Figure 3.1 presents composite active propensity for the U.S. Census regions and divisions. As shown, certain regions of the country exhibit stronger enlistment propensity than others. Slightly more than one third (35.5%) of the young men in the South reported positive propensity for military service. This is followed by the West (30.8%), the North Central (28.4%), and the Northeast (27.8%). Expressed propensity in the South is significantly higher than in the other regions.

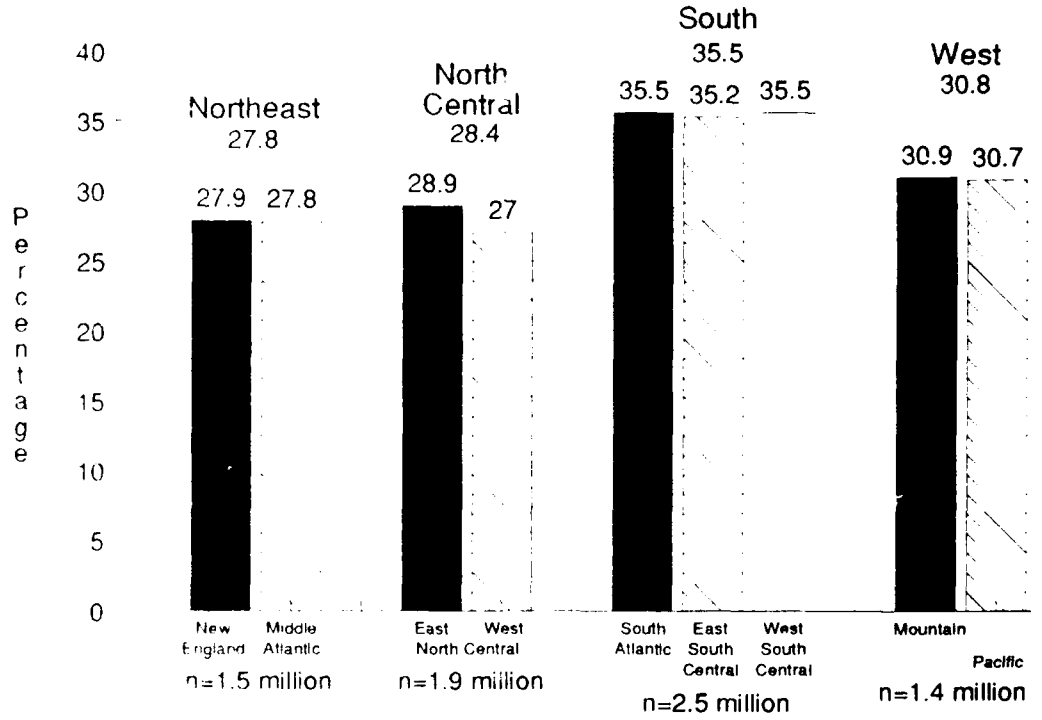
Figure 3.1 also shows that there is little or no variation across the Census divisions that comprise the Census regions. Examination of propensity at the smaller geographic level of Census divisions does not add to our understanding of geographic variation beyond what is explained by regional variation. Therefore, the remaining analyses in this chapter examine differences solely by Census region.

The linking of propensity and the U.S. population in each of the Census regions provides useful information for military recruitment and may provide guidance about the need for advertising and other recruiting activities. As already noted, the South is estimated to have over one third of the U.S. population (see Table 2.1), and the South is also the region with the highest percentage of positive propensity to enlist in the Military. Conversely, the Northeast has the smallest segment of the U.S. population (21%) and has the lowest level of expressed propensity (27.8%). Examination of population counts (not tabled) indicates that approximately 878,000 young men in the South are expected to have positive propensity compared to 421,000 in the Northeast (which constitutes over a twofold difference). Thus, recruiting should be easier in the South (assuming that those with positive propensity also qualify for the Military) and more difficult in the Northeast.

B. Sociodemographic Correlates of Propensity by Census Region

This section examines the propensity of young men (i.e., those most likely to join the Military) classified by their sociodemographic characteristics for each Census

Figure 3.1 Positive Composite Active Propensity and Estimated Population Counts by Census Region and Division



Note. The population count for the 1984-1988 YATS data set is the average yearly population across the 5 years.

Source. Youth Attitude Tracking Study, 1984-1988.

region. Analyses group young men within Census region by age, race/ethnicity, school status, employment status, and aptitude.

1. Propensity by Age Level and Census Region

Table 3.1 shows propensity to enlist by age level for each Census region. As shown, propensity is highest in the South for all age levels. For example, significantly more 16-year-old men in the South (44.6%) reported positive propensity than did similarly aged men in the Northeast (38.1%) or the North Central regions (39.5%).

Table 3.1 also shows the familiar pattern of lower propensity for those who are older. This pattern holds for all of the regions. In the South, for example, where propensity is highest for all age groups, 16-year-old young men were twice as likely to

Table 3.1 Composite Active Propensity by Age and Census Region

Age	Census region: Northeast (N=5,670)	North Central (N=6,021)	South (N=10,295)	West (N=5,060)	Total U.S. (N=27,046)
16	38.1 (1.7)	39.5 (1.7)	44.6 (1.3)	42.0 (1.8)	41.5 (0.8)
17	31.3 (1.5)	31.8 (1.5)	41.1 (1.3)	36.9 (1.7)	35.8 (0.7)
18	24.5 (1.7)	26.9 (1.8)	33.1 (1.5)	26.9 (1.9)	28.4 (0.9)
19	23.4 (2.1)	23.5 (2.0)	29.2 (1.6)	21.4 (2.2)	25.1 (1.0)
20	17.3 (1.9)	16.2 (2.1)	25.9 (1.6)	18.9 (2.7)	20.2 (1.0)
21	17.1 (2.1)	13.8 (1.8)	22.3 (1.8)	19.9 (2.4)	18.7 (1.0)
Total	27.8 (0.8)	28.4 (0.8)	35.5 (0.6)	30.8 (0.9)	31.1 (0.4)

Note: Data reported are for 16- to 21-year-old men. Tabled values are percentages with standard errors in parentheses. Sample sizes are unweighted. Estimates are based on some variables for which there may be missing information.

Source: Youth Attitude Tracking Study 1984-1988.

have positive propensity as were 21-year-old young men (44.6% vs. 22.3%). In the North Central region, propensity differed by 25.7 percentage points for those aged 16 and 21 (39.5% vs. 13.8%).

2. Propensity by Race/Ethnicity and Census Region

Table 3.2 presents propensity to enlist by race/ethnicity across Census regions. This table demonstrates that Blacks, Hispanics, and others (i.e., Asians, Pacific Islanders, American Indians, and Alaskan Natives) were significantly more likely to have positive propensity than were whites across all regions. Within Census regions, propensity was

- Highest in the Northeast among Hispanics (50.4%) and Blacks (47.5%);
- Highest in the North Central among nonwhites (43.1% to 45.1%);
- Highest in the South among Blacks (57.2%); and
- Highest in the West among others (45.3%) and Hispanics (42.4%).

These data, combined with the population distributions for race/ethnicty shown in Figure 2.4, help explain the overall propensity pattern for the regions. First, it should be noted that propensity of whites among the regions was relatively stable. This means

Table 3.2 Composite Active Propensity by Race/Ethnicity and Census Region

Race/ethnicity	Census region: Northeast (N=5,670)		North Central (N=6,021)		South (N=10,295)		West (N=5,060)		Total U.S. (N=27,046)	
White	23.2	(0.8)	25.8	(0.8)	28.6	(0.7)	25.8	(1.0)	26.1	(0.4)
Black	47.5	(2.9)	43.1	(2.7)	57.2	(1.5)	34.5	(3.9)	50.9	(1.2)
Hispanic	50.4	(3.2)	43.0	(3.9)	46.8	(2.2)	42.4	(1.9)	45.2	(1.3)
Other	37.4	(5.2)	45.1	(5.7)	35.8	(4.0)	45.3	(3.9)	42.0	(2.4)
Total	27.8	(0.8)	28.4	(0.8)	35.5	(0.6)	30.8	(0.9)	31.1	(0.4)

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages with standard errors in parentheses. Sample sizes are unweighted. Estimates are based on some variables for which there may be missing information.

Source. Youth Attitude Tracking Study, 1984-1988.

that the distribution and propensity of nonwhites largely accounted for regional variation. The South had a higher level of positive propensity than the other regions primarily because Blacks were highly likely to express positive propensity (57%) and they comprised nearly a fifth (18%) of the region's population. Thus, propensity of Blacks had considerable impact on the overall propensity of the South. Similarly, Hispanics showed high propensity in the West (42%) and also comprised about a fifth (19%) of that region's population. In contrast, in the Northeast, even though 50% of Hispanics expressed positive propensity, it carries less weight because Hispanics comprised only about 7% of the population for the region.

3. Propensity by School Status and Census Region

Because age and school status are highly related, propensity to enlist among different school status groups is expected to vary comparable to that noted for the different age levels. Namely, we would expect propensity to be highest among high school students (youngest) and lowest among postsecondary students (oldest).

Table 3.3 shows the propensity to enlist of young men in the Census regions by their school status group. As shown, results are consistent with expectations. Both overall and within regions, there is a consistent ordering of school status groups. Propensity is highest among high school students (who are youngest) followed by noncompleters, high school graduates, and postsecondary students (who are oldest).

Table 3.3 Composite Active Propensity by School Status and Census Region

School status[a]	Census region: Northeast (N=5,670)		North Central (N=6,021)		South (N=10,295)		West (N=5,060)		Total U.S. (N=27,046)	
Postsecondary student	11.5	(1.3)	10.9	(1.2)	17.6	(1.3)	15.1	(1.4)	14.0	(0.7)
High school graduate	20.0	(1.5)	19.9	(1.5)	25.9	(1.2)	22.4	(2.1)	22.4	(0.7)
High school student	36.3	(1.2)	36.9	(1.2)	44.3	(1.0)	40.2	(1.4)	39.9	(0.6)
Noncompleter	33.6	(2.0)	34.4	(1.8)	40.6	(1.4)	33.5	(2.1)	36.4	(0.9)
Total	27.8	(0.8)	28.4	(0.8)	35.5	(0.6)	30.8	(0.9)	31.1	(0.4)

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages with standard errors in parentheses. Sample sizes are unweighted. Estimates are based on some variables for which there may be missing information.

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

Source. Youth Attitude Tracking Study, 1984-1988.

Table 3.3 also shows that school status groups follow the pattern of regional variation observed previously. That is, the finding of highest propensity in the South followed by the West, North Central, and Northeast regions holds for all of the school groups.

4. Propensity by School Status, Employment Status, and Census Region

Respondent's school status and employment status are also related to the expression of positive composite propensity, as shown in Table 3.4. Overall, young men who were not employed but looking for work were more apt to report positive propensity (44.5%) than were men in the other three employment status groups (i.e., men employed

Table 3.4 Composite Active Propensity by School Status, Employment Status, and Census Region

School status[a] and employment status	Census region				
	Northeast	North Central	South	West	Total U.S.
Postsecondary student					
Employed full time	14.0 (2.6)	8.4 (1.9)	21.6 (3.1)	19.3 (2.9)	16.2 (1.4)
Employed part time	12.1 (2.2)	12.0 (2.1)	12.6 (1.7)	12.6 (2.0)	12.3 (1.0)
Not employed, looking	9.7 (3.3)	15.0 (3.8)	23.0 (3.4)	21.5 (4.4)	18.1 (1.9)
Not employed, not looking	9.2 (2.2)	9.4 (2.1)	16.7 (2.6)	9.1 (3.4)	11.8 (1.3)
High school graduate					
Employed full time	15.9 (1.4)	16.1 (1.5)	22.3 (1.3)	19.7 (2.5)	18.8 (0.8)
Employed part time	31.5 (5.7)	29.5 (4.9)	33.1 (4.0)	35.3 (5.4)	32.2 (2.5)
Not employed, looking	35.2 (5.6)	36.5 (5.1)	42.5 (4.0)	30.1 (5.5)	37.6 (2.5)
Not employed, not looking	26.6 (7.3)	12.0 (5.5)	25.4 (6.6)	11.0 (4.3)	20.2 (3.4)
High school student					
Employed full time	46.7 (4.3)	33.9 (4.0)	44.0 (3.7)	36.6 (5.3)	41.3 (2.1)
Employed part time	34.2 (1.9)	34.0 (1.8)	45.2 (1.7)	38.9 (2.2)	38.2 (0.9)
Not employed, looking	45.2 (2.7)	48.4 (2.5)	55.4 (1.9)	48.5 (2.4)	50.4 (1.2)
Not employed, not looking	27.0 (2.3)	30.1 (2.4)	32.4 (1.6)	34.1 (2.6)	31.2 (1.1)
Noncompleter					
Employed full time	30.8 (2.8)	27.0 (2.9)	36.2 (2.2)	30.4 (3.0)	32.1 (1.3)
Employed part time	33.0 (4.7)	32.3 (4.0)	40.0 (3.1)	32.5 (4.3)	35.1 (2.0)
Not employed, looking	42.3 (4.2)	47.2 (3.6)	49.6 (2.7)	43.4 (5.2)	46.6 (1.9)
Not employed, not looking	30.0 (5.0)	28.5 (4.7)	36.4 (4.6)	23.9 (4.9)	30.8 (2.4)
Total					
Employed full time	22.7 (1.2)	18.9 (1.2)	28.2 (1.1)	24.0 (1.6)	24.0 (0.6)
Employed part time	29.1 (1.5)	28.7 (1.3)	36.6 (1.2)	31.4 (1.6)	31.7 (0.7)
Not employed, looking	38.7 (1.9)	43.6 (1.8)	49.2 (1.4)	42.4 (2.0)	44.5 (0.9)
Not employed, not looking	23.5 (1.7)	25.2 (1.8)	29.9 (1.3)	27.1 (1.9)	26.9 (0.8)

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages with standard errors in parentheses. Estimates are based on some variables for which there may be missing information.

