

AD-A178 569

The 1985 Army Experience Survey:
Methodology and Recommendations
for Future Administrations

Westat, Inc.



Personnel Utilization Technical Area
Manpower and Personnel Research Laboratory



U. S. Army

Research Institute for the Behavioral and Social Sciences

January 1986

Approved for public release, distribution unlimited.

U. S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES

A Field Operating Agency under the Jurisdiction of the
Deputy Chief of Staff for Personnel

EDGAR M. JOHNSON
Technical Director

WM. DARRYL HENDERSON
COL, IN
Commanding

Research accomplished under contract
for the Department of the Army

Westat, Inc.

Technical review by

Melvin J. Kimmel
Hyder-Ali G. Lakhani



Accession For	
NTIS CRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By _____	
Distribution /	
Availability Codes	
Dist	Avail and/or Special
A-1	

NOTICES

DISTRIBUTION. Primary distribution of this report has been made by ARI. Please address correspondence concerning distribution of reports to U.S. Army Research Institute for the Behavioral and Social Sciences, ATTN. PERI-POT, 5001 Eisenhower Ave., Alexandria, Virginia 22333-5600.

FINAL DISPOSITION. This report may be destroyed when it is no longer needed. Please do not return it to the U.S. Army Research Institute for the Behavioral and Social Sciences

NOTE. The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER ARI Technical Report 700	2. GOVT ACCESSION NO. ADA178569	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) THE 1985 ARMY EXPERIENCE SURVEY: METHODOLOGY AND RECOMMENDATIONS FOR FUTURE ADMINISTRATIONS		5. TYPE OF REPORT & PERIOD COVERED Final Report September 1984-December 1985
		6. PERFORMING ORG. REPORT NUMBER --
7. AUTHOR(s) Westat, Inc.		8. CONTRACT OR GRANT NUMBER(s) MDA903-84-C-0446
9. PERFORMING ORGANIZATION NAME AND ADDRESS Westat, Inc. 1650 Research Boulevard Rockville, MD 20850		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 20263731A792
11. CONTROLLING OFFICE NAME AND ADDRESS U.S. Army Research Institute for the Behavioral and Social Sciences 5001 Eisenhower Avenue, Alexandria, VA 22333-5600		12. REPORT DATE January 1986
		13. NUMBER OF PAGES 201
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) --		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE --
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) --		
18. SUPPLEMENTARY NOTES Timothy W. Elig, Contracting Officer's Representative Glenda Y. Nogami, Contracting Officer's Representative Melvin J. Kimmel, Technical Monitor		
19. KEY WORDS: (Continue on reverse side if necessary and identify by block number) 1985 Army Experience Survey (AES) Sample weighting; First-term separatees; Survey methodology; First-term attritees; Veterans Mid-career separatees; Veterans' attitudes; Enlisted retirees; Veterans' experiences		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The 1985 Army Experience Survey (AES) was designed to assess the characteristics and motivations behind enlistment and separation, and the attitudes and experiences of former soldiers. The survey was developed in part to provide information about Army veterans in response to questions raised by the Secretary of the Army, John O. Marsh, Jr.		

(continued)

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

ARI Technical Report 700

20. (Continued)

Survey data were collected from systematic random samples representative of veterans separating from Army service during FY82-FY84. A basic overall sample was supplemented to produce larger samples among several of the smaller demographic/service groups within each of two key separation statuses. To reestablish the proper distribution of sample characteristics to resemble the population, sample weighting was performed. The survey effort involved sample location and tracing, and multiple mailings with telephone interviewing of nonrespondents. The period for data collection extended from April through mid-July 1985.

→ This report is the only volume in the AES report series that provides details of the project background, survey and data preparation methodologies, and recommendations for future administration of veteran surveys.

← The Data Sourcebook and User's Manual (ARI Research Note 86-1) documents the data files; eight descriptive tabular volumes (ARI Research Products 86-1 to 86-8) present preliminary results.

The complete list of reports is as follows:

- RP 86-01. THE 1985 ARMY EXPERIENCE SURVEY:
Tabular Descriptions of First-Term Separates, Volume I.
- RP 86-02. THE 1985 ARMY EXPERIENCE SURVEY:
Tabular Descriptions of First-Term Separates, Volume II.
- RP 86-03. THE 1985 ARMY EXPERIENCE SURVEY:
Tabular Descriptions of First-Term Attritees, Volume I.
- RP 86-04. THE 1985 ARMY EXPERIENCE SURVEY:
Tabular Descriptions of First-Term Attritees, Volume II.
- RP 86-05. THE 1985 ARMY EXPERIENCE SURVEY:
Tabular Descriptions of Mid-Career Separates, Volume I.
- RP 86-06. THE 1985 ARMY EXPERIENCE SURVEY:
Tabular Descriptions of Mid-Career Separates, Volume II.
- RP 86-07. THE 1985 ARMY EXPERIENCE SURVEY:
Tabular Descriptions of Enlisted Retirees, Volume I.
- RP 86-08. THE 1985 ARMY EXPERIENCE SURVEY:
Tabular Descriptions of Enlisted Retirees, Volume II.
- TR-700. THE 1985 ARMY EXPERIENCE SURVEY:
Methodology and Recommendations for Future Administrations.
- RN 86-01. THE 1985 ARMY EXPERIENCE SURVEY:
Data Source Book and User's Manual.

The 1985 Army Experience Survey: Methodology and Recommendations for Future Administrations

Westat, Inc.

Personnel Utilization Technical Area
Paul A. Gade, Chief

Manpower and Personnel Research Laboratory
Newell K. Eaton, Acting Director

U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES
5001 Eisenhower Avenue, Alexandria, Virginia 22333-5600

Office, Deputy Chief of Staff for Personnel
Department of the Army

January 1986

Army Project Number
2Q263731A792

Manpower and Personnel

Approved for public release; distribution unlimited.

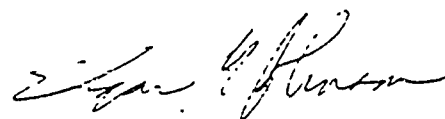
ARI Research Reports and Technical Reports are intended for sponsors of R&D tasks and for other research and military agencies. Any findings ready for implementation at the time of publication are presented in the last part of the Brief. Upon completion of a major phase of the task, formal recommendations for official action normally are conveyed to appropriate military agencies by briefing or Disposition Form.

FOREWORD

The Army Experience Survey was sponsored by the Army Research Institute for the Behavioral and Social Sciences (ARI). The research was undertaken to obtain information on the characteristics, experiences, and attitudes of recently separated Army veterans. The survey was designed to answer specific questions raised by the Secretary of the Army, John O. Marsh, Jr., in Spring 1984 which were translated into five research objectives:

- To determine the post-service experiences of enlisted Army separatees and their views toward the separation process and the usefulness of the Army experience;
- To determine their attitudes toward the Army experience, including their motivations for military service and the role and impact of military service on their lives;
- To determine the extent of veterans' continued interest in and attitudes toward the Army through examination of their plans for joining the Reserves or National Guard and whether or not they have encouraged others to enlist;
- To compare the post-service experiences, attitudes, and plans of enlisted soldiers who separated from the Army after a first-term enlistment across selected demographic/service categories; and
- To compare the post-service experiences, attitudes, and plans of enlisted soldiers who separated from the Army after a first-term enlistment with soldiers who separated after second and later enlistments, and with soldiers who left the Army before expiration of their first term of service.

In addition to addressing these specific objectives, the survey effort expanded the availability of data to model Army enlistment and reenlistment processes.



EDGAR M. JOHNSON
Technical Director

THE 1985 ARMY EXPERIENCE SURVEY: METHODOLOGY AND RECOMMENDATIONS FOR FUTURE ADMINISTRATIONS

EXECUTIVE SUMMARY

Requirement:

To obtain information on the characteristics, experiences, and attitudes of recently separated Army veterans.