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

Source. Youth Attitude Tracking Study, 1984-1988.

part time, 31.7%; men not employed and not looking, 26.9%; or men employed full time, 21.0%). This general pattern holds for all of the school groups, but it is particularly strong for noncompleters and high school students.

For the most part, propensity for employment status groups for each of the school status groups follows the overall pattern of regional variation. That is, propensity is highest in the South followed by the West, then by the Northeast and North Central regions, which are at about the same level (see Figure 3.1). There are a few exceptions to this pattern such as postsecondary students and high school graduates who were employed part time. Men in these groups expressed similar levels of propensity in the different regions.

5. Propensity by Aptitude and Census Region

Military equipment and systems are becoming increasingly sophisticated and technical. The Military must similarly be technically capable, with a proportionally greater number of recruits with high aptitude and educational level.

Table 3.5 presents the propensity for men predicted to have higher or lower aptitude across the Census regions. As shown, propensity is substantially lower among young men predicted to have higher aptitude than among those predicted to have lower aptitude, a finding consistent with other analyses of propensity data (e.g., Bray et al., 1990). This finding holds across all regions.

Among lower aptitude men, propensity was significantly higher for the South (44.1%) compared to the other regions (all about 38%). Young men predicted to have higher aptitude showed a somewhat different pattern across regions. Those in the South and West regions reported slightly, but significantly, higher propensity than did those in the North Central and Northeast regions.

C. Multivariate Analyses of Sociodemographic Variables and Propensity

Our discussion of propensity by region has thus far revolved around understanding the data portrayed in Figure 3.2, which shows that propensity in the South is higher than that found in the other regions (see also Figure 3.1). 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 (with the exception of school status and employment status) and crosstabulated with Census region. 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.

Table 3.5 Composite Active Propensity by Aptitude and Census Region

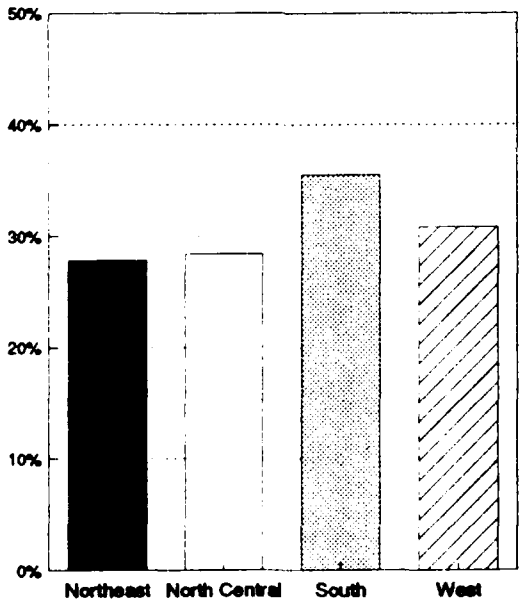
Predicted aptitude[a]	Census region: Northeast (N=5,670)	North Central (N=6,021)	South (N=10,295)	West (N=5,060)	Total U.S. (N=27,046)
Higher aptitude	21.2 (0.7)	22.0 (0.7)	25.5 (0.6)	24.3 (0.9)	23.3 (0.4)
Lower aptitude	37.7 (1.1)	37.1 (1.0)	44.1 (0.7)	39.1 (1.1)	40.4 (0.5)
Total	27.8 (0.8)	28.4 (0.8)	35.5 (0.6)	30.8 (0.9)	31.1 (0.4)

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages with standard errors in parentheses. Sample sizes are unweighted. Estimates are based on some variables for which there may be missing information.

[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. Youth Attitude Tracking Study, 1984-1988.

Figure 3.2 Positive Propensity by Census Region



Source. Youth Attitude Tracking Study, 1984-1988.

Multivariate analysis procedures such as regression analysis allow us to examine the combined effects of a set of variables on propensity. Regression analysis thus will allow for a more sophisticated analysis of regional effects. This section describes the results of multivariate regression analyses of sociodemographic variables on composite active propensity. Our primary goal in the analyses presented here is to explain the role of Census region in describing differences in propensity.

1. Analytical Approach

Regression analyses provide a concise study of the joint effects of several variables on propensity (the dependent measure 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 interrelationships among the variables. This may include interactions among two or more variables. 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 Census region and race/ethnicity. Previously in the tabular results (see Table 3.5), we saw that propensity changed systematically with Census region. Those living in the South were more likely to express positive propensity than those living in the other regions. An interaction between Census region and race/ethnicity means that there is some significant variation from the pattern of higher propensity in the South for at least one of the racial/ethnic groups. That is, propensity for either Blacks, Hispanics, or whites does not follow the same pattern across the regions as the total population. Graphically, an interaction is indicated in Figure 3.3 by different bar patterns for the racial/ethnic groups. The bars for whites are approximately level, whereas the bars for Blacks and for Hispanics are not. These ideas will become more evident as we discuss the interaction findings below.

The following sociodemographic variables, which 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.

Furthermore, the year of the survey was included to adjust for differences in mean values across the years. Including this variable controls for year-to-year variation in mean propensity. The other sociodemographic variable of school status was omitted from these analyses because of its strong dependence on age. In addition, age was collapsed into a two-level variable (16 to 17 vs. 18 to 21 years) to simplify the analysis and interpretation of results. Finally, the "other" category was dropped from race/ethnicity due to its small sample size.

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.

Identical patterns of results from these regression analyses and earlier tabular analyses are not necessarily expected. Differences may occur because the regression analyses take into account correlations among the variables studied. Technical details of these analyses appear in Appendix G.

2. Understanding Census Region Effects

The results of the regression analysis showed that all five variables (age, race/ethnicity, employment status, Census region, and aptitude) contributed to the explanation of propensity. Employment status entered the model as a main effect and did not interact with the other variables. Hence, differences among employment status groups (e.g., full-time employed, not employed, looking) are constant across the other four variables in the model (i.e., age, race/ethnicity, Census region, aptitude). These other four variables entered the model through the following statistically significant interactions:

- Age with race/ethnicity,
- Age with aptitude,
- Race/ethnicity with region, and
- Race/ethnicity with aptitude.

Because our interest here is to understand the effect of Census region on propensity, we focus on the race/ethnicity by Census region interaction.

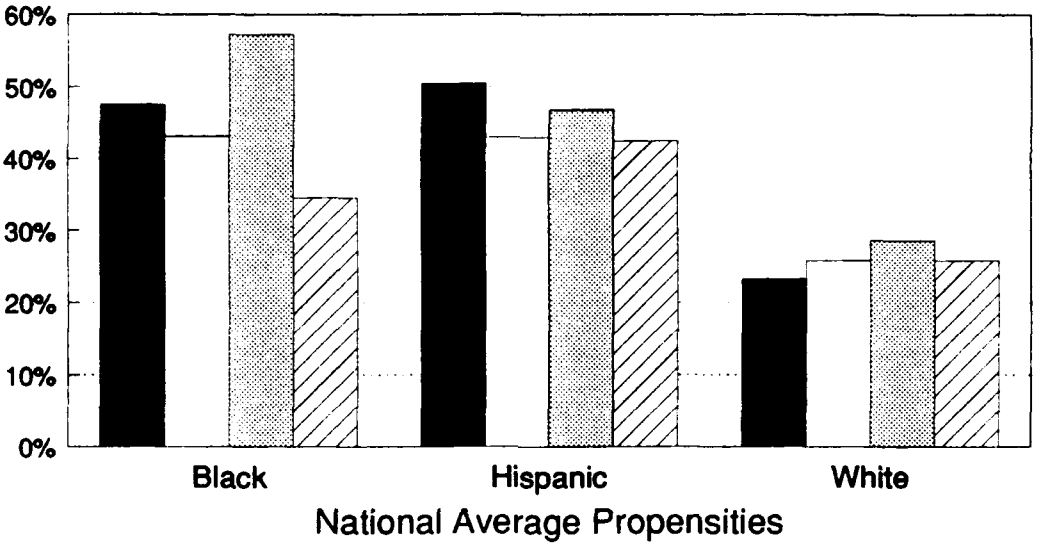
The finding of a significant interaction of Census region with race/ethnicity means that the Census region effect observed previously in Figure 3.2 varies for the different racial/ethnic groups. Figure 3.3 graphically portrays the race/ethnicity by Census region interaction (see Appendix G for detailed estimates and significance tests). Three key findings are evident from Figure 3.3:

- Whites showed no significant regional variation in propensity, whereas Blacks and Hispanics did.
- Hispanics were more likely to express positive propensity in the Northeast than in the other three regions.
- Blacks were more likely to express positive propensity in the South and in the Northeast than in the other two regions.

Thus, the findings indicate that, after adjusting for sociodemographic variation, regional differences are still evident among Blacks and Hispanics. This means that regional differences in propensity are not explained solely by different patterns of sociodemographic characteristics among young men in the regions.

Although our data do not directly identify other factors besides sociodemographic differences that account for the regional variation in propensity, it seems likely that such factors include attitudes and perceptions about the Military. These other factors may include perceptions of more opportunities in the Military relative to other opportunities; the training and challenges offered by the Military; opportunities for adventure and travel; a way to earn money for a college education; and the like. For whatever reason, Blacks and Hispanics in the Northeast and Blacks in the South were significantly more likely to be favorable toward military service than were their counterparts in other regions (Figure 3.3).

Figure 3.3 Positive Propensity by Census Region for Blacks, Hispanics, and Whites



Note. Results are adjusted for effects of other sociodemographic variables.

Source. Youth Attitude Tracking Study, 1984-1988.

4. ENLISTMENT PROPENSITY IN MILITARY RECRUITING DISTRICTS

Just as the Military Services have developed and used tactical formations to fight battles, they have also developed recruiting field organizations to compete with the civilian job sectors to identify and recruit young people who can successfully adapt to military life, learn the skills of occupational specialties, and perform their jobs well. The Army has formed its field organizations in Recruiting Brigades, the Navy has established Recruiting Areas, the Marine Corps has organized Recruiting Districts, and the Air Force has formed Recruiting Groups. In this chapter, we sometimes use the term "district" in a generic sense to refer to the field organizations of any of the Services.

These field organizations are designed to meet the specific requirements of each Military Service, and they normally provide the first military contact with individuals interested in enlistment. They also represent the Department of Defense and the Military Services in a variety of functions such as visiting high schools and civic organizations throughout the Nation. These organizations are the front-line vanguard formations that maintain the lifeline of young men and women volunteers needed by the Military Services to man and operate today's modern military force.

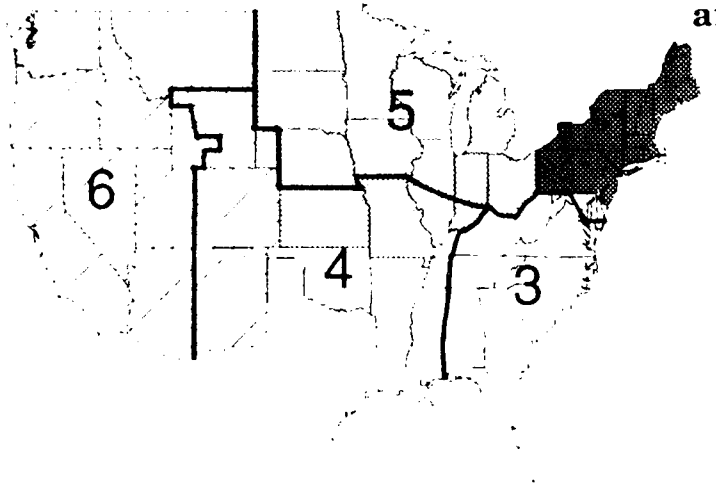
In this chapter, we examine the relationship of the field organizations' boundaries to Census region boundaries. We then assess the enlistment propensity of young men in the recruiting districts established by each Military Service and contrast those with propensity in the Census regions.

A. Relationship of Military Recruiting Districts to Census Regions

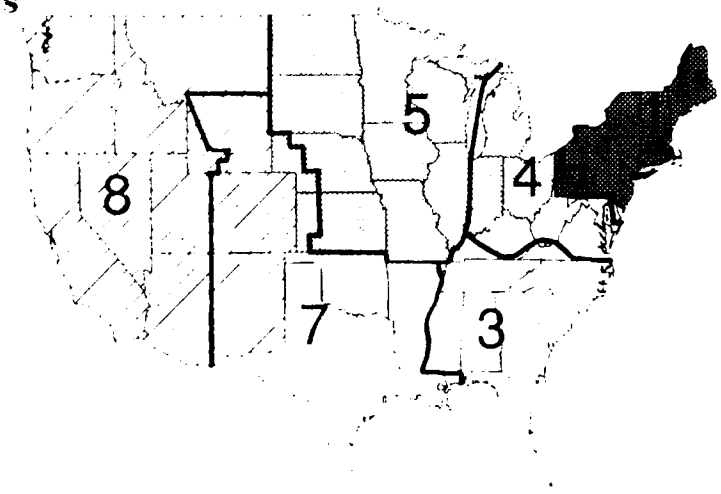
Figure 4.1 depicts the location of military recruiting districts in relation to the four Census regions of the United States (Northeast, North Central, South, and West). As shown, the Military Services have developed recruiting organizations that, with one exception, are not consistent with the boundaries of established Census regions. The one exception is the Northeast region, which is sufficiently confined geographically and is populated to warrant a separated military recruiting district. The Army and the Air Force are similar in that they have five recruiting districts; likewise, the Navy and Marine Corps are similar in that they have six recruiting districts.

Inspection of the Army Brigades and Census regions indicates considerable overlap among portions of them. The Third and Fourth Army Recruiting Brigades, for example, span the South region. Additionally, the Army's Fourth Recruiting Brigade has responsibility for the southern portion of the North Central region and the eastern portion of the West region. The Fifth Recruiting Brigade has responsibility for most of the North

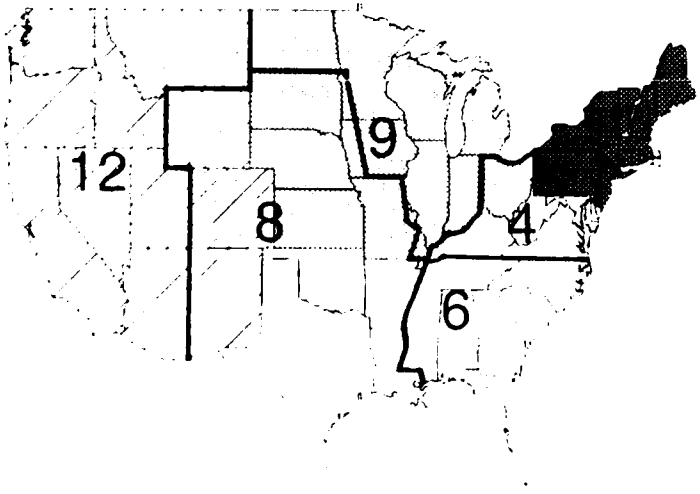
Figure 4.1 Military Service Recruiting Districts and Census Regions



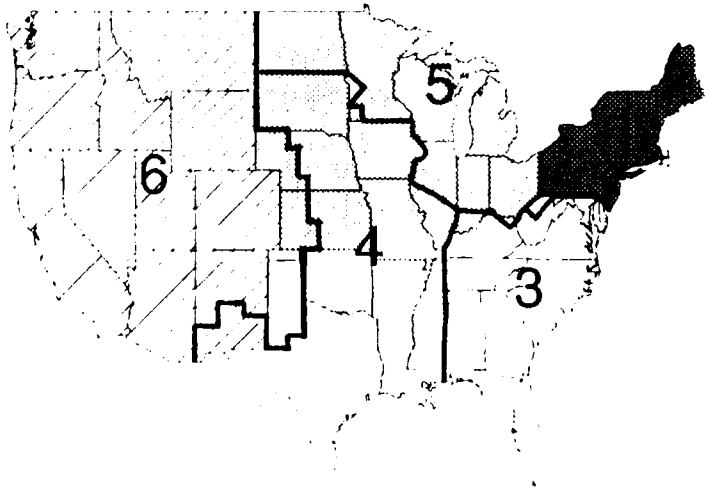
Army Recruiting Brigades



Navy Recruiting Areas



Marine Corps Recruiting Districts



Air Force Recruiting Groups

Northeast | North Central | South | West | # Military Recruiting District

Central region (except the southern part that is the responsibility of the Fourth Recruiting Brigade). The Sixth Recruiting Brigade has responsibility for all of the West region with the exception of some of the eastern area, which is the responsibility of the Fourth Recruiting Brigade.

The Navy's Fourth Recruiting Area is comprised of areas defined by the South and North Central regions, while the Third Recruiting Area is located entirely in the South region. The Navy's Fifth Recruiting Area is located exclusively in the North Central region, while the Seventh Recruiting Area consists of areas located in the South, North Central, and West regions. Finally, the Navy's Eighth Recruiting Area is comprised entirely of the West region.

The Marine Corps' Fourth Recruiting District contains areas located in both the South and North Central regions. The Sixth Recruiting District is located exclusively in the South region and the Ninth Recruiting District is located entirely in the North Central region. The Marine Corps has assigned the Eighth Recruiting District geographical areas located in the South, North Central, and West regions. Lastly, the Twelfth Marine Recruiting District has responsibility for the West region with the exception of the some of the eastern areas located in this Census region, which are assigned to the Eighth Recruiting District.

The Air Force's Third Recruiting Group is located exclusively in the South region, while its Fourth Recruiting Group contains areas located in both the South and North Central regions. The Air Force's Fifth Recruiting Group is located in the northern areas of the North Central region. Interestingly, unlike the other Military Services, the Air Force has not subdivided the West region, but has assigned all of this area plus some of the South region to the Sixth Recruiting Group.

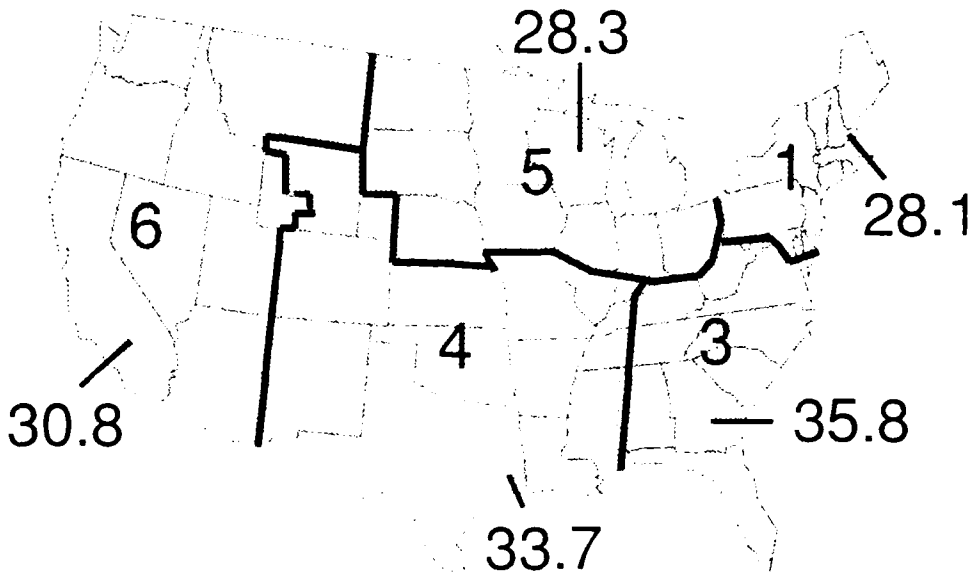
B. Propensity in Military Recruiting Districts

1. Army Recruiting Brigades

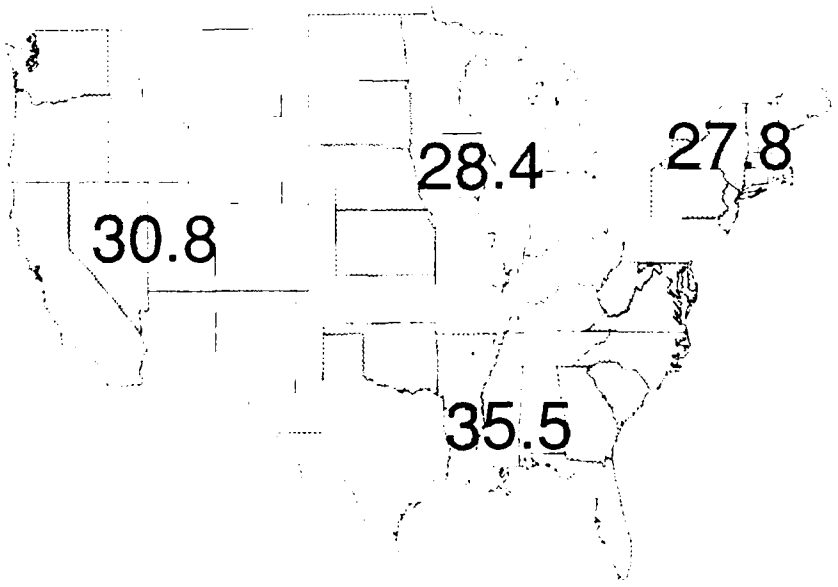
Figure 4.2 shows the estimates of positive propensity for the five Army Recruiting Brigades (top part of figure) and the estimates of positive propensity for the four Census Regions (bottom part of figure). Given the notable overlap between areas for the two types of classifications, it was expected that propensity estimates from the two approaches would be similar. As can be seen, this was the case. Enlistment propensity was highest for the Army's Third Recruiting Brigade (35.8%) and the Fourth Recruiting Brigade (33.7%). These percentages are somewhat higher than the overall national average of 31.1%, but very similar to propensity in the Census region for the South (35.5%).

The brigades with the lowest propensity were in the Northeast area assigned to the Army's First Recruiting Brigade (28.1%) and in the upper Midwest, which is the responsibility of the Fifth Recruiting Brigade (28.3%). The Army's Sixth Recruiting Brigade was assigned a geographical area that showed 30.8% composite active propensity.

Figure 4.2 Positive Composite Active Propensity in U.S. Army Recruiting Brigades and Census Regions



Propensity in United States Army Recruiting Brigades



Propensity in Census Regions of the United States

2. Navy Recruiting Areas

Figure 4.3 provides the percentages of young men in each of the Navy's six Recruiting Areas reporting positive propensity (upper portion) and corresponding propensity estimates for the Census regions (lower portion). As shown, young men living in the Navy's Third (36.4%) and Seventh (34.9%) Recruiting Areas were most likely to report composite active propensity. This is higher than the overall average propensity of 31.1% reported for enlistment in the Military. Composite active propensity was lowest in the Navy's First Recruiting Area (27.5%) located in the industrialized northeastern United States. The levels of composite active propensity reported for the Navy's Fourth, Fifth, and Eighth Recruiting Areas were 29.5%, 28.3%, and 30.9%, respectively. Comparisons of expressed propensity in Navy Recruiting Areas and in corresponding Census regions show them to be highly similar.

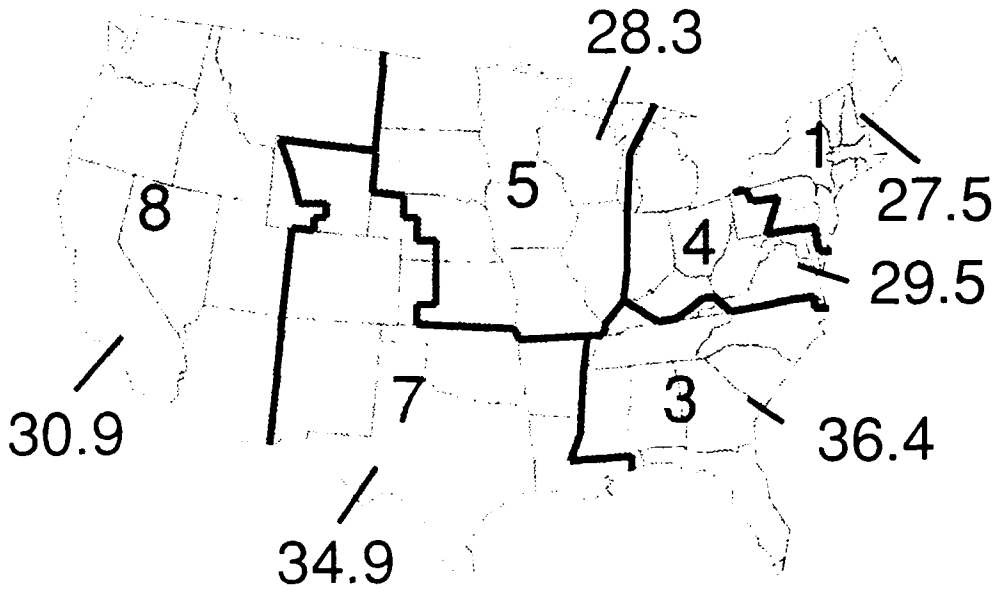
3. Marine Corps Recruiting Districts

Figure 4.4 presents the propensity for each of the six Recruiting Districts established by the Marine Corps (upper portion) and for the U.S. Census regions (bottom portion). As a point of reference, the overall reported propensity is 31.1%. More than one third of the young men in the southeastern and south central United States reported positive composite active propensity for military service. These geographical areas correspond to the Sixth (36.6%) and Eighth (33.6%) Marine Corps Recruiting Districts. Conversely, the lowest propensity occurred in the Ninth Marine Corps Recruiting District (27.4%) and in the First Marine Corps Recruiting District (28.3%). Finally, expressed propensity of young men in the Fourth Marine Corps Recruiting District (30.0%) and in the Twelfth Marine Corps Recruiting District (30.9%) was near the national average of 31.1%. As with the Army and Navy, propensity in the Marine Corps Recruiting Districts was highly similar to that in the comparable Census regions.

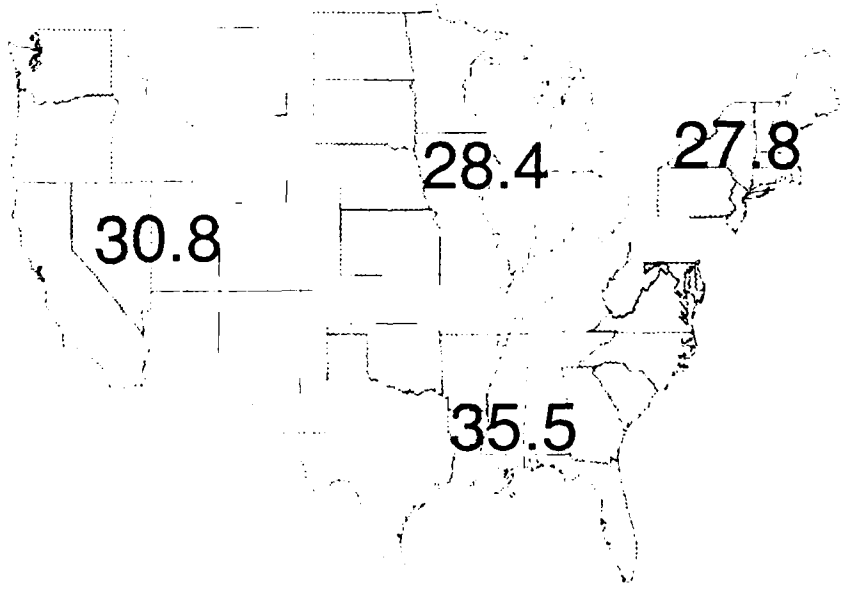
4. Air Force Recruiting Groups

Figure 4.5 provides the estimates of composite active propensity for the six Air Force Recruiting Groups (upper portion) and for the U.S. Census regions (bottom portion). As shown, propensity was highest in the Third (35.3%) and Fourth (33.5%) Recruiting Groups, which encompass the southern United States and most of the Midwest. Propensity was lowest in the First Air Force Recruiting Group in the Northeast (27.8%) and in the Fifth Air Recruiting Force Group (28.2%) in the mid-northern section of the country. Propensity for young men located in Sixth Air Force Recruiting Group's geographical area of responsibility was 30.9%. Propensity in the Recruiting Groups was highly similar to that in the corresponding Census regions.