Procedure:

Data were collected, using a combined mail and telephone followup methodology, from six groups of enlisted Army veterans:

- First-term separatees
- First-term attritees
- Soldiers serving more than 1 term of enlistment, but less than 10 years
- Soldiers serving 10 years or more, but not retired from the Army
- Retirees
- ARI Exit Survey respondents

The sample frame was developed using the loss files from the Enlisted Master File (EMF). Based on a sampling design developed to meet stated levels of precision, 8,734 sample members were randomly drawn from the EMF. Tracing efforts were undertaken to locate the sampled Army veterans. Sample members were sent a prenotification letter, and two waves of survey mailings, with a reminder postcard in between. Nonrespondents to the survey mailings were then followed up by telephone.

In addition to the main survey effort, three experiments were conducted on random subsamples. One experiment was conducted to assess the effectiveness of using an alternative data collection methodology, i.e., attempted telephone contacts with mailings only as necessary. The other two experiments were conducted to verify sample members' addresses, so as to obtain a better estimate of true find and refusal rates.

Survey data received were keyed, edited, coded and weighted. A sourcebook and user's manual, tabulation volumes, and a report on the survey methodology and recommendations were produced.

Results:

The survey effort was successful in locating between three-quarters to over 90% of the different sample groups. By far, the retirees were the easiest group to locate and from whom to obtain responses. Response rates were generally similar among sample members in several key demographic/service categories, although slightly higher response rates were obtained from Whites, individuals with two-year enlistments, and from those who had most recently left the Army. The overall sample response rate was 50%.

Utilization:

The 1985 Army Experience Survey (AES) provides information to Army policymakers regarding Army veterans who are vital to Reserve and National Guard enlistments, and who can affect future enlistments into the active Army. AES provides data needed to model the enlistment-reenlistment decisionmaking process. Data can also be analyzed further for methodological assessments of different data collection strategies. The AES data can provide valuable information to Army planners and policymakers related to the level of veteran support and interest in joining veteran organizations, assisting in local recruiting efforts, and in receiving regular Army publications. As a result of the high level of interest expressed by veterans toward assisting local recruiters, early efforts have begun to examine the feasibility of developing a Hometown Alumni Recruiting Program utilizing veteran volunteers.

THE 1985 ARMY EXPERIENCE SURVEY: METHODOLOGY AND RECOMMENDATIONS
FOR FUTURE ADMINISTRATIONS

CONTENTS

Chapter	Page
1 INTRODUCTION.....	1
Organization of Final Report.....	1
Background.....	3
2 SURVEY SAMPLING.....	7
Sampling Requirements.....	7
Sample Design.....	10
Sample Selection.....	12
3 QUESTIONNAIRE DEVELOPMENT.....	17
Instrument Content.....	17
Instrument Development.....	18
4 SURVEY ADMINISTRATION.....	23
Overview.....	23
Respondent Location and Tracing.....	26
Telephone Followup.....	31
Telephone/Mail Experiment.....	33
Survey Returns.....	34
5 SURVEY METHODOLOGY RESULTS.....	37
Address Verification Experiments:	
Estimating the Survey Find Rate.....	37
Development of Survey Find, Completion, and Response Rates.....	43
Survey Results for Total AES Sample.....	44
Sample Coverage by Separation Group.....	45
Results of Telephone/Mail Experiment:	
Find and Return Rates.....	51
Effects of Nonresponse on Interpretation of Survey Results.....	52
6 DATA PROCESSING.....	55
Data Receipt Control and Sample Management.....	55
Coding.....	57
Data Entry and Editing.....	63
Data Quality.....	63
Weighting of the Sample Data.....	67

CONTENTS (continued)

Chapter	Page
7 LESSONS LEARNED AND RECOMMENDATIONS.....	75
Sampling Army Veterans.....	75
Methods for Obtaining High Response Rates.....	80
Data Preparation.....	92
Summary.....	94
REFERENCES.....	95

TECHNICAL APPENDIXES

	Page
APPENDIX A OPERATIONAL DEFINITIONS OF SEPARATION STATUS GROUPS.....	A-1
APPENDIX B CROSSWALK OF SURVEY ITEMS TO ORIGINAL SURVEY SOURCE.....	B-1
APPENDIX C THE 1985 ARMY EXPERIENCE SURVEY INSTRUMENT: MAIL VERSION.....	C-1
APPENDIX D THE 1985 ARMY EXPERIENCE SURVEY INSTRUMENT: TELEPHONE VERSION.....	D-1
APPENDIX E SURVEY LETTERS.....	E-1
APPENDIX F ALPHABETICAL INDEX OF INDUSTRIES AND OCCUPATIONS.....	F-1
APPENDIX G CODING SCHEMES USED TO CATEGORIZE RESPONSES TO OPEN-ENDED QUESTIONS.....	G-1

LIST OF TABLES

Table	Page
1 Sample Supplementation by Demographic/Service Categories.....	11
2 Final AES Frame, Sample, and Respondent Counts.....	14
3 1985 Army Veterans Survey: Data Content and Source.....	19
4 Contribution of Sample Member Addresses by DMDC File.....	26
5 Respondent Location and Tracing.....	28
6 Tracing Unit Costs.....	29
7 Contribution of Data Collection Procedures to Survey Response Rate.....	34
8 Survey Returns.....	35
9 Results of Two Address Verification Experiments.....	39
10 Final Status of AES Sample Members by Separation Status.....	42
11 AES Sample Find, Completion, and Response Rates by Separation Status.....	44
12 AES Find, Completion, and Response Rates for First-Term Separatees.....	46
13 AES Find, Completion, and Response Rates for First-Term Attritees.....	47
14 AES Find, Completion, and Response Rates for Mid-Career Separatees.....	48
15 AES Find, Completion, and Response Rates for Enlisted Retirees.....	49
16 AES Find, Completion, and Response Rates for Exit Survey Respondents.....	50

CONTENTS (continued)

Table	Page
17 Comparison of Telephone-First Methodology with Mail-First Methodology.....	51
18 Find, Completion, and Response Rates for the Telephone/Mail Experiment Sample Members.....	53
19 Case Status Codes of AES Sample Members.....	56
20 1985 Army Experience Survey Open-Ended Questions.....	59
21 Reliability Ratings on Open-Ended Questions.....	62
22 Distribution of Total Response Errors.....	65
23 Distribution of Missing Values.....	65
24 Distribution of Multiple Response Errors.....	66
25 Distribution of Out-Of-Range Responses.....	66
26 Distribution of Failed Logic Checks.....	67
27 Number of Post-Strata Established for Sampling Weights by Separation Status Population.....	71
28 Correspondence of Separation Groups as Defined by EMF Data with Self-Reported Information.....	78
29 Suggested Analyses for Comparison of Mail-First vs. Telephone-First Methodologies.....	89

LIST OF FIGURES

Figure	Page
1 Distribution of AES sampling frame across separation group samples.....	13
2 Flow of sample tracing and data collection procedures.....	25
3 Army Experience Survey status flow.....	41
4 Schematic flow of recommended future veteran tracing activities.....	83

Chapter 1: INTRODUCTION

This report is one of ten volumes produced describing the approach, data, and results of the 1985 Army Experience Survey (AES). This document is the project final report; as such, it contains project background information, descriptions of sampling and survey methodologies, data preparation procedures, and recommendations for future survey efforts. This report is intended for use in conjunction with a companion volume, The 1985 Army Experience Survey: Data Sourcebook and User's Manual, which documents the AES data files. Technical aspects of the survey data files and descriptions of each variable in the files are therefore not discussed in the present volume. Readers seeking detailed information on the coding of each variable are referred to the Data Sourcebook and User's Manual. Survey results will be presented in a series of analytic reports forthcoming from the Army Research Institute for the Behavioral and Social Sciences (ARI). Preliminary survey results are currently available in a series of descriptive tabular volumes:

- The 1985 Army Experience Survey: Tabular Descriptions of First-Term Separates, Volumes I and II (Research Products 86-1 and 86-2);
- The 1985 Army Experience Survey: Tabular Descriptions of First-Term Attritees, Volumes I and II (Research Products 86-3 and 86-4);
- The 1985 Army Experience Survey: Tabular Descriptions of Mid-Career Separates, Volumes I and II (Research Products 86-5 and 86-6).
- The 1985 Army Experience Survey: Tabular Descriptions of Enlisted Retirees, Volumes I and II (Research Products 86-7 and 86-8).

Volume I in each set of tabular descriptions presents tables of AES items crossed by respondent gender, race, AFQT category, initial term of enlistment, and elapsed time since separation. Volume II crossing variables include region of current residence, pre-enlistment education, marital status at time of separation, military skill grouping, and perceived value of Army experience.

Organization of Final Report

The final report is composed of seven chapters and seven technical appendices. The information covered in the main body of the report includes an introduction to the project, discussions of survey sampling, development of the survey instrument, survey administration, results of the survey administration, data

processing, and recommendations for future administrations of veteran surveys. The appendices contain these supporting documents: the operational definitions of the separation groups sampled in the AES, a crosswalk of survey items to their original sources, copies of the mail and telephone versions of the survey, copies of survey cover letters and letters used in the address verification experiments, the coding systems used to classify respondents' industries and occupations, and the coding schemes developed for the open-ended questions.

The first chapter introduces the final report in the context of the ten volumes produced to document the AES project and data files, and to present preliminary results. The organization of the final report is discussed followed by a brief section presenting background information on the project.

The second chapter discusses AES sampling requirements, sample design specifications, and the process of sample selection. Discussions include descriptions of each of the main sample groups, reliability requirements, selection procedures, and data sampling source.

Chapter three presents AES survey content areas and the AES instrument development process. This chapter includes a table outlining questionnaire content by the major topic areas covered in the mail and telephone versions of the survey instrument as well as indicating which data elements are also available from the Enlisted Master File.

The fourth chapter reviews the sequence of data collection activities, discusses respondent location and tracing procedures and telephone followup of mail nonrespondents, describes an experiment reversing the order of methodologies used to contact sample members, and presents rates of survey returns. Respondent location and tracing sources are compared based on cost and effectiveness. Telephone followup procedures are described as are the procedures used to conduct the Telephone/Mail experiment. The outcomes of each phase of data collection are reviewed and compared.

Chapter five presents survey methodology results. The chapter provides details about the two address verification experiments conducted to determine sample find rates. Survey find, completion, and response rates are defined and computed for the total AES sample as well as for each separation group. These same rates are also compared across key demographic/service categories within each separation group. Comparisons of the survey find, completion, and response rates are made between the telephone/mail experiment and the main survey procedures.

The next section of the report, Chapter 6, discusses data processing procedures. Included in the discussions are the

design and maintenance of data receipt control and sample management systems, coding and coding verification operations, data entry and editing, and sample weighting.

The final chapter presents a review of the lessons learned in the course of administering this survey of Army veterans as well as recommendations for improving future surveys of this type. Points raised for consideration include: the use of DMDC data for conducting sampling and address searches; questionnaire design issues including critiques of individual survey items; future tracing sources, search sequences, and time requirements; advantages and disadvantages of various survey methodologies; open-ended coding procedures; and sample weighting.

Seven appendices are provided as supporting documentation to this report. These include the following:

- Appendix A - Operational Definitions of Separation Status Groups;
- Appendix B - Crosswalk of Survey Items to Original Survey Source;
- Appendix C - The 1985 Army Experience Survey Instrument: Mail Version;
- Appendix D - The 1985 Army Experience Survey Instrument: Telephone Version;
- Appendix E - Survey Letters;
- Appendix F - Alphabetical Index of Industries and Occupations; and
- Appendix G - Coding Schemes Used to Categorize Responses to Open-Ended Questions.

Background

The Army Experience Survey was sponsored by the Army Research Institute for the Behavioral and Social Sciences (ARI). The survey was conducted to obtain information on the characteristics, experiences, and attitudes of recently separated Army veterans. The AES survey was designed to answer specific questions raised by the Secretary of the Army, John O. Marsh, Jr., in Spring 1984.

Developing a better understanding of what veterans feel and say about their Army experience is important for two major reasons. First, Army veterans represent a major source of enlistments into the Reserve and National Guard components.

Second, Army veterans are seen as key influences on the public's opinion of the Army. More specifically, the words and actions of Army veterans can have either positive or negative impacts upon enlistments. In order to better develop, monitor, and forecast enlistment and reenlistment trends, military policy makers need to understand: (1) how veterans view their Army experience, (2) how their experiences impact upon their enlistment for reserve duty, and (3) what veterans say to potential future enlistees.

The 1985 AES also represents an expansion of ARI's efforts to obtain data in support of modeling the enlistment/reenlistment decisionmaking processes. ARI has been extensively involved in the conduct of surveys of personnel at various stages in the process of Army enlistment and reenlistment. For example, the ARI New Recruits Surveys (NRS) were administered to tap the enlistment attitudes and motivations of new soldiers entering Army Reception Stations during FY82, FY83, FY84, and FY85. The 1984 ARI Enlistment Decision Surveys (MEPS¹ and MEPS Followup surveys) were designed to obtain information about enlistment decisionmaking at an earlier stage. The MEPS surveys were administered to examinees as they contracted for the Army's delayed entry program (DEP) and to examinees who were qualified to enlist but who did not sign enlistment contracts; the followup components of the Enlistment Decision Survey attempted to identify differences between DEP enlistees who became accessions and those who became losses. In a similar effort, high school students were surveyed about career decisions during the 1983/1984 school year in the ARI/USAREC² High School Senior Survey. In still another effort, the 1983 ARI Exit Surveys were administered to soldiers separating from active duty between September and December 1983 in order to learn about the reasons for Army separations. Several DoD survey efforts have also focused on the enlistment/reenlistment process. Among these are the Youth Attitude Tracking Study (YATS) and the Reserve Components Attitude Study (RCAS).

Only one prior study has focused on military veterans, the Defense Manpower Data Center's 1983 Veterans Attitude Tracking Study (VATS). The VATS sought to obtain information about the career and education plans, and reenlistment propensity of military veterans separating from active duty between April 1980 and November 1981. The 1983 VATS conducted its survey exclusively

¹MEPS is an acronym for the Military Examination Processing Station.

²USAREC is an acronym for the United States Army Recruiting Command.

through telephone interviewing without followup of nonrespondents. The Army Experience Survey employed more vigorous respondent location/tracing and data collection procedures than the VATS in order to ensure broad generalizability of the findings.

Chapter 2: SURVEY SAMPLING

Sampling Requirements

Target Populations. The Army Experience Survey (AES) was designed to provide estimates for each of six target populations of enlisted soldiers. Five of these were defined on the basis of their Army service and the terms of their separation from the Army, as follows:

1. Soldiers who left the Army after completing their first term of service ("first-term separatees");
2. Soldiers who left the Army before completing their first term of service ("first-term attritees");
3. Soldiers who left the Army after completing more than one term of service, but with less than ten years of service;
4. Soldiers who left the Army with ten or more years of service, but who were not retired; and
5. Soldiers who retired.

The sixth population consisted of:

6. Exit Survey respondents, a group of 1,548 first-term separatees who completed questionnaires during September-December 1983 in the ARI Exit Survey.

Categories 3 and 4 above were later combined to form the mid-career separatee group.

The sample frame included all soldiers who left the Army during FY82-FY84, with certain exceptions. The exceptions were: (a) soldiers who entered officer programs; (b) medical retirees; (c) later-term attritees; (d) soldiers who died in service; and, (e) Exit Survey respondents (since these were taken to be a separately targeted population).