Figure 4.3 Positive Composite Active Propensity in U.S. Navy Recruiting Areas and Census Regions

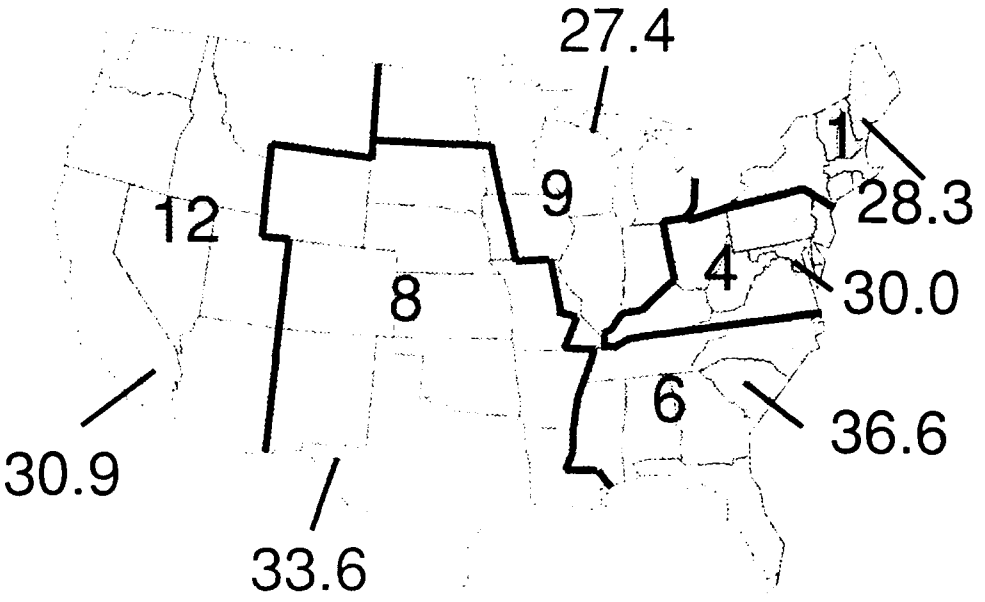


Propensity in United States Navy Recruiting Areas

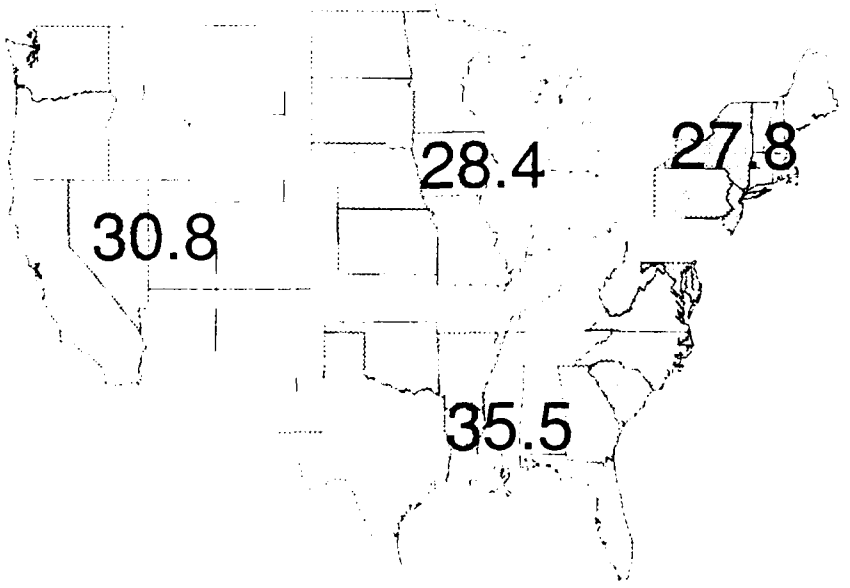


Propensity in Census Regions of the United States

Figure 4.4 Positive Composite Active Propensity in U.S. Marine Corps Recruiting Districts and Census Regions

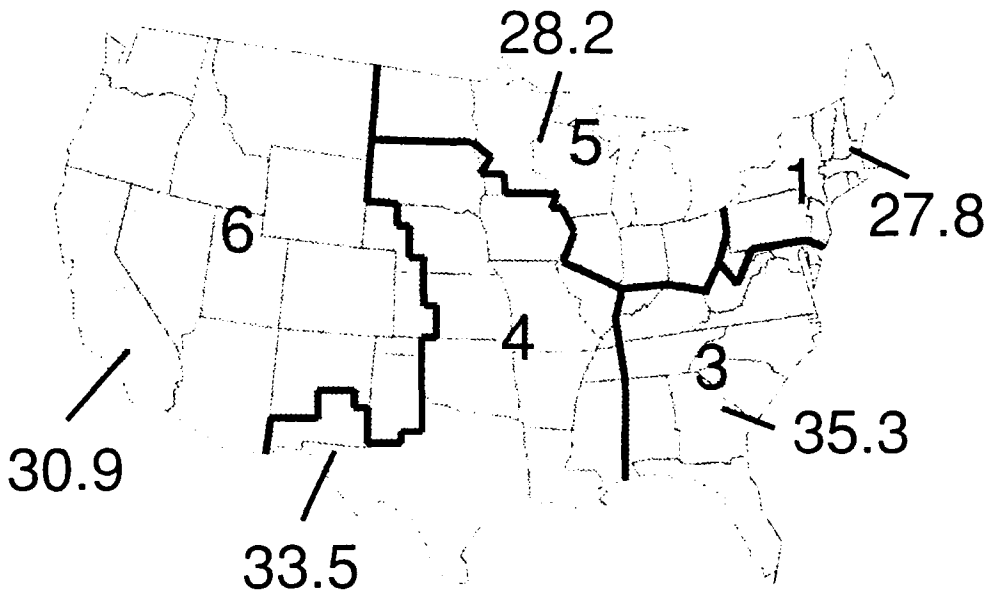


Propensity in United States Marine Corps Recruiting Districts

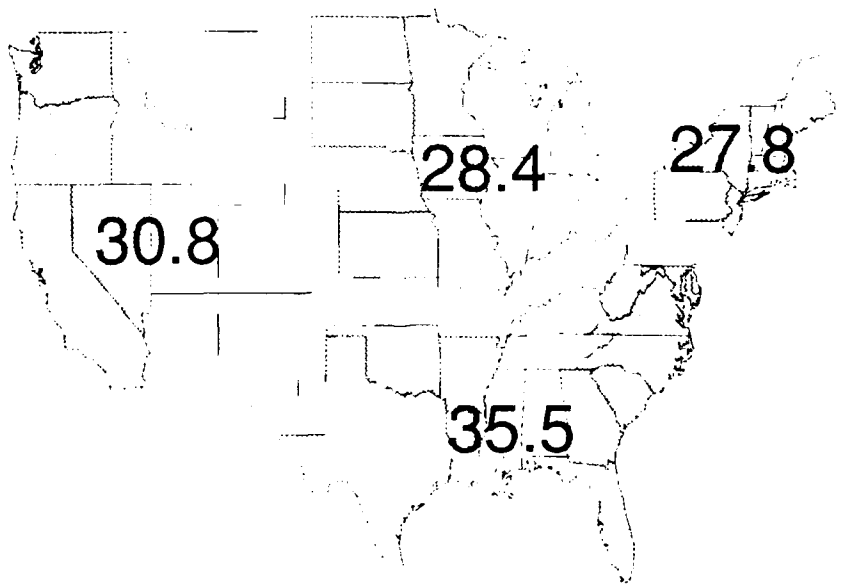


Propensity in Census Regions of the United States

Figure 4.5 Positive Composite Active Propensity in U.S. Air Force Recruiting Groups and Census Regions



Propensity in United States Air Force Recruiting Groups



Propensity in Census Regions of the United States

5. Recruiting Districts and Census Regions

As we have observed, each Service has formed recruiting districts to meet its mission requirements. These (generic) districts have divided the geography of the country into broad areas that are roughly similar, although distinct in detail. These districts contrast with the four familiar Census regions of the contiguous States. Propensity among the Services' respective recruiting districts and the corresponding Census regions was remarkably similar. The variation observed in the Census regions was also parallel in the recruiting districts. This is not surprising because data for the Census regions and recruiting districts are drawn to a large extent from the same people. That is, many of the same young men overlap across the areas.

The high degree of similarity between findings of the recruiting districts and Census regions suggests that the underlying differences examined in Chapter 3 will apply in the recruiting districts; consequently, these analyses will not be repeated here. In general, it seems safe to assert that differences in propensity between the recruiting districts and the Census regions is a function of where the boundaries are drawn. Within the recruiting districts, just as within Census regions, propensity is shaped by the configuration of the sociodemographic characteristics, attitudes, and perceptions of the young men who comprise them.

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APPENDIX A

METHODOLOGY

This appendix describes the methodology of the 1984-1988 YATS II surveys. The discussion of methods includes the sampling design, data collection and survey performance rates, and the combination of the 1984-1988 data sets.

A. Sampling Design

The YATS II surveys were designed to obtain information from four market groups of interest to the Military: men and women aged 16 to 21 and men and women aged 22 to 24. The market group of most interest to the Military, however, and the group of interest in this report, is young men.

To be eligible for inclusion in YATS II, individuals had to reside in the continental United States in households or noninstitutional group quarters with telephones. This includes households of traditional nuclear families, or 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 Programs and those with prior military service (other than high school ROTC), were also excluded.

The sample size and allocation for young men were determined from DoD specifications of precision requirements for estimates of propensity. Precision requirements are stated in terms of the maximum values of the standard error associated with the estimated proportion of persons in each reporting domain with positive propensity for active service. The maximum standard error for the enlistment propensity of young men was .01 for national-level estimates.

YATS II used a two-stage sampling design stratified by 66 geographic areas represented by the DoD Military Entrance Processing Stations (MEPS) in the continental United States. The sampling design is based on the Mitofsky/Waksberg random digit dialing procedure (Waksberg, 1978) and produces an equal probability sample of households within each MEPS. Under this procedure, telephone numbers within MEPS 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 and eligible respondents who live there. This approach is efficient because many exchanges have disproportionately high percentages of residential telephone numbers. When the first call to an exchange yields

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 and Survey Performance Rates

Data for the YATS II surveys consisted of responses to questionnaires administered in 30-minute computer assisted telephone interviews. A Computer Assisted Telephone Interviewing (CATI) system was used for all five YATS II surveys in the combined data set. With this system, questionnaires for screening (eligibility determination), interviewing, and verification were programmed, entered, and stored within the computer. Instructions and questionnaire items appeared on the screen in the proper sequence. Inconsistent, invalid, and incomplete responses were resolved as an ongoing part of the interviews.

In general, YATS II data collection efforts began in July and continued through November. Data collection involved making phone calls to eligible households identified in the two-stage sampling design, and interviewing eligible young men. Numerous calls and attempts to overcome initial refusals were conducted to complete household screening for all sample numbers and to administer a questionnaire to all selected eligibles. A thorough effort was made to obtain high response rates within the given schedule constraints.

Table A.1 presents the analysis interviews, interview completion rates, and overall response rates for each of the five studies. As shown, the final sample sizes from the 5 years provided a composite sample of 27,046 interviews. The completion rate and response rate information are important to assess the quality of survey field operations and the potential for nonresponse bias in the data. The overall interview completion rate (i.e., the percentage of completed interviews out of the total number of eligible respondents selected) is 79%. The percentages are relatively constant across the 5-year period, ranging from a high of 80.4% in 1986 to a low of 77.3% in 1988.

Final response rates, which were computed by multiplying the interview completion rates by the household screening rates, are also similar for the 5-year period included in the report and produce an average overall response rate of 76.6%.

C. Combining 1984-1988 YATS II Data Sets

The YATS data sets for young men from 1984 through 1988 were concatenated into a single data set with 27,046 respondents using the year of the survey as an extra level of stratification. Combining the data in this manner is possible because the annual surveys can be considered independent and, thus, the covariance between the annual data sets is zero. This approach takes weighted averages for the years and allows the estimation of the variances for the means and ratios appropriately. Some variables of interest (e.g., years of education completed) were then recoded as needed to account for changes in the questions over time.

Table A.1 Combined YATS II Data Sets for Young Men

Measure	Year of survey					
	1984	1985	1986	1987	1988	Total
Analysis interviews	5,058	5,478	5,382	5,642	5,486	27,046
Interview completion rate	78.5	77.7	80.4	80.3	77.3	79.0
Overall response rate	75.0	70.9	77.1	77.1	74.6	76.6

Note. Data reported are for 16- to 21-year-old men. Analysis interviews are frequencies; completion rate and response rate are percentages.

Source. Youth Attitude Tracking Study, 1984-1988.