First-Term Separatees and Attritees. The primary focus of the survey was on first-term separatees and comparisons between first-term separatees and first-term attritees. ARI specified that the sample of first-term separatees should provide 95% confidence intervals no wider than 8 percentage points (± 4) for

estimated response percentages in each of the following demographic/service categories:

<u>Race:</u>	<u>Time Since Leaving the Army:</u>
White, not Hispanic	1 year
Black, not Hispanic	2 years
Hispanic	3 years
<u>Gender:</u>	<u>AFQT Category:</u>
Male	(based upon Entrance
Female	Qualification Test score)
	Category 1&2
	Category 3A
<u>Term of Enlistment:</u>	Category 3B
	Category 4 and below
2 years	
3 years	
4 years	

ARI also specified that the sample of first-term attritees be large enough to provide 95% confidence intervals no wider than 18 percentage points (± 9) for comparisons of response percentages with the sample of first-term separatees.

To meet these sampling reliability targets requires 600 completed interviews of first-term separatees and 148 completed interviews of first-term attritees in each of the 15 demographic/service categories. ARI specified, for sample planning purposes, a combined rate of "finds" (locating sampled individuals) and responses of 80% for the sample of first-term separatees. As shown below, the required sample size provided 750 first-term separatees.

	<u>Sample Size</u>		<u>Assumed Finds and Responses</u>		<u>Number of Completes Needed</u>
First-Term Separatees	750	X	80%	=	600
First-Term Attritees	247	X	60%	=	148

ARI also specified a combined rate of finds and responses of 60% for the sample of first-term attritees. Therefore, the sample was designed to provide 247 first-term attritees in each of the 15 categories.

It should be noted that the find and response rate specifications did not require independent samples of 750 first-term

separatees and 247 attritees in each of the 15 demographic/service categories. So long as the specified number of sample members fell into each of the 15 categories, the mix of characteristics was unimportant. For example, a Black, non-Hispanic male with a mental category of 3A would be simultaneously counted toward the numbers required for Blacks, males, and mental category 3A. Certain of the specified 15 demographic/service characteristics are more common than others. For example, White enlistees are more numerous than Hispanic enlistees, males are more numerous than females, and three-year enlistment terms are more common than two-year enlistments.

It was anticipated that due to their smaller numbers, certain demographic/service groups would be underrepresented using a simple random sample. This assessment was based upon the previously mentioned sample size requirements of 750 first-term separatees, and 247 first-term attritees. In order to avoid drawing an enormous random sample, underrepresented groups were supplemented to attain the specified minimum for each of the two separatee groups. The supplementation procedure is described in the Sample Design portion of this chapter which begins on page 10.

Other Army Service Populations. The samples for each of the three other Army service populations (two groups of mid-career separatees and the retiree group) were designed to provide overall statistics for general comparison with the main sample, i.e., first-term separatees, with as much precision as feasible within the limits of total respondent burden for the study. Based on their relative interest for the study, the following sample sizes were selected:

<u>Separation Group:</u>	<u>Sample n:</u>
● More than 1 term, less than 10 years	598
● 10 years or more, not retired	500
● Retirees	500

It was assumed that the combined rate of finds and response for each of these groups would be 60%.

Exit Survey Respondents. The Exit Survey respondents are a group of 1,548 first-term separatees who left the Army during September-December 1983 and completed questionnaires in the 1983 ARI Exit Survey. The Exit Survey contained items similar to those in the AES. The AES Survey plan specified a target sample size for this group to provide a basis for analysis of changes in attitudes and opinions that might occur over time. The 1,548 Exit Survey respondents were treated as a separate target population to avoid introducing response bias by combining the

responses of separatees previously surveyed with the responses of those being surveyed about their Army separation for the first time.

Because their current responses may be conditioned by their earlier participation in the Exit Survey, the Exit Survey respondents are treated as an "experimental" cohort to be used to measure changes over time. Therefore, they are not included in the tabulation volume for first-term separatees. However, a nonresponse adjusted sampling weight is provided in the data records for Exit Survey respondents, to be used if it is desired to include them in tabulations of first-term separatees. This weight is a simple inflation factor and does not incorporate any post-stratification.

The Exit Survey respondents provide two measures of the opinions and attitudes of separatees over time: once at the time of leaving the Army, and again approximately a year to a year-and-a-half later. Therefore, although they do not represent a probability sample of enlisted soldiers separating during the AES target period, they provide information to supplement comparisons by "time since leaving" between Exit Survey respondents and other separation groups.

In order to identify an appropriate sample size for the Exit Survey respondents, we conducted McNemar's test (Miettinen, 1968). This test analyzes the probability of detecting shifts in attitudes or responses to question categories given different sample sizes. The results suggested that a sample of 200 completed interviews would provide a useful analytical data base. Therefore, a sample of 267 soldiers was selected from this group, assuming an 80% combined find and response rate.

Sample Design

First-Term Separatees and Attritees. A sample design was adopted that would provide a representative sample of the desired size for each demographic/service category. This was accomplished by: (1) drawing a basic representative sample of the frame, and (2) as necessary, supplementing the basic samples for the first-term separatees and attritees to achieve the desired sample sizes within certain underrepresented demographic/service categories (e.g., Hispanics, females). Table 1 indicates by astericks which demographic/service categories required supplemental samples for the first-term separatees and attritees.

Table 1

Sample Supplementation by Demographic/Service Categories

Demographic/Service Category	First-Term Separatees			First-Term Attritees		
	Basic Sample	Supplemental Sample	Total Sample	Basic Sample	Supplemental Sample	Total Sample
<u>Race</u>						
White, not Hispanic	1,848	1,183	3,031	725	283	1,008
Black, not Hispanic	859	294	1,153	209**	96	305
Hispanic	120*	673	793	32**	230	262
Other (N/A)	107	47	154	28	13	41
<u>Gender</u>						
Male	2,625	1,619	4,245	822	469	1,291
Female	308*	578	886	172**	153	325
<u>Term of Enlistment</u>						
Two years	148	665	813	31**	223	254
Three years	1,970	1,063	3,033	591	268	859
Four years or more	814	469	1,283	371	130	501
Other and unknown (N/A)	2	0	2	1	1	2
<u>Time Since Leaving</u>						
One year	684	671	1,355	289	169	458
Two years	1,268	869	2,137	355	219	574
Three years	982	657	1,639	350	234	584
<u>AFQT Category</u>						
Category 1&2	632	612	1,244	242	177	419
Category 3A	406	656	1,062	217	174	391
Category 3B	659	366	1,025	318	113	431
Category 4 and below	1,219	549	1,768	207	155	362
Unknown (N/A)	18	14	32	10	3	13
Total	2,934	2,197	5,131	994	622	1,616

* Supplemental sample was selected to provide at least 750 total sample cases in this category.

** Supplemental sample was selected to provide at least 247 total sample cases in this category.

N/A Not applicable; category not considered for supplementation.

The basic sample of first-term separatees contained 2,934 persons, and 994 for the basic sample of first-term attritees. The basic sample was selected first and then any additional samples required to meet the target size for a demographic/service category was selected. Each of the basic and supplemental samples was selected as an independent, systematic random sample. Therefore, the supplementation for any demographic/service category also increased the sample for other demographic/service categories. For example, supplementation for Hispanic females also added sample members to AFQT groups, to the group of persons with 2 year enlistments, and so on.

Other Army Service Populations and Exit Survey Respondents. The samples for each of the other Army service populations, and the 1983 Exit Survey respondents, were also selected as systematic random samples. No sample supplementation was performed for the Exit Survey respondents, mid-career or retiree groups.

Figure 1 illustrates the AES sampling process. This figure starts with the total AES sampling frame and shows the distribution of cases in the basic and supplemental samples across each of the separation groups.