Table A.2 shows the distribution of the sociodemographic characteristics of young men for each of the 1984-1988 YATS surveys. The tabled values are estimates of the percentage of the population with the characteristics that define the cell. The sample sizes presented for each year are unweighted and indicate the number of interviews upon which the population estimates are based. The percentage estimates presented in the table, however, are based on weighted data and can be generalized to the YATS population of young men.

As shown in Table A.2, the sociodemographic characteristics of young men are relatively stable, with only modest variation from year to year. For each survey year, approximately one half of the population was 16 or 17 years old with the percentage of the eligible population decreasing as age increased. Just over 75% of the population were white. The greatest variation occurred in educational and employment status, perhaps reflecting the real and perceived economic conditions of the survey year, but even these differences were reasonably small.

Table A.3 shows the percentage of young men with propensity for the four Services for each year (1984-1988). With few exceptions, the data remain fairly consistent from year to year.

The similarities in sociodemographic characteristics and propensity observed in Tables A.2 and A.3, along with the fact that sampling, weighting, and data collection efforts remained comparable from 1984 through 1988, support the decision to combine the information on young men collected during the five annual YATS studies into a single data set.

Table A.2 Sociodemographic Characteristics of YATS Population by Survey Year, 1984-1988 for Young Men

Variable/response	Year of survey				
	1984 (N=5,058)	1985 (N=5,478)	1986 (N=5,382)	1987 (N=5,642)	1988 (N=5,486)
Age					
16	23.0	24.0	26.5	25.7	24.4
17	21.9	22.6	22.7	26.1	25.3
18	19.2	17.2	17.1	17.7	15.3
19	14.8	14.0	14.1	13.1	15.3
20	11.4	11.3	10.7	9.2	8.8
21	9.7	10.8	8.9	8.1	8.3
Race/ethnicity					
White	77.1	76.8	76.1	76.4	75.7
Black	12.2	11.2	12.0	10.9	10.4
Hispanic	8.0	9.2	8.5	8.9	10.8
Other	2.7	2.8	3.3	3.8	3.2
School status[a]					
Postsecondary student	19.0	16.3	15.9	15.4	15.7
High school graduate	24.3	22.9	22.0	19.1	19.4
High school senior	19.4	15.9	20.4	21.9	20.0
Nonsenior high school student	18.8	21.3	26.0	26.4	23.8
Noncompleter	18.6	23.6	15.8	17.2	21.1
Employment status					
Employed full time	34.6	31.6	29.7	28.5	29.8
Employed part time	26.7	27.8	29.6	32.2	30.3
Unemployed, looking	21.5	23.5	21.4	20.1	20.0
Unemployed, not looking	17.1	17.1	19.3	19.2	19.9

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages. Estimates are based on some variables for which there may be missing information.

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

Source. Youth Attitude Tracking Study, 1984-1988.

Table A.3 Trends in Positive Propensity and Combined Propensity for Young Men

Propensity measure	Year of survey										Combined propensity ('84-'88)	
	1984		1985		1986		1987		1988			
Composite active	29.9	(0.8)	29.8	(0.8)	32.0	(0.8)	32.4	(0.8)	32.1	(1.0)	31.1	(0.4)
Army	14.3	(0.6)	14.7	(0.6)	15.8	(0.6)	15.5	(0.7)	15.2	(0.7)	15.0	(0.3)
Navy	10.9	(0.5)	10.6	(0.5)	11.1	(0.5)	12.3	(0.6)	12.3	(0.7)	11.4	(0.3)
Marine Corps	9.6	(0.5)	10.2	(0.5)	11.2	(0.5)	11.4	(0.5)	12.0	(0.7)	10.8	(0.2)
Air Force	15.3	(0.6)	14.9	(0.6)	16.0	(0.6)	18.2	(0.7)	16.4	(0.7)	16.1	(0.3)

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages with standard errors in parentheses.

Source. Youth Attitude Tracking Study, 1984-1988.

APPENDIX B

ENLISTMENT PROPENSITY AND SOCIODEMOGRAPHIC CHARACTERISTICS IN U.S. CENSUS DIVISIONS

Table B.1 Selected Sociodemographic Characteristics by Census Region

Variable/response	Census region							
	Northeast (N=5,670)		North Central (N=6,021)		South (N=10,295)		West (N=5,060)	
Age								
16	24.4	(0.7)	24.0	(0.7)	25.2	(0.6)	24.7	(0.8)
17	23.0	(0.7)	24.7	(0.7)	23.1	(0.5)	23.9	(0.8)
18	19.3	(0.8)	17.6	(0.6)	17.2	(0.5)	17.9	(0.7)
19	13.9	(0.6)	14.3	(0.6)	14.9	(0.4)	13.4	(0.6)
20	10.1	(0.5)	10.8	(0.5)	10.2	(0.4)	10.5	(0.6)
21	9.3	(0.5)	8.7	(0.4)	9.5	(0.4)	9.6	(0.7)
Race/ethnicity								
White	80.9	(0.7)	85.4	(0.6)	71.4	(0.6)	69.2	(0.9)
Black	10.0	(0.6)	8.6	(0.5)	18.1	(0.6)	4.7	(0.4)
Hispanic	6.8	(0.5)	3.9	(0.3)	8.6	(0.4)	18.7	(0.7)
Other	2.3	(0.2)	2.2	(0.3)	1.9	(0.2)	7.4	(0.6)
School status[a]								
Postsecondary student	17.3	(0.7)	16.4	(0.6)	15.0	(0.5)	18.5	(0.7)
High school graduate	23.0	(0.7)	22.4	(0.7)	21.8	(0.5)	19.1	(0.8)
High school student	41.4	(0.9)	43.2	(0.8)	42.1	(0.6)	43.3	(0.9)
Noncompleter	18.2	(0.7)	18.0	(0.7)	21.1	(0.6)	19.1	(0.8)

Note. Data reported are for 16- to 21-year-old men. Tabled values are column percentages with standard errors in parentheses. Sample sizes are unweighted and based on interviews with 27,046 young males. Weighted percentages may be estimated from fewer than the reported sample sizes because of missing responses.

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

Source. Youth Attitude Tracking Study, 1984-1988.

Table B.2 Selected Sociodemographic Characteristics by Census Division

Variable/response	Census division								
	New England (N=2,108)	Middle Atlantic (N=3,562)	East North Central (N=4,368)	West North Central (N=1,653)	South Atlantic (N=5,511)	East South Central (N=1,759)	West South Central (N=3,025)	Mountain (N=1,374)	Pacific (N=3,686)
Age									
16	25.7	23.9	23.0	26.4	24.9	23.8	26.4	27.2	23.7
17	22.8	23.1	24.3	25.6	23.5	23.7	22.1	24.3	23.7
18	19.5	19.2	17.9	16.7	17.4	17.2	16.8	16.0	18.6
19	13.0	14.3	14.4	13.8	14.3	15.9	15.3	11.9	14.9
20	11.1	9.7	11.1	10.0	10.5	9.4	10.2	10.9	10.3
21	7.9	9.8	9.2	7.4	9.6	9.9	9.2	9.7	9.5
Race/ethnicity									
White	89.9	77.7	83.0	91.5	71.8	75.1	68.6	79.2	65.2
Black	4.2	12.0	10.5	3.8	20.0	21.2	13.6	2.8	5.5
Hispanic	3.9	7.8	4.4	2.6	6.4	2.3	15.5	14.1	20.6
Other	2.0	2.5	2.2	2.1	1.9	1.5	2.2	3.9	8.7
School status[a]									
Postsecondary student	17.6	17.3	16.7	15.9	15.1	14.8	15.0	16.1	19.5
High school graduate	22.4	23.2	23.1	20.8	22.3	21.2	21.3	20.1	18.8
High school senior	22.1	19.7	19.6	21.4	17.6	18.8	17.0	19.1	21.0
Nonsenior high school student	20.6	21.3	22.0	25.5	23.1	24.2	26.2	24.0	22.3
Noncompleter	17.3	17.6	18.7	16.4	21.6	21.0	20.5	20.7	18.5
Employment status									
Employed full time	37.1	31.9	31.2	25.8	35.2	29.6	29.3	30.4	28.4
Employed part time	31.9	29.9	29.8	38.7	26.9	22.9	24.4	28.6	30.3
Unemployed, looking	12.2	20.6	22.2	18.3	20.5	25.3	25.3	22.4	22.9
Unemployed, not looking	15.8	18.6	16.8	17.1	17.4	22.2	21.1	18.6	19.3

Note. Data reported are for 16- to 21-year-old men. Tabled values are column percentages. Sample sizes are unweighted and based on interviews with 27,046 men. Estimates are based on some variables for which there may be missing information.

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

Source. Youth Attitude Tracking Study, 1984-1988.

Table B.3 Composite Active Propensity for Selected Sociodemographic Characteristics by Census Division

Variable/response	Census division								
	New England (N=2,108)	Middle Atlantic (N=3,562)	East North Central (N=4,368)	West North Central (N=1,653)	South Atlantic (N=5,511)	East South Central (N=1,759)	West South Central (N=3,025)	Mountain (N=1,374)	Pacific (N=6)
Age									
16	42.4	36.5	42.0	34.1	46.0	43.5	43.2	4	2
17	32.8	30.8	33.3	28.1	42.8	40.2	38.9	3	
18	23.4	24.8	28.5	22.3	32.6	32.6	34.1	2	
19	16.3	25.6	22.2	27.1	26.0	30.7	32.4	21.5	4
20	13.0	19.0	13.4	24.0	23.5	30.8	26.7	16.0	20 1
21	17.0	17.1	14.0	13.1	23.2	19.5	22.8	21.8	19 1
Race/ethnicity									
White	25.8	22.1	26.0	25.3	28.9	29.1	27.8	27.0	25.2
Black	45.7	47.8	42.3	48.5	57.6	56.9	56.5	39.9	33.4
Hispanic	53.2	49.9	46.1	29.4	43.2	34.7	49.9	41.6	42.6
Other	29.4	39.6	38.8	60.9	31.3	41.7	38.9	66.3	41.5
School status[a]									
Postsecondary student	10.5	11.9	10.5	11.5	17.0	18.4	18.1	12.5	15.9
High school graduate	19.1	20.4	18.5	23.9	25.2	26.5	26.9	22.7	22.0
High school senior	33.0	29.0	34.6	25.3	41	39.2	36.0	36.1	36.0
Nonsenior high school student	43.1	42.2	43.8	36.0	49.8	45.7	46.7	43.1	44.1
Noncompleter	32.1	34.0	34.4	34.5	39.1	40.4	42.6	34.2	33.1
Employment status									
Employed full time	23.9	22.2	18.7	19.7	27.2	26.0	31.1	23.6	24.1
Employed part time	33.9	27.2	29.6	26.9	38.0	36.0	34.7	34.4	30.2
Unemployed, looking	32.5	40.0	43.9	42.7	51.0	49.3	47.1	38.2	44.1
Unemployed, not looking	20.2	24.5	26.7	21.5	30.2	30.9	28.9	28.9	26.4
Predicted aptitude[b]									
Higher aptitude	22.6	20.6	22.1	21.7	25.6	25.1	25.7	24.5	24 3
Lower aptitude	36.8	37.9	37.6	35.6	44.0	43.5	44.7	40.1	38.7
Total	27.9	27.8	28.9	27.0	35.5	35.2	35.5	30.9	30.7

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages. Sample sizes are unweighted and based on interviews with 27,046 men. Estimates are based on some variables for which there may be missing information.

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

[b]Higher aptitude is defined as the predicted probability of scoring in Categories I-IIIA (precentiles 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. Youth Attitude Tracking Study, 1984-1988.

APPENDIX C

ENLISTMENT PROPENSITY AND SOCIODEMOGRAPHIC CHARACTERISTICS IN ARMY RECRUITING BRIGADES

Table C.1 Selected Sociodemographic Characteristics by Army Recruiting Brigade

Variable/response	Recruiting brigade					
	Brigade 1 (N=6,230)	Brigade 3 (N=6,269)	Brigade 4 (N=4,855)	Brigade 5 (N=5,162)	Brigade 6 (N=4,465)	Total (N=26,981)
Age						
16	23.9 (0.7)	25.2 (0.7)	25.6 (0.9)	24.1 (0.8)	24.8 (0.9)	24.7 (0.3)
17	23.3 (0.7)	23.3 (0.7)	23.7 (0.8)	24.2 (0.7)	23.5 (0.8)	23.6 (0.3)
18	19.1 (0.7)	17.2 (0.6)	17.4 (0.7)	17.1 (0.6)	18.3 (0.8)	17.9 (0.3)
19	14.2 (0.6)	14.5 (0.6)	14.3 (0.6)	14.7 (0.6)	13.6 (0.7)	14.3 (0.3)
20	10.3 (0.5)	10.2 (0.5)	10.1 (0.5)	10.9 (0.6)	10.3 (0.6)	10.4 (0.2)
21	9.2 (0.5)	9.6 (0.5)	8.9 (0.5)	9.0 (0.5)	9.5 (0.7)	9.2 (0.2)
Race/ethnicity						
White	79.6 (0.7)	74.8 (0.8)	72.3 (0.9)	84.7 (0.7)	69.0 (1.0)	76.5 (0.4)
Black	11.5 (0.6)	18.0 (0.7)	13.4 (0.7)	8.9 (0.5)	4.9 (0.4)	11.4 (0.3)
Hispanic	6.6 (0.4)	5.4 (0.4)	12.1 (0.6)	4.3 (0.3)	18.4 (0.8)	9.0 (0.2)
Other	2.3 (0.2)	1.8 (0.2)	2.3 (0.3)	2.2 (0.3)	7.8 (0.6)	3.1 (0.2)
School status[a]						
Postsecondary student	17.3 (0.6)	14.4 (0.6)	15.2 (0.7)	17.0 (0.7)	18.6 (0.8)	16.5 (0.3)
High school graduate	23.4 (0.7)	21.5 (0.6)	21.3 (0.8)	22.4 (0.7)	19.0 (0.9)	21.7 (0.3)
High school senior	20.1 (0.6)	18.0 (0.6)	18.8 (0.7)	19.7 (0.7)	20.4 (0.8)	19.4 (0.3)
Nonsenior high school student	20.8 (0.7)	23.9 (0.7)	25.4 (0.9)	22.9 (0.7)	22.7 (0.8)	23.0 (0.3)
Noncompleter	18.3 0.7)	22.1 (0.7)	19.3 (0.8)	18.0 (0.7)	19.4 (0.9)	19.3 (0.3)
Employment status						
Employed full time	33.6 (0.8)	33.3 (0.7)	28.2 (0.9)	30.1 (0.8)	29.1 (1.0)	31.0 (0.4)
Employed part time	30.4 (0.8)	25.9 (0.7)	27.5 (0.9)	32.0 (0.8)	29.6 (0.9)	29.2 (0.4)
Unemployed, looking	18.5 (0.6)	21.9 (0.7)	24.3 (0.8)	20.8 (0.7)	22.1 (0.9)	21.4 (0.3)
Unemployed, not looking	17.5 (0.6)	18.9 (0.6)	20.1 (0.8)	17.1 (0.7)	19.1 (0.8)	18.4 (0.3)
Total	23.9 (0.3)	18.4 (0.3)	19.4 (0.3)	21.0 (0.3)	17.3 (0.3)	100.0 N/A

Note. Data reported are for 16- to 21-year-old men. Tabled values are column percentages with standard errors in parentheses. Sample sizes are unweighted and based on interviews with 27,046 men. Estimates are based on some variables for which there may be missing information.

N/A = Not applicable.

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

Source. Youth Attitude Tracking Study, 1984-1988.

Table C.2 Composite Active Propensity for Selected Sociodemographic Characteristics by Army Recruiting Brigade

Variable/response	Recruiting brigade					
	Brigade 1 (N=6,230)	Brigade 3 (N=6,269)	Brigade 4 (N=4,855)	Brigade 5 (N=5,162)	Brigade 6 (N=4,465)	Total (N=26,981)
Age						
16	38.6 (1.6)	45.3 (1.6)	41.9 (2.0)	40.6 (1.8)	41.6 (2.0)	41.4 (0.8)
17	31.8 (1.5)	42.6 (1.6)	37.9 (1.8)	31.9 (1.6)	36.4 (1.8)	35.8 (0.7)
18	25.6 (1.6)	32.6 (1.8)	29.8 (2.1)	27.6 (2.0)	27.4 (2.1)	28.3 (0.9)
19	23.2 (2.0)	28.1 (2.0)	30.7 (2.4)	22.2 (2.0)	22.0 (2.3)	25.2 (1.0)
20	16.7 (1.8)	25.6 (2.0)	24.9 (2.5)	14.8 (2.1)	21.2 (3.0)	20.2 (1.0)
21	17.2 (2.0)	22.9 (2.2)	21.9 (2.8)	13.1 (1.9)	18.4 (2.5)	18.6 (1.0)
Race/ethnicity						
White	23.1 (0.8)	30.2 (0.8)	26.7 (1.0)	25.6 (0.9)	25.9 (1.1)	26.1 (0.4)
Black	48.9 (2.6)	57.5 (1.8)	55.8 (2.5)	43.0 (2.7)	34.6 (4.1)	50.9 (1.2)
Hispanic	48.7 (3.2)	43.2 (3.2)	47.4 (2.5)	43.7 (4.1)	42.8 (2.1)	45.1 (1.3)
Other	36.5 (4.9)	31.9 (4.8)	52.8 (5.7)	42.2 (6.4)	43.2 (4.1)	42.0 (2.4)
School status[a]						
Postsecondary student	11.2 (1.2)	19.0 (1.9)	15.8 (1.7)	10.7 (1.3)	15.5 (1.6)	14.0 (0.7)
High school graduate	21.0 (1.4)	24.5 (1.5)	27.4 (1.9)	18.1 (1.4)	22.5 (2.3)	22.5 (0.8)
High school senior	30.4 (1.6)	41.5 (1.7)	33.4 (1.8)	32.9 (1.9)	36.6 (2.0)	34.5 (0.8)
Nonsenior high school student	42.5 (1.7)	49.0 (1.7)	45.0 (2.0)	42.2 (1.8)	43.7 (2.1)	44.4 (0.8)
Noncompleter	34.2 (1.9)	39.0 (1.6)	40.4 (2.3)	34.8 (2.0)	32.5 (2.1)	36.2 (0.9)
Employment status						
Employed full time	23.3 (1.2)	26.5 (1.2)	28.4 (1.7)	18.5 (1.2)	24.0 (1.7)	24.0 (0.6)
Employed part time	29.4 (1.4)	38.5 (1.5)	32.7 (1.8)	29.4 (1.4)	30.5 (1.7)	31.7 (0.7)
Unemployed, looking	39.2 (1.8)	50.8 (1.7)	46.5 (2.0)	42.4 (1.9)	43.8 (2.1)	44.5 (0.9)
Unemployed, not looking	23.2 (1.6)	31.3 (1.7)	27.3 (1.7)	26.2 (1.9)	27.1 (2.1)	26.9 (0.8)
Predicted aptitude[b]						
Higher aptitude	21.2 (0.7)	26.4 (0.8)	24.5 (0.9)	21.6 (0.7)	24.5 (0.9)	23.3 (0.4)
Lower aptitude	37.8 (1.1)	43.7 (0.9)	43.3 (1.1)	37.5 (1.1)	38.9 (1.2)	40.3 (0.5)
Total	28.1 (0.7)	35.8 (0.8)	33.7 (0.9)	28.3 (0.8)	30.8 (0.9)	31.1 (0.4)

Note. Data reported are for 16- to 21-year-old men. Tabled values are row percentages of each group showing composite active propensity with standard errors in parentheses. Sample sizes are unweighted and based on interviews with 27,046 men. Estimates are based on some variables for which there may be missing information.

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

[b]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. Youth Attitude Tracking Study, 1984-1988.

APPENDIX D

ENLISTMENT PROPENSITY AND SOCIODEMOGRAPHIC CHARACTERISTICS IN NAVY RECRUITING AREAS

Table D.1 Selected Sociodemographic Characteristics by Navy Recruiting Area

Variable/response	Recruiting area						
	Area 1 (N=4,938)	Area 3 (N=5,413)	Area 4 (N=3,299)	Area 5 (N=4,799)	Area 7 (N=4,067)	Area 8 (N=4,524)	Total (N=27,040)
Age							
16	23.8 (0.8)	25.3 (0.7)	23.1 (0.9)	24.7 (0.9)	26.3 (1.0)	24.6 (0.9)	24.6 (0.3)
17	23.3 (0.7)	23.2 (0.7)	23.4 (0.9)	25.3 (0.8)	22.8 (0.8)	23.6 (0.8)	23.6 (0.3)
18	19.2 (0.8)	17.1 (0.6)	18.3 (0.8)	17.2 (0.7)	16.9 (0.8)	18.2 (0.8)	17.8
19	14.2 (0.6)	14.6 (0.6)	15.0 (0.7)	13.6 (0.6)	14.7 (0.7)	13.6 (0.7)	14.3 (0.3)
20	10.2 (0.5)	10.1 (0.5)	11.0 (0.7)	10.6 (0.6)	10.1 (0.6)	10.4 (0.6)	10.4 (0.2)
21	9.3 (0.5)	9.7 (0.5)	9.2 (0.6)	8.6 (0.5)	9.2 (0.6)	9.6 (0.7)	9.3 (0.2)
Race/ethnicity							
White	78.6 (0.8)	72.8 (0.8)	83.3 (0.9)	86.6 (0.7)	68.0 (1.0)	68.9 (1.0)	76.5 (0.4)
Black	11.3 (0.7)	19.5 (0.7)	11.6 (0.8)	7.2 (0.5)	14.9 (0.8)	4.9 (0.4)	11.4 (0.3)
Hispanic	7.6 (0.5)	5.8 (0.4)	3.6 (0.4)	3.9 (0.3)	14.7 (0.7)	18.5 (0.8)	9.0 (0.2)
Other	2.6 (0.3)	1.9 (0.2)	1.5 (0.2)	2.3 (0.4)	2.4 (0.3)	7.7 (0.6)	3.1 (0.2)
School status[a]							
Postsecondary student	18.0 (0.7)	14.6 (0.6)	16.5 (0.8)	15.9 (0.7)	15.5 (0.7)	18.6 (0.8)	16.6 (0.3)
High school graduate	22.3 (0.8)	21.0 (0.7)	25.5 (0.9)	21.8 (0.8)	21.0 (0.9)	18.9 (0.9)	21.7 (0.3)
High school senior	20.8 (0.8)	17.8 (0.6)	18.4 (0.8)	20.6 (0.8)	17.9 (0.7)	20.4 (0.8)	19.4 (0.3)
Nonsenior high school student	20.6 (0.7)	24.3 (0.7)	21.2 (0.9)	23.6 (0.9)	25.9 (0.9)	25.6 (0.8)	23.0 (0.3)
Noncompleter	18.3 (0.8)	22.2 (0.7)	18.4 (0.8)	18.1 (0.8)	19.8 (0.9)	19.5 (0.9)	19.3 (0.3)
Employment status							
Employed full time	33.2 (0.9)	33.9 (0.8)	33.4 (1.0)	28.1 (0.9)	28.4 (1.0)	29.2 (1.0)	31.0 (0.4)
Employed part time	31.8 (0.9)	26.5 (0.7)	28.0 (1.0)	32.7 (1.0)	25.7 (0.9)	29.4 (0.9)	29.2 (0.4)
Unemployed, looking	17.3 (0.7)	21.2 (0.7)	21.8 (0.9)	21.5 (0.8)	24.8 (0.9)	22.3 (0.8)	21.4 (0.3)
Unemployed, not looking	17.6 (0.7)	18.4 (0.7)	16.7 (0.8)	17.7 (0.7)	21.2 (0.8)	19.1 (0.8)	18.4 (0.3)
Total	17.8 (0.3)	16.3 (0.3)	14.7 (0.3)	18.2 (0.3)	15.5 (0.3)	17.5 (0.3)	100.0 N/A

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages with standard errors in parentheses. Sample sizes are unweighted and based on interviews with 27,046 men. Estimates are based on some variables for which there may be missing information.

N/A = Not applicable.

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

Source. Youth Attitude Tracking Study, 1984-1988.

Table D.2 Composite Active Propensity for Selected Sociodemographic Characteristics by Navy Recruiting Area

Variable/response	Recruiting area						
	Area 1 (N=4,938)	Area 3 (N=5,413)	Area 4 (N=3,299)	Area 5 (N=4,799)	Area 7 (N=4,067)	Area 8 (N=4,524)	Total (N=27,040)
Age							
16	38.0 (1.8)	45.5 (1.7)	40.2 (2.2)	39.9 (2.0)	43.4 (2.1)	41.8 (2.0)	41.5 (0.8)
17	30.3 (1.6)	43.9 (1.7)	36.3 (2.1)	30.0 (1.6)	39.7 (2.0)	36.7 (1.8)	35.8 (0.7)
18	24.7 (1.8)	33.0 (1.9)	27.7 (2.1)	26.8 (2.2)	31.8 (2.5)	27.6 (2.1)	28.4 (0.9)
19	23.5 (2.3)	28.8 (2.2)	24.4 (2.3)	22.1 (2.5)	30.6 (2.5)	21.8 (2.3)	25.1 (1.0)
20	17.3 (2.0)	25.7 (2.1)	14.3 (2.1)	18.5 (2.7)	24.9 (2.5)	20.9 (3.0)	20.2 (1.0)
21	16.3 (2.2)	23.7 (2.4)	15.2 (2.6)	14.9 (2.1)	22.8 (3.1)	19.2 (2.5)	18.7 (1.0)
Race/ethnicity							
White	21.8 (0.8)	30.2 (0.9)	27.0 (1.0)	25.7 (0.9)	26.7 (1.2)	26.1 (1.1)	26.1 (0.4)
Black	47.6 (2.9)	57.9 (1.9)	44.0 (3.3)	48.0 (3.3)	57.1 (2.6)	34.2 (4.1)	50.9 (1.2)
Hispanic	53.0 (3.3)	44.8 (3.3)	37.3 (5.9)	38.1 (4.2)	48.0 (2.6)	42.8 (2.1)	45.2 (1.3)
Other	36.1 (5.3)	32.8 (5.0)	33.0 (7.0)	48.8 (6.7)	50.4 (6.3)	43.2 (4.1)	42.0 (2.4)
School status[a]							
Postsecondary student	11.6 (1.4)	19.9 (2.0)	10.0 (1.4)	11.3 (1.5)	16.7 (1.9)	15.5 (1.6)	14.0 (0.7)
High school graduate	20.2 (1.6)	25.2 (1.6)	21.1 (1.7)	20.0 (1.8)	26.8 (2.0)	22.4 (2.2)	22.4 (0.7)
High school senior	29.4 (1.8)	42.2 (1.9)	36.1 (2.2)	29.8 (2.0)	35.4 (2.0)	36.9 (2.0)	34.6 (0.8)
Nonsenior high school student	42.0 (1.9)	49.8 (1.8)	42.4 (2.4)	41.6 (2.0)	46.2 (2.1)	43.7 (2.1)	44.4 (0.8)
Noncompleter	33.3 (2.2)	38.6 (1.7)	37.1 (2.4)	34.3 (2.2)	42.0 (2.6)	33.0 (2.1)	36.3 (0.9)
Employment status							
Employed full time	23.7 (1.3)	27.3 (1.3)	21.0 (1.5)	18.3 (1.4)	29.9 (1.9)	24.1 (1.7)	23.9 (0.6)
Employed part time	28.8 (1.6)	39.0 (1.5)	31.1 (1.8)	28.0 (1.6)	35.5 (2.0)	30.4 (1.7)	31.7 (0.7)
Unemployed, looking	37.0 (2.0)	51.4 (1.9)	43.1 (2.2)	44.9 (2.1)	45.8 (2.2)	44.0 (2.1)	44.5 (0.9)
Unemployed, not looking	22.8 (1.8)	32.1 (1.9)	26.3 (2.3)	24.6 (1.9)	28.5 (1.9)	27.4 (2.1)	26.9 (0.8)
Predicted aptitude[b]							
Higher aptitude	20.6 (0.7)	26.7 (0.8)	22.8 (0.9)	21.8 (0.8)	24.7 (1.0)	24.6 (0.9)	23.3 (0.4)
Higher aptitude	37.7 (1.2)	44.3 (1.0)	37.9 (1.3)	37.1 (1.2)	44.8 (1.2)	39.0 (1.2)	40.4 (0.5)
Total	27.5 (0.8)	36.4 (0.8)	29.5 (1.0)	28.3 (0.9)	34.9 (1.0)	30.9 (0.9)	31.1 (0.4)

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages of each group showing composite active propensity with standard errors in parentheses. Sample sizes are unweighted and based on interviews with 27,046 men. Estimates are based on some variables for which there may be missing information.