Sample Selection

Sampling Frames. The population of interest for the AES was defined as enlisted soldiers who separated from service between October 1981 and September 1984. The target population sampling frame was constructed from Army personnel records which were provided by the Defense Manpower Data Center (DMDC). Army personnel records were obtained from the FY82, FY83, and FY84 versions of the Enlisted Master File (EMF). Systematic random samples of 8,734 veterans separating from the Army during FY82-FY84 were drawn by separation status and selected demographic/service categories.

Table 2 presents the distribution of the population of interest, sample members, and respondents by separation status. As reflected in Table 2, the first-term separatee group was of primary interest. First-term attritees, Exit Survey respondents, the two mid-career groups, and enlisted retirees were surveyed to allow for comparisons with the primary target group. The operational definitions of each target population, using data elements available in the EMF, are provided in Appendix A. As evidenced in Table 28, located in Chapter 7, the correspondence between self-reported information regarding the number of enlistments (survey item #49) and portion of final enlistment term served (item #43), and the separation status, as defined using EMF variables, is very high.

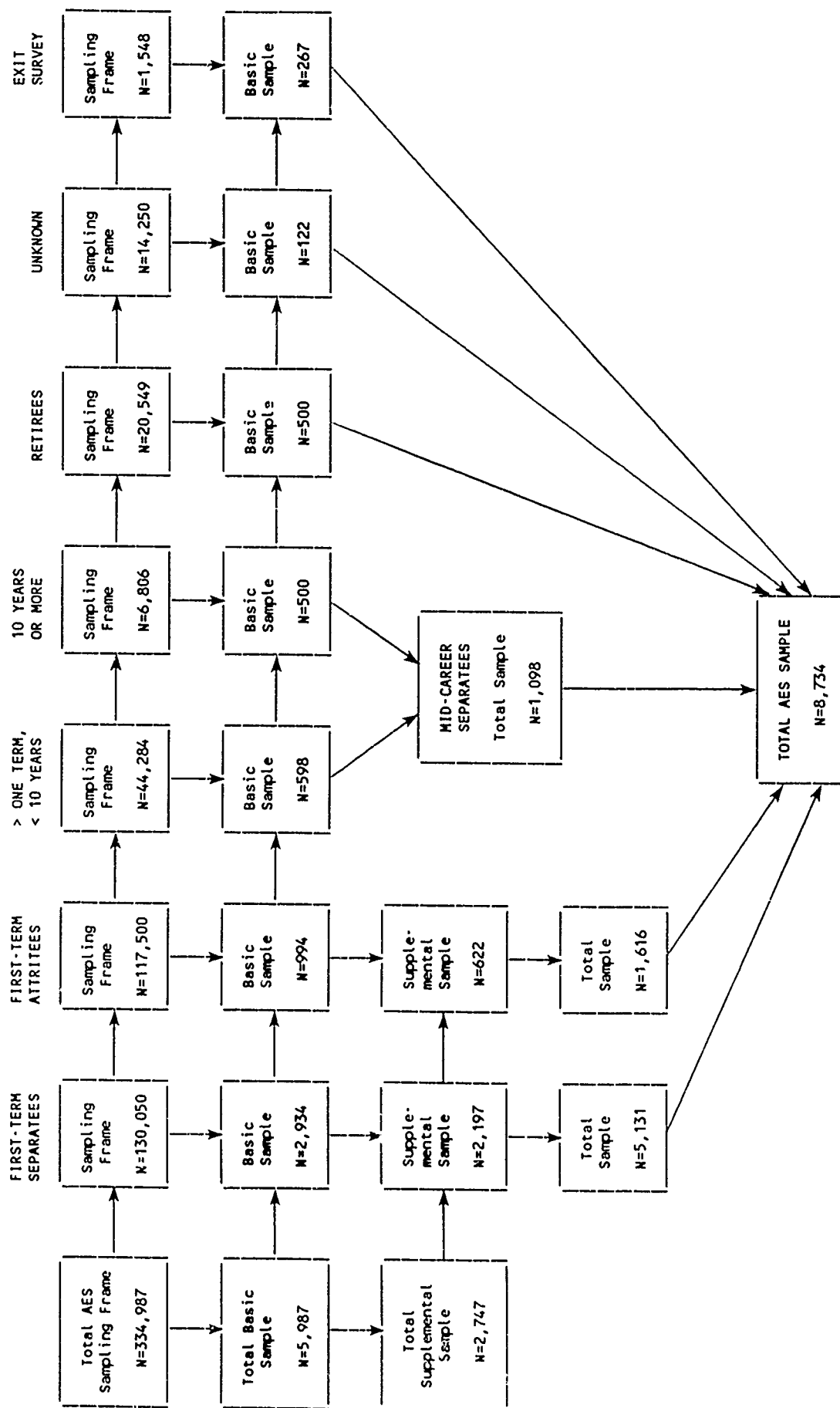


Figure 1. Distribution of AES sampling frame across separation group samples.

Table 2. Final AES Frame, Sample, and Respondent Counts

Separation Status	Frame Count	Sample Count	Completed Survey Count	Ineligible Count	Respondent Count	Tabulation Volume Count	Notes
1. First-Term Separates	130,050	5,131	2,563	26	2,589	2,566	The 2,566 First-Term Separate respondents included in Tabulation Volumes are based on 2,563 completed surveys plus 3 additional completes from the unknown separation status group.
2. First-Term Attritees	117,500	1,616	692	11	703	715	The 715 First-Term Attritee respondents included in Tabulation Volumes are based on 692 completed surveys plus 23 additional completes from the unknown separation status group.
3. More than one term < 10 years	44,284	598	281	2	283	515	Separation statuses 3 and 4 were combined into "Mid-Career Separates" for presentation in Tabulation Volumes. The combined total of completed surveys for these two groups is 513 (281+232). Two additional completes were added from the unknown separation status group for a total of 515.
4. 10 years or more, not retired	6,806	500	232	3	235		
5. Retirees	20,549	500	412	4	416	412	--
6. Unknown	14,250	122	28	2	30	No tabulations produced	Unknown separation status respondents were reclassified into other separation statuses based on their survey responses. Of the 28 "unknown" survey completes, 3 became First-Term Separates, 23 became First-Term Attritees, and 2 became Mid-Career Separates.
7. Exit Survey Respondents	1,548	267	139	2	141	N/A	--
TOTAL	334,987	8,734	4,347	50	4,397	4,208	

Missing Data in Sampling Frames. The combined sampling frames included 14,250 persons whose separation status was unknown due to missing data on the EMF. To provide representation of the complete veteran population, it was necessary to include a sample from that group. For the survey, they were sampled at a rate of 1 in 117, which yielded a sample of 122 persons.

Similarly, some sample members had missing demographic data. This caused a problem in determining what sampling rate should be used. The problem was handled by sampling these individuals at the same rate as individuals in the most common category in the group for which the data were missing. This is illustrated below.

<u>Group in which Data Were Missing</u>	<u>Category(ies) Used to Determine Sampling Rate</u>
Race	White, not Hispanic
Gender	Male
Term of Enlistment	3 years
Time Since Leaving the Army	3 years
AFQT	AFQT Category 4 and below

Individuals with missing data items were selected for the sample at the sampling rate of the category indicated. With the exception of AFQT, the missing data items were obtained through survey questions. In the survey tabulations, respondents are classified in the demographic/service category indicated by their survey responses. Individuals with missing AFQT scores could not be included in the tabulations using AFQT as a crossing variable.

Chapter 3: QUESTIONNAIRE DEVELOPMENT

Instrument Content

The 1985 AES was designed to answer specific questions raised by the Secretary of the Army in Spring 1984, as well as to provide information that would allow comparison of results with other ARI and DoD surveys. Questions raised by the Secretary which guided the development of this survey effort were:

- As veterans return to civilian life, where do they go? What do they do?
- Has the Army experience been helpful to them? Is it something they are glad they did?
- How do they rate the Army as an institution?
- Are they favorably disposed to joining the Reserve components?
- Do they view their service in a citizenship role?
- Do they have misgivings? If so, can anything be done to improve the service for future enlistees?

To ensure comparability of AES data with data from previous surveys (i.e., ARI's New Recruits, MEPS, and Exit Surveys, the 1979 DoD Survey of Personnel Entering Military Service, Youth Attitude Tracking Studies [YATS], the Reserve Components Attitude Studies [RCAS], and the 1983 Veterans Attitudes Survey [VATS]), several questions were taken from these earlier surveys and modified as appropriate to fit the purposes of the AES. A crosswalk of AES survey items to their original survey sources is presented in Appendix B. The incorporation of survey items from previous studies resulted in two major advantages. First, using previously tested items ensured that survey items were appropriate for the targeted population without an extensive developmental effort. Second, this approach facilitates cross-comparisons of AES data items with items in earlier surveys from which the AES questions were obtained.

New survey items were developed to address points of interest raised by Secretary Marsh which had not been covered by earlier surveys. These included the socioeconomic status of recent veterans, their current activities, and their feelings about their Army experience. Table 3, located at the end of this chapter, summarizes the information contained in the 1985 Army Experience Survey by content area.

Instrument Development

The AES data collection methodology involved multi-wave mailings with telephone followup of nonrespondents. To accommodate this methodology, both mail and telephone versions of the survey were developed. Although both versions of the survey included identical questionnaire items, the transition statements between survey sections and item pronouns were worded differently to reflect distinctions between self-administered and interviewer-administered questionnaires. (Copies of the mail and telephone versions of the survey appear in Appendices C and D, respectively.)

The mail and telephone versions of the survey were pretested with seven in-service respondents at Fort Belvoir. Five respondents were instructed to complete the survey as if they had received the questionnaire in the mail. The two remaining pretest respondents were administered the questionnaire by telephone. Upon completion of the surveys, each pretest respondent was debriefed regarding various aspects of the survey. Debriefing discussions focused on the level of effort and time required to complete the survey, as well as question interest, wording, and intelligibility. Comments regarding the survey obtained during pretesting were incorporated during the survey revision stage. The average pretest respondent in the group administration took 26 minutes to complete the survey; the telephone interviews averaged 25 minutes in length.

The development of the survey instrument proceeded through a series of revisions based on the pretest and review from the project staff at ARI, Westat, and the Office of the Deputy Chief of Staff for Personnel. Dr. Charles Moskos, Professor of Military Sociology at Northwestern University, also reviewed and commented on survey items and objectives.

The Office of Management and Budget (OMB) reviewed and approved the survey instruments, administration procedures, and data analysis plans.

Table 3
1985 Army Veterans Survey:
Data Content and Source

EMF	<u>SOURCE</u>	SURVEY	INFORMATION
<u>DEMOGRAPHICS/ENLISTMENT CHARACTERISTICS</u>			
X			SSN
X		X	Sex
		X	Current Zip Code
X		X	Date Of Birth
X		X	Racial/Ethnic Identification
		X	Ever Married
X		X	Marital Status At Separation
		X	Age At First Marriage
		X	Current Marital Status
		X	Employment Status Of Spouse
		X	Personal Earnings Per Month
		X	Household Earnings Per Month
		X	Number Of Children
		X	Age Of Oldest Child
X		X	State Of Residence When Joined Army
X		X	Number Of Terms Of Active Enlistment
X		X	Length Of Obligation - First Term
		X	Response If MOS Had Not Offered 2 Year Option
X		X	Year Of Entry
X		X	Date Of Separation
X		X	Nature Of Separation
<u>EDUCATION</u>			
X		X	Education At Accession
X		X	Education At Separation
		X	Education Since Separation
		X	Current Enrollment In Training/School
		X	Importance Of Financial Aid To Enlist
<u>EMPLOYMENT STATUS</u>			
		X	Employment Status At Present Time
		X	Kind Of Business Employed
		X	Job Title
		X	Main Activities/Duties
		X	Job Satisfaction
		X	Similarity Between Job Skills In Army/Current Job
		X	Number Of Full-Time Jobs Since Separation
		X	Difficulty Obtaining Job After Separation
		X	Job Lined Up Before Separation
		X	Army/Civilian Standard Of Living Comparison

* Enlisted Master File

Table 3 (continued)

EMF	<u>SOURCE</u>	SURVEY	INFORMATION
			<u>USE OF SERVICE BENEFITS</u>
	X		Army College Fund: Use/Amount
	X		Veterans Educational Assistance Program: Use/Amount
	X		GI Bill Education Benefits: Use/Amount
	X		Retirement Pay: Use/Amount
	X		Others: Use/Amount
			<u>ARMY BONUSES/INCENTIVES</u>
	X		Receive Cash Enlistment Bonus
	X		Receive Army College Fund Incentive
			<u>REASONS FOR JOINING ARMY-IMPORTANCE</u>
	X		Chance To Better Myself
	X		To Get Training In A Skill
	X		Money For A College Education
	X		To Serve My Country
	X		I Was Unemployed
	X		To Prove That I Could Make It
	X		To Be Away From Home On My Own
	X		Earn More Money
	X		Travel
	X		Get Away From A Personal Problem
	X		Family Tradition To Serve
	X		Needed Time To Mature
	X		I Was Drafted Or Enlisted To Avoid The Draft
			<u>ATTITUDES TOWARD ARMY SERVICE</u>
	X		Initial Plan To Pursue Army As Career
	X		Agreement-"I Am Proud To Have Been A Soldier"
	X		Satisfaction With Army Service
	X		Value Of Army Service
	X		Elaborate On Value Rating Of Army Service
	X		Comparison Army/Civilian Satisfaction
			<u>EFFECTS OF ARMY SERVICE</u>
	X		Development Of Job Skills
	X		Self-Confidence
	X		Leadership Ability
	X		Ability To Work With Others As A Team
	X		Respect For Authority
	X		Pride In Self
	X		Openness To New Ideas
	X		Pride in Serving Your Country
	X		Ability To Make New Friends
	X		Establishing Independence
	X		Self-Discipline
	X		Relationship With Spouse
	X		Relationship With Children

Table 3 (continued)

EMF	<u>SOURCE</u>	SURVEY	INFORMATION
			<u>REASONS FOR LEAVING ARMY</u>
	X		Officers Didn't Care About Enlisted People
	X		Could Get A Good Civilian Job
	X		Failed To Get Promoted
	X		Poor NCO Leadership
	X		Too Many PCS Moves
	X		Pay Was Too Low
	X		Working Hours Were Too Long
	X		No Credit For Doing A Good Job
	X		Too Much Family Separation
	X		Wanted To Go To School/College
	X		Couldn't Get Education Or Skill
	X		Didn't Get Along With NCOs
	X		Family Problems At Home
	X		Too Many Military Rules And Regulations
	X		Pregnant/Just Had A Baby
	X		Poor Relations With Fellow Soldiers
	X		Family Wants You To Get Out Of Army
	X		Too Much Unfair Treatment
	X		Not Enough Chance To Do Interesting/Challenging Work
	X		Family Support Services Inadequate
	X		Wanted To Use Service Benefits
	X		Not Being Treated With Respect
	X		Sexual Harassment
			<u>FEELING ABOUT ARMY SEPARATION EXPERIENCE</u>
	X		Would Decide To Join Army Again
	X		Would Have Decided To Stay In Army
	X		Most Important Reason For Separation From Army
	X		One Thing Army Could Have Done To Keep You From Separating
	X		Satisfaction-Overall Outprocessing Separation Experience
	X		One Thing Most Dissatisfied-Overall Outprocessing Separation Experience
			<u>COMPARISON OF ARMY LIFE AND CIVILIAN LIFE</u>
	X		Chance For Adventure
	X		Promotion Opportunities
	X		Good Supervisors
	X		Opportunity For A Stable Home Life
	X		Personal Freedom
	X		Opportunities For Continued Self-Improvement And Development
	X		Development Of Community Ties
	X		Recreation Opportunities
	X		Credit For Doing A Good Job
	X		Travel Opportunities
	X		Physical Training And Challenge
	X		Chance To Do Something For Your Country
	X		Opportunity To Learn Valuable Trade Or Skill
	X		Job Security, That Is, A Steady Job
	X		Good Income
	X		Having A Lot In Common With Co-workers
	X		Overall Support Services For Family Life
	X		Easy Work/Duties
	X		Enjoying Your Work
	X		Adequate Retirement Benefits
	X		Equal Pay And Opportunity For Men And Women
	X		Good Environment For Rearing Children
	X		Freedom From Sexual Harassment
	X		Opportunities For Making Friends