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

[b]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. Youth Attitude Tracking Study, 1984-1988.

APPENDIX E

ENLISTMENT PROPENSITY AND SOCIODEMOGRAPHIC CHARACTERISTICS IN MARINE CORPS RECRUITING DISTRICTS

Table E.1 Selected Sociodemographic Characteristics by Marine Corps Recruiting District

Variable/response	Recruiting district: District 1 (N=4,466)	District 4 (N=4,304)	District 6 (N=5,434)	District 8 (N=4,308)	District 9 (N=4,014)	District 12 (N=4,464)	Total (N=26,990)
Age							
16	24.4 (0.8)	23.2 (0.8)	25.4 (0.8)	26.5 (1.0)	23.7 (0.8)	24.8 (0.9)	24.7 (0.3)
17	23.4 (0.8)	23.1 (0.8)	23.2 (0.7)	22.9 (0.8)	25.4 (0.9)	23.5 (0.8)	23.6 (0.3)
18	19.5 (0.9)	18.0 (0.7)	17.4 (0.6)	16.6 (0.8)	17.6 (0.7)	18.3 (0.8)	17.8 (0.3)
19	14.1 (0.7)	14.8 (0.7)	14.7 (0.6)	14.7 (0.7)	13.6 (0.6)	13.7 (0.7)	14.3 (0.3)
20	9.7 (0.5)	11.2 (0.6)	9.9 (0.5)	10.2 (0.6)	10.8 (0.7)	10.3 (0.6)	10.4 (0.2)
21	8.9 (0.5)	9.6 (0.6)	9.6 (0.5)	9.0 (0.6)	8.9 (0.5)	9.4 (0.7)	9.2 (0.2)
Race/ethnicity							
White	79.3 (0.9)	82.4 (0.9)	71.0 (0.9)	73.7 (1.0)	83.7 (0.8)	68.9 (1.0)	76.5 (0.4)
Black	10.1 (0.6)	12.5 (0.8)	21.5 (0.8)	10.2 (0.7)	9.4 (0.6)	4.9 (0.4)	11.4 (0.3)
Hispanic	7.9 (0.6)	3.4 (0.4)	5.8 (0.4)	13.6 (0.7)	4.5 (0.4)	18.4 (0.8)	9.0 (0.2)
Other	2.6 (0.3)	1.6 (0.2)	1.8 (0.2)	2.4 (0.3)	2.4 (0.4)	7.8 (0.6)	3.1 (0.2)
School status[a]							
Postsecondary student	17.4 (0.7)	16.0 (0.7)	15.2 (0.6)	14.9 (0.7)	17.0 (0.7)	18.6 (0.8)	16.5 (0.3)
High school graduate	21.6 (0.8)	25.9 (0.9)	20.6 (0.7)	21.9 (0.9)	21.1 (0.8)	18.9 (0.9)	21.7 (0.3)
High school senior	21.3 (0.8)	18.0 (0.7)	18.1 (0.6)	18.2 (0.7)	20.6 (0.8)	20.4 (0.8)	19.4 (0.3)
Nonsenior high school student	21.0 (0.8)	21.3 (0.8)	24.3 (0.8)	25.7 (0.9)	23.1 (0.9)	22.7 (0.8)	23.0 (0.3)
Noncompleter	18.8 (0.9)	18.7 (0.7)	21.9 (0.7)	19.2 (0.9)	18.2 (0.8)	19.4 (0.9)	19.3 (0.3)
Employment status							
Employed full time	32.4 (0.9)	33.5 (0.9)	32.9 (0.8)	28.9 (1.0)	29.5 (1.0)	29.1 (1.0)	31.0 (0.4)
Employed part time	32.1 (1.0)	27.3 (0.9)	26.0 (0.7)	27.7 (0.9)	32.7 (1.0)	29.6 (0.9)	29.2 (0.4)
Unemployed, looking	17.4 (0.7)	22.1 (0.8)	21.7 (0.7)	23.6 (0.9)	20.9 (0.9)	22.2 (0.9)	21.4 (0.3)
Unemployed, not looking	18.2 (0.8)	17.2 (0.7)	19.4 (0.7)	19.8 (0.8)	16.9 (0.8)	19.2 (0.8)	18.4 (0.3)
Total	15.2 (0.3)	17.0 (0.3)	16.4 (0.3)	16.8 (0.3)	17.3 (0.3)	17.3 (0.3)	100.0 (N/A)

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages with standard errors in parentheses. Sample sizes are unweighted and based on interviews with 27,046 men. Estimates are based on some variables for which there may be missing information.

N/A = Not applicable.

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

Source. Youth Attitude Tracking Study, 1984-1988.

Table E.2 Composite Active Propensity for Selected Sociodemographic Characteristics by Marine Corps Recruiting District

Variable/response	Recruiting district: District 1 (N=4,466)	District 4 (N=4,304)	District 6 (N=5,434)	District 8 (N=4,308)	District 9 (N=4,014)	District 12 (N=4,464)	Total (N=26,990)
Age							
16	39.3 (1.9)	39.9 (2.0)	45.8 (1.7)	40.6 (2.1)	41.2 (2.0)	41.7 (2.0)	41.5 (0.8)
17	31.6 (1.7)	34.8 (1.8)	44.7 (1.7)	38.3 (1.9)	29.4 (1.7)	36.6 (1.8)	35.8 (0.7)
18	24.8 (1.9)	29.9 (2.0)	32.0 (1.9)	30.2 (2.4)	25.9 (2.2)	27.5 (2.1)	28.3 (0.9)
19	23.0 (2.5)	22.9 (2.1)	29.7 (2.1)	31.5 (2.7)	21.3 (2.2)	22.0 (2.3)	25.1 (1.0)
20	17.5 (2.1)	19.6 (2.2)	26.1 (2.2)	24.2 (2.7)	13.4 (2.3)	21.2 (3.0)	20.2 (1.0)
21	17.7 (2.5)	17.4 (2.5)	22.0 (2.2)	21.5 (3.0)	14.2 (2.1)	18.6 (2.5)	18.6 (1.0)
Race/ethnicity							
White	22.6 (0.9)	27.1 (0.9)	29.4 (0.9)	27.4 (1.1)	24.3 (1.0)	26.0 (1.1)	26.1 (0.4)
Black	49.5 (3.1)	47.6 (2.9)	58.5 (1.8)	55.4 (3.1)	43.9 (3.1)	34.6 (4.1)	50.9 (1.2)
Hispanic	54.8 (3.4)	34.0 (5.3)	44.7 (3.3)	47.5 (2.6)	41.8 (4.3)	42.8 (2.1)	45.2 (1.3)
Other	37.7 (5.7)	34.1 (6.6)	33.2 (5.1)	51.5 (6.1)	44.4 (6.8)	43.2 (4.1)	42.0 (2.4)
School status[a]							
Postsecondary student	12.2 (1.5)	10.7 (1.4)	19.3 (2.0)	16.2 (1.8)	10.7 (1.5)	15.5 (1.6)	14.0 (0.7)
High school graduate	19.8 (1.8)	22.8 (1.6)	25.6 (1.6)	27.3 (2.2)	16.5 (1.4)	22.6 (2.3)	22.5 (0.8)
High school senior	31.3 (2.0)	33.8 (2.0)	42.5 (1.8)	33.5 (1.9)	30.3 (2.1)	36.7 (2.0)	34.5 (0.8)
Nonsenior high school student	43.2 (0.8)	42.6 (2.1)	50.0 (1.8)	44.4 (2.1)	42.3 (2.1)	43.7 (2.1)	44.4 (0.8)
Noncompleter	33.1 (2.3)	38.4 (2.1)	39.1 (1.7)	40.1 (2.5)	33.5 (2.2)	32.8 (2.1)	36.3 (0.9)
Employment status							
Employed full time	24.0 (1.4)	22.6 (1.4)	27.1 (1.3)	28.9 (1.9)	17.3 (1.3)	24.1 (1.8)	24.0 (0.6)
Employed part time	29.2 (1.7)	32.1 (1.7)	38.9 (1.6)	33.6 (1.9)	27.6 (1.6)	30.4 (1.7)	31.7 (0.7)
Unemployed, looking	39.5 (2.2)	42.8 (2.0)	51.8 (1.8)	44.3 (2.2)	43.5 (2.2)	44.0 (2.1)	44.5 (0.9)
Unemployed, not looking	23.6 (1.9)	24.4 (1.9)	32.4 (1.9)	28.1 (1.9)	24.8 (2.2)	27.1 (2.1)	26.9 (0.8)
Predicted aptitude[b]							
Higher aptitude	21.6 (0.8)	22.5 (0.8)	26.2 (0.8)	25.1 (1.0)	20.6 (0.8)	24.5 (0.9)	23.3 (0.8)
Lower aptitude	38.6 (1.3)	38.7 (1.1)	44.9 (1.0)	42.9 (1.2)	36.6 (1.2)	39.0 (1.2)	40.4 (0.5)
Total	28.3 (0.9)	30.0 (0.9)	36.6 (0.8)	33.6 (1.0)	27.4 (0.9)	30.9 (0.9)	31.1 (0.4)

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages of each group showing composite active propensity with standard errors in parentheses. Sample sizes are unweighted and based on interviews with 27,046 men. Estimates are based on some variables for which there may be missing information.

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

[b]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. Youth Attitude Tracking Study, 1984-1988.

APPENDIX F

ENLISTMENT PROPENSITY AND SOCIODEMOGRAPHIC CHARACTERISTICS IN AIR FORCE RECRUITING GROUPS

Table F.1 Selected Sociodemographic Characteristics by Air Force Recruiting Group

Variable/response	Recruiting group: Group 1 (N=5,761)	Group 3 (N=6,736)	Group 4 (N=4,985)	Group 5 (N=4,492)	Group 6 (N=5,072)	Total (N=27,046)
Age						
16	24.4 (0.7)	24.5 (0.7)	26.2 (0.9)	23.4 (0.8)	24.7 (0.8)	24.6 (0.3)
17	22.9 (0.7)	23.7 (0.7)	23.2 (0.8)	24.5 (0.8)	23.9 (0.8)	23.6 (0.3)
18	19.3 (0.8)	17.2 (0.6)	17.7 (0.7)	17.2 (0.7)	17.8 (0.7)	17.8 (0.3)
19	13.9 (0.6)	14.7 (0.5)	14.4 (0.6)	14.7 (0.6)	13.6 (0.6)	14.3 (0.3)
20	10.3 (0.5)	10.2 (0.4)	10.0 (0.5)	11.0 (0.6)	10.4 (0.6)	10.4 (0.2)
21	9.1 (0.5)	9.7 (0.5)	8.7 (0.5)	9.6 (0.7)	9.2 (0.5)	9.3 (0.2)
Race/ethnicity						
White	81.1 (0.7)	73.8 (0.8)	74.5 (0.9)	83.7 (0.7)	69.3 (0.9)	76.4 (0.4)
Black	9.9 (0.6)	19.0 (0.7)	13.2 (0.7)	9.6 (0.6)	4.9 (0.4)	11.4 (0.3)
Hispanic	6.7 (0.4)	5.5 (0.4)	10.3 (0.6)	4.4 (0.4)	18.5 (0.7)	9.0 (0.2)
Other	2.3 (0.2)	1.8 (0.2)	2.1 (0.3)	2.2 (0.3)	7.2 (0.6)	3.1 (0.2)
School status[a]						
Postsecondary student	17.4 (0.7)	14.7 (0.6)	15.2 (0.6)	17.2 (0.7)	18.2 (0.7)	16.6 (0.3)
High school graduate	23.0 (0.7)	22.2 (0.6)	21.8 (0.8)	22.1 (0.8)	19.2 (0.8)	21.7 (0.3)
High school senior	20.2 (0.7)	18.1 (0.6)	18.7 (0.7)	19.7 (0.7)	20.3 (0.7)	19.4 (0.3)
Nonsenior high school student	21.2 (0.7)	23.2 (0.7)	25.6 (0.9)	22.3 (0.8)	23.0 (0.8)	23.0 (0.3)
Noncompleter	18.2 (0.7)	21.8 (0.7)	18.7 (0.8)	18.6 (0.8)	19.3 (0.8)	19.3 (0.3)
Employment status						
Employed full time	32.6 (0.8)	34.4 (0.7)	28.1 (0.9)	30.5 (0.9)	29.0 (0.9)	31.0 (0.4)
Employed part time	31.0 (0.8)	25.8 (0.7)	27.7 (0.9)	31.7 (0.9)	29.7 (0.8)	29.2 (0.4)
Unemployed, looking	18.6 (0.7)	21.4 (0.6)	24.2 (0.8)	20.9 (0.8)	22.1 (0.8)	21.4 (0.3)
Unemployed, not looking	17.8 (0.7)	18.4 (0.6)	20.0 (0.8)	16.8 (0.7)	19.1 (0.8)	18.4 (0.3)
Total	21.4 (0.3)	20.7 (0.3)	19.2 (0.3)	18.8 (0.3)	19.8 (0.3)	100.0 (N.A)

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages with standard errors in parentheses. Sample sizes are unweighted and based on interviews with 27,046 men. Estimates are based on some variables for which there may be missing information.