Table 3 (continued)

EMF	<u>SOURCE</u>	SURVEY	INFORMATION
			<u>RECOMMENDATIONS TO OTHERS ABOUT ARMY SERVICE</u>
		X	Positive About Army With Acquaintances
		X	Advice To Good Friend About Joining Army
		X	Specific Advice To Good Friend
		X	Number Of People Talked With About Joining The Army
		X	Feelings About Children's Service In Army
			Son
			Daughter
		X	Ways Army Service Could Be Improved For Future Enlistees
			<u>FEELINGS ABOUT SERVICE OPTIONS</u>
		X	All Young Men Owe Year Of Military Service
		X	All Young Women Owe Year Of Military Service
		X	All Young Men Owe Year Service To The Nation
		X	All Young Women Owe One Year Of Service To The Nation
			<u>SERVICE IN NATIONAL GUARD OR RESERVE UNIT</u>
		X	Joined A National Guard/Reserve Unit Since Separation
		X	Likelihood Of Joining
		X	Satisfaction With Unit
		X	Reason For Not Joining National Guard/ Reserve Unit
			<u>MEMBERSHIP IN ARMY/VETERAN ORGANIZATION</u>
		X	Names Of Organizations
		X	Interest In Joining An Association For Former Soldiers
			<u>INTEREST IN RECRUITMENT ACTIVITIES</u>
		X	Helping Recruiters Identify Potential Enlistees
		X	Interest In Speaking To High School Students About Army
			<u>INTEREST IN RECEIVING UP-TO-DATE INFORMATION</u>
		X	Interest In Receiving Newsletter Or Magazine

Chapter 4: SURVEY ADMINISTRATION

Overview

The Army Experience Survey data were collected using a combination of mail and telephone methods. Two waves of survey mailings were sent to sample members, after which nonrespondents were contacted by telephone. The general sequence of data collection activities proceeded as follows:

- Mailing of prenotification letter;
- First-wave mailing of survey;
- Reminder/thank you postcard;
- Second-wave³ mailing of survey and prenotification letter; and
- Telephone followup interviewing.

All survey participants with an address were sent prenotification letters signed by the Secretary of the Army. The letter informed veterans that they had been randomly selected for survey participation, explained the purposes of the study, and requested their cooperation in completing and returning the survey instrument. Within one week of the initial mailout, these sample members were sent the questionnaire, a postage-paid mail return envelope, and a cover letter signed by the Secretary of the Army. (Appendix E contains examples of the prenotification and cover letters.)

Within seven days of the initial survey mailing, sample members were sent postcards signed by General Porter, the Director of Military Personnel Management, thanking them for returning their completed questionnaires or reminding them to complete and return their surveys as soon as possible. The postcards included Westat's toll-free number for those who might have misplaced or never have received the first copy of the survey. About 10 days to two weeks after the postcard mailing, a second questionnaire was sent to sample members for whom no response had been received. The questionnaire was accompanied by a cover letter urging their participation in the survey. This letter was also signed by General Porter. (An example of this cover letter may

³In cases in which no response was received to the first survey mailing and multiple addresses were available, either from DMDC, the National Personnel Records Center, or the Reserve Component Personnel Administration Center, surveys were sent to all known addresses.

be found in Appendix E.) Sample members who did not respond to the second survey were forwarded to the Telephone Research Center (TRC) for followup interviews. The telephone followup effort, which required considerable coordination with the mail survey component, is described in greater detail in a later subsection of this chapter.

Because a large proportion of the AES sample consisted of young and highly mobile individuals, the project launched a major effort to locate survey respondents. Sample location and tracing efforts were important to minimize potential bias resulting from failure to collect data from "hard-to-find" sample members, who may lead very different lives and have different views from more easily located members. The challenge of sample location was further heightened by the short time frame allotted for the entire survey administration period (April to mid-July 1985).

A variety of methods were used to locate the AES sample members. Respondent addresses were initially sought from DMDC files, followed by a search of manual records at the National Personnel Record Center (NPRC) and the Reserve Component Personnel Administration Center (RCPAC). Mail returned with no forwarding addresses was sent to the Johns Holding Company for searches of Credit Bureau records. Telephone numbers were initially sought through Telematch (a private company with extensive telephone listings), followed by Directory Assistance. Figure 2 presents the general flow of data collection and tracing activities.

In addition to these primary data collection activities, three experiments were conducted on randomly drawn subsamples. The first involved a variation on the main data collection design, initiating data collection through a telephone contact, with mail followup if needed. The two other experiments involved efforts to establish better estimates of "true find rates." The data collection experiment is discussed in a later subsection of this chapter. The two experiments addressed to improving find rates are discussed in the next chapter entitled Survey Methodology Results.

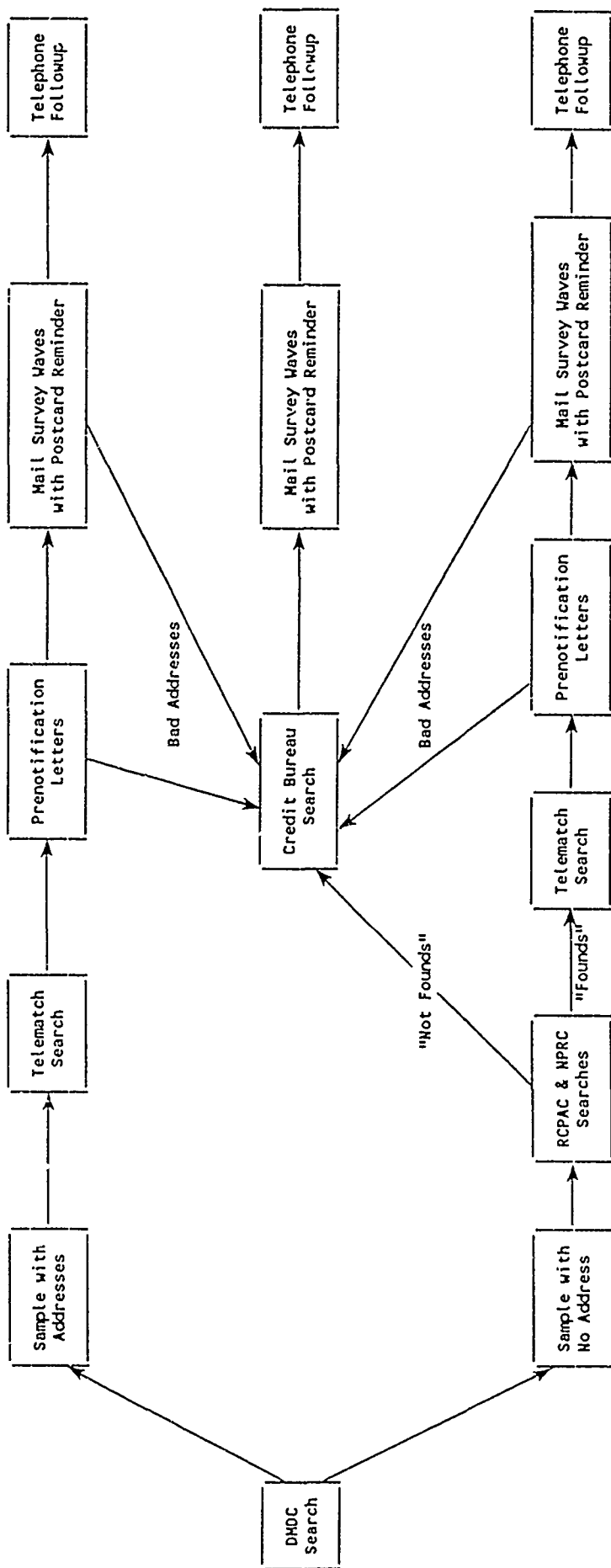


Figure 2. Flow of sample tracing and data collection procedures.