N.A = Not applicable.

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

Source. Youth Attitude Tracking Study, 1984-1988.

Table F.2 Composite Active Propensity for Selected Sociodemographic Characteristics by Air Force Recruiting Group

Variable/response	Recruiting group					Total
	Group 1 (N=5,761)	Group 3 (N=6,736)	Group 4 (N=4,985)	Group 5 (N=4,492)	Group 6 (N=5,072)	(N=27,046)
Age						
16	38.1 (1.7)	45.2 (1.5)	41.0 (2.0)	41.7 (2.0)	41.5 (1.8)	41.7 (0.8)
17	31.2 (1.5)	41.8 (1.6)	38.1 (1.8)	31.3 (1.7)	36.6 (1.7)	35.8 (0.7)
18	24.5 (1.6)	33.1 (1.7)	29.6 (2.0)	27.8 (2.1)	27.5 (2.0)	28.4 (0.9)
19	23.9 (2.1)	26.8 (1.9)	30.5 (2.5)	22.1 (2.0)	22.2 (2.2)	25.1 (1.0)
20	16.6 (1.9)	24.8 (1.9)	27.1 (2.6)	14.2 (2.1)	18.9 (2.7)	20.2 (1.0)
21	16.9 (2.1)	22.5 (2.1)	19.0 (2.3)	13.3 (2.0)	21.2 (2.7)	18.7 (1.0)
Race/ethnicity						
White	23.2 (0.8)	29.5 (0.8)	26.9 (1.0)	25.4 (0.9)	26.0 (1.0)	26.1 (0.4)
Black	47.5 (2.8)	56.9 (1.8)	56.9 (2.5)	43.1 (2.8)	33.0 (3.9)	50.9 (1.2)
Hispanic	50.3 (3.2)	41.9 (3.2)	47.5 (2.7)	43.4 (4.3)	43.3 (2.0)	45.2 (1.3)
Other	37.8 (5.2)	30.8 (4.6)	48.3 (6.1	40.6 (6.7)	45.1 (3.9)	42.0 (2.4)
School status[a]						
Postsecondary student	11.4 (1.3)	17.7 (1.7)	15.6 (1.7)	10.9 (1.4)	15.1 (1.5)	14.0 (0.7)
High school graduate	20.1 (1.5)	24.9 (1.4)	27.4 (2.0)	17.5 (1.4)	22.2 (2.1)	22.4 (0.7)
High school senior	30.0 (1.7)	40.7 (1.7)	34.0 (1.8)	32.7 (2.0)	36.2 (1.8)	34.6 (0.8)
Nonsenior high school student	42.5 (1.8)	48.5 (1.7)	43.6 (1.9	43.4 (2.0)	43.8 (1.9)	44.4 (0.8)
Noncompleter	33.4 (2.0)	39.2 (1.5)	40.9 (2.3	34.0 (2.1)	33.7 (2.1)	36.3 (0.9)
Employment status						
Employed full time	22.7 (1.2)	26.6 (1.2)	28.0 (1.7	18.0 (1.2)	24.5 (1.7)	24.0 (0.6)
Employed part time	29.1 (1.4)	37.9 (1.4)	31.0 (1.7	29.8 (1.5)	31.5 (1.6)	31.7 (0.7)
Unemployed, looking	38.5 (1.9)	50.4 (1.7)	47.6 (2.0)	42.6 (2.1)	42.6 (2.0)	44.5 (0.9)
Unemployed, not looking	23.3 (1.7)	30.5 (1.6)	27.7 (1.8)	26.2 (2.1)	26.8 (1.9)	26.9 (0.8)
Predicted aptitude[b]						
Higher aptitude	21.2 (0.7)	25.8 (0.7)	24.5 (0.9)	21.5 (0.8)	24.4 (0.9)	23.3 (0.4)
Lower aptitude	37.5 (1.1)	43.3 (0.9)	43.0 (1.1)	37.3 (1.2)	39.3 (1.1)	40.4 (0.5)
Total	27.8 (0.8)	35.3 (0.7)	33.5 (0.9)	28.2 (0.9)	30.9 (0.9)	31.1 (0.4)

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages of each group showing composite active propensity with standard errors in parentheses. Sample sizes are unweighted and based on interviews with 27,046 men. Estimates are based on some variables for which there may be missing information.

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

[b]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. Youth Attitude Tracking Study, 1984-1988.

APPENDIX G

TECHNICAL DISCUSSION OF REGRESSION MODELING

APPENDIX G

TECHNICAL DISCUSSION OF REGRESSION MODELING

This appendix describes the multivariate regression analysis of sociodemographic variables on composite active propensity for men aged 16 to 21. This is a technical discussion supporting the substantive presentation given in Chapter 3. The goal of the analysis was to examine the effect of geographic location on propensity; specifically, the analysis was to determine whether accounting for differential distributions of other sociodemographic variables would remove (i.e., explain) the observed regional differences in propensity.

The approach to the analysis was to fit a linear regression model corresponding to the main effects and various sets of interactions of certain sociodemographic 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 of the coefficients. Rather, a Taylor series linearization method is used to estimate each element of the variance-covariance matrix. Thus, SURREGR can properly be used with binary dependent variables such as propensity.

The data set analyzed was created by combining the 1984-1988 YATS analysis data sets for men aged 16 to 21, yielding a data set containing 27,046 interviews. A variable indicating year of interview was included so time-based shifts in propensity could be accounted for appropriately. The weight variable used was the final YATS analysis weight, WINT.

The initial model included six sociodemographic variables as main effects:

- Year (of interview),
- Age,
- Race/ethnicity,
- Employment status,
- Census region, and
- Aptitude.

Excluding year, 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.

Five of the sociodemographic variables were treated as categorical: year, age, race/ethnicity, employment status, and Census region. The sixth 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 potentially would 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 coefficient for this initial model of 16- to 21-year-old males' composite active propensity is 17.24%. GLM indicated three of the interactions involving race/ethnicity and two additional interactions involving age to be significant at $p <= 0.05$.

The two regression models fit subsequently utilized 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 first of these models fit using SURREGR included all main effects and the following interactions:

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

The results for this model were reviewed, and effects significant at the p <= 0.01 level were retained. The p <= 0.01 significance level was selected for the SURREGR runs because the large sample size obtained from combining the 1984-1988 data resulted in small, nonsubstantive differences being declared significant at the p <= 0 05 level. Only one interaction included in the initial SURREGR model could be declared nonsignificant at the p <= 0.01 level. A final model was fit containing all main effects and the four remaining interactions. As a check, the squared multiple correlation coefficients were monitored to ensure that effects being dropped from the GLM and SURREGR models did not adversely affect the fit. The squared multiple correlation coefficient for the final model was 16.32%, as compared to the value of 17.24% produced by GLM in the initial model testing all possible interactions.

The two models are shown in Table G.1; p-values are given for the effects tested. The interactions specified in Model 1 subsume all the main effects excluding year. There were no tests of the other main effects (i.e., age, race/ethnicity, employment status, Census region, or aptitude) 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 p-values for age by race/ethnicity, aptitude by age, race by Census region, and aptitude by race/ethnicity. Age by employment status *was not significant at* p <= 0.01 and was dropped from the final model.

For the final model, age was recoded into two categories (16- to 17-year-olds and 18- to 21-year-olds) because these two age groups adequately explained the effect of age on propensity. Race/ethnicity was redefined to include Blacks, Hispanics, and whites; the "other" category was dropped because of the small sample size. Model 2 for 16- to 21-year-old males' composite active propensity is the final model and included:

- Year (of interview),
- Age,
- Race/ethnicity,
- Employment status,
- Census region,
- Aptitude,
- Age by race/ethnicity,
- Aptitude by age,
- Race by Census region, and
- Aptitude by race/ethnicity.

The regression coefficients for this final model are presented in Table G.2. The standard errors and p-values for testing different from zero are also given for each coefficient.

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

Independent variable	Model 1 D.F.	Model 1 p-value	Model 2 D.F.	Model 2 p-value
Year	4	0.0171	4	0.0160
Age				
Race/ethnicity				
Employment status			3	0.0000
Census region				
Aptitude				
Age by race/ethnicity	15	0.0009	2	0.0001
Age by employment status	15	0.0248		
Aptitude by age	5	0.0000	1	0.0021
Race/ethnicity by Census region	9	0.0003	6	0.0010
Aptitude by race/ethnicity	3	0.0000	2	0.0000
	coeff.	p-value	coeff.	p-value
Squared multiple correlation (%)	17.13	0.0000	16.32	0.0000

Note. Both 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. Youth Attitude Tracking Study, 1984-1988.

Table G.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	0.513883	0.024731	20.78	0.00
Year				
1984	-0.015044	0.011779	-1.28	0.20
1985	-0.026226	0.011736	-2.23	0.03
1986	0.002246	0.011594	0.19	0.85
1987	0.004399	0.011720	0.38	0.71
1988	*	*	*	*
Age				
16-17 years	0.200100	0.023900	8.37	0.00
18-21 years	*	*	*	*
Race/ethnicity				
Black	0.013632	0.044197	0.31	0.76
Hispanic	0.014931	0.031248	0.48	0.63
White	*	*	*	*
Employment status				
Full time	-0.035098	0.011018	-3.19	0.00
Part time	0.050292	0.009949	5.06	0.00
Not emp looking	0.075686	0.011455	6.61	0.00
Not emp not looking	*	*	*	*
Census region				
Northeast	-0.012632	0.012373	-1.02	0.31
North Central	-0.014634	0.012343	-1.19	0.24
South	-0.015009	0.011901	-1.26	0.21
West	*	*	*	*
Aptitude	-0.511781	0.023802	-21.50	0.00
Age by race/ethnicity				
16-17, Black	-0.082539	0.027217	-3.03	0.00
16-17, Hispanic	0.056649	0.026863	2.11	0.03
16-17, White	*	*	*	*
18-21, Black	*	*	*	*
18-21, Hispanic	*	*	*	*
18-21, White	*	*	*	*

(continued)

Table G.2 (continued)

Model parameter	Regression coefficient	Standard error	Z	p-value
Aptitude by age				
Aptitude, 16-17	-0.095444	0.031007	-3.08	0.00
Aptitude, 18-21	*	*	*	*
Race/ethnicity by Census region				
Black, Northeast	0.126069	0.046937	2.69	0.01
Black, North Central	0.064983	0.045630	1.42	0.15
Black, South	0.136979	0.041645	3.29	0.00
Black, West	*	*	*	*
Hispanic, Northeast	0.112463	0.037449	3.00	0.00
Hispanic, North Central	0.016088	0.041761	0.39	0.70
Hispanic, South	0.022156	0.028974	0.76	0.44
Hispanic, West	*	*	*	*
White, Northeast	*	*	*	*
White, North Central	*	*	*	*
White, South	*	*	*	*
White, West	*	*	*	*
Aptitude by race/ethnicity				
Aptitude, Black	-0.452034	0.060257	-7.50	0.00
Aptitude, Hispanic	-0.138761	0.050542	-2.75	0.01
Aptitude, White	*	*	*	*

* = Model reference cell. Estimate or test is not defined.

Source. Youth Attitude Tracking Study, 1984-1988.

Note that Table G.1 shows that the race/ethnicity by Census region interaction is still very significant in Model 2 ($p = 0.001$). This level of significance indicates that there are differences among the Census regions that cannot be explained by sociodemographic distributions. Also, the pattern of Census-region-specific mean propensities is different for each race/ethnicity group. Figure 3.3 in Chapter 3 graphically presents this interaction. The predicted propensities displayed in the figure were developed from Model 2, the final model, and are adjusted for the other effects in the model (i.e., year, age, employment status, aptitude, age by race/ethnicity, aptitude by age, and aptitude by race/ethnicity), which have been evaluated at the population means of the independent variables corresponding to these effects. This plot presents the race/ethnicity by Census region interaction as it exists on average in the YATS population. These adjusted values and their standard errors are given in tabular form as Table G.3.

Table G.3 Adjusted Propensity Estimates[a]

Race/ethnicity	Northeast		North Central		South		West	
Black	51.8	(2.7)	45.5	(2.5)	52.6	(1.5)	40.4	(3.7)
Hispanic	53.5	(3.1)	43.6	(3.6)	44.2	(2.0)	43.5	(1.7)
White	26.4	(0.8)	26.2	(0.8)	26.2	(0.7)	27.7	(1.0)

Note. Data reported are for 16- to 21-year-old men. Tabled values are percentages. Standard errors are in parentheses.

[a]Evaluated at the population means of the other variables in Model 2 in Table G.2 (i.e., year, age, employment status, aptitude, age by race/ethnicity, aptitude by age, and aptitude by race/ethnicity).

Source. Youth Attitude Tracking Studies, 1984-1988.