Respondent Location and Tracing

In November 1984, the Defense Manpower Data Center (DMDC) performed a search of several military personnel files to locate address information for the population of Army separatees. The data files searched for address information were current as of September 1984 and included the following:

- Reserve Address File combined with data from the Reserve Components Common Personnel Data System (RCCPDS),
- Retiree Pay Master File,
- DD214 Discharge File, and
- Veterans Administration Education File.

Of these, the Reserve file which is updated monthly, was most current, while the VA file which is updated annually was least so. The other two files are updated quarterly. DMDC was able to provide at least one address for 83% of the sample (N=7,232).

Table 4 shows the distribution of sample addresses contributed by each DMDC file.

Table 4
Contribution of Sample Member Addresses
by DMDC File

Reserve Address/RCCPDS Files	64%
DD214 Discharge File	28%
Retiree Pay Master File	6%
Veterans Administration Education File	2%

A second search was conducted in May 1985 on the updated DMDC files in an attempt to obtain information on sample members not located during the initial search, and to update address information. New addresses were found for 17% (N=1,530) of the sample, who were then sent survey mailings. Seventy-eight of these 1,530 "new" addresses represented the first and only

address obtained for certain sample members; the remainder were updates and/or additional addresses for previously located sample members.

Further tracing was required for sample members for whom addresses were found to be inaccurate or missing. In addition to the cases with no addresses, tracing procedures were employed for survey mail returned with no forwarding addresses, and nonrespondents to the survey mailings for whom telephone followup was required. Various sources were employed to locate addresses and/or telephone numbers for sample members. Sources consulted include: NPRC, RCPAC, Johns Holding Company (Credit Bureau listings), Telematch, and Directory Assistance. Table 5 summarizes the outcomes of using each tracing source. Table 6 summarizes the costs involved in each effort. Each tracing source is described below.

Table 5
Respondent Location and Tracing

Source	Input	N	% of Sample	Output	N	% of Requests
DMDC FILES (initial search)	Names & SSNs drawn from EMF	8,734	100%	Addresses	7,232	83%
	Names & SSNs drawn from EMF	8,734	100%	New/updated addresses	1,530	17%
POSTMASTER	DMDC Addresses	7,232	83%	No forwarding addresses New forwarding addresses	1,180 868	16% 12%
HPRC/RCPAC	Names & SSNs of sample members with no DMDC addresses; some SSNs only	1,502	17%	Names & addresses	1,270	85%
CREDIT BUREAU	Names, addresses & SSNs of sample members with no forwarding addresses	1,180	13%	Addresses	433	37%
	Names, addresses & SSNs of HPRC/RCPAC "Not Found"	232	3%	Addresses	62	27%
TELEMATCH	Names & addresses from DMDC	7,232	83%	Telephone numbers	2,198	30%
	HPRC/RCPAC names & addresses	1,270	15%	Telephone numbers	303	24%
DIRECTORY ASSISTANCE	Telephone/mail experiment sample names & addresses	339	91%	Telephone numbers	121 phone numbers 24 nonpublished 157 no listing (not found)	145 finds 43%
	Mail nonresponse names and addresses	3,926	45%	Telephone numbers	1,509 phone numbers 421 nonpublished 1,348 no listing 165 multiple listings	1,930 finds 49% 1,513 not found 38%

Table 6
Tracing Unit Costs*

	Per Search	Per Find
DMDC	Free	Free
NPRC and RCPAC	\$4.20	\$5.00
Johns Holding Company	\$1.85	\$5.35
Telematch	\$0.03	\$0.11
Directory Assistance	\$0.50	\$1.00

*These costs represent actual fees (i.e., no overhead) paid to the tracing sources, with the exception of NPRC and RCPAC which reflect the costs incurred by offsite field labor as well as a fee charged per case. These costs were calculated by determining the total cost incurred for use of each tracing source. Then the number of cases sent to each source was divided by the total cost to arrive at "cost per search." Finally, the number of cases actually found by each source was divided by the total cost to determine "cost per find."

NPRC and RCPAC. NPRC is the repository for the records of individuals who have been completely discharged from their military service obligations. RCPAC maintains records for individuals who have separated from active service, but who are not fully discharged from service since they still have a reserve obligation. Both organizations are located in St. Louis, Missouri. An essential step in gaining access to the NPRC records was the establishment of an interagency agreement between ARI and the National Archives and Records Service which oversees NPRC. In addition, a letter describing the AES project was filed with the Department of the Army requesting RCPAC's cooperation.

Names and social security numbers (SSN's) of sample members for whom no addresses were found on the DMDC files (N=1,502) were sent on a computer tape to NPRC and in hard copy to RCPAC. NPRC staff matched the SSN's to the automated Army Registry file to locate the sampled individuals in the NPRC hard copy files. Westat field staff located in St. Louis then copied addresses from both the NPRC and RCPAC hard copy files and sent them to Westat, where they were entered into an automated AES sample management system. (The sample management system is described in the Data Processing chapter of this report.)

The NPRC and RCPAC tracing efforts were found to be highly effective and cost-efficient for locating AES sample members with no address information. Addresses were found for 85% of the names provided, within four weeks of submission. The major costs of this operation were: the automated NPRC search (~\$1.00 per SSN sent); the time of Westat field staff to abstract address information from the NPRC and RCPAC records; programming time needed to produce search tapes and address forms; and the clerical time to update the automated sample management system with address information.

Johns Holding Company (Credit Bureau). Names and SSN's of sample members for whom no addresses could be located at NPRC or RCPAC (N=232) were sent to the Credit Bureau for an address search. This search produced a 27% yield. In addition, returned surveys with no forwarding addresses (N=1,180) were also sent to the Johns Holding Company to search for new addresses. These searches resulted in a 37% yield. Credit Bureau searches cost an average of \$4 per case submitted. Additional costs were incurred by Westat staff to produce data tapes and to update the sample management system.

Telematch. Telematch is a private firm in Northern Virginia that provides telephone numbers derived from a compilation of public directories of names and addresses. The Telematch search effort required preparation of a computerized tape containing the names and addresses of sample members, and entry of information received into the sample management system. For sample members with names and addresses (obtained either from DMDC, NPRC or RCPAC), telephone numbers were sought from Telematch at the cost of \$.06 per case successfully found. Telematch applies a minimum charge of \$125 per search request. Thus, Telematch searches performed on fewer than 2,083 cases resulted in costs per case that were higher than their advertised rate of \$.06/find. The tracing effort successfully matched 30% of the cases sent with names and addresses obtained from DMDC files, and 24% of the cases with information obtained through NPRC and/or RCPAC.

Directory Assistance. Telephone numbers were sought from Directory Assistance for sample members whose telephone numbers could not be located by Telematch. Interviewers called Directory Assistance in the city and state listed as the sample member's address. If Directory Assistance had no listing under the specific name (i.e., first and last names) and address, then the operator was asked to check for: (1) a listing with the same last name at the specified address; and (2) a listing with the specific name at any address in the same city.

Some of these inquiries turned up multiple listings with the same last name. In such instances, the operator was requested to provide all possible listings; however, operators would usually

provide no more than three listings per call. Telephone interviewers were instructed to take down as many listings as they could get. In the early phases of the telephone followup, interviewers working on cases with multiple listings would attempt to contact the sample member with the first several listings provided and often call back Directory Assistance for more listings if the initial numbers did not reach the sample member.

Toward the end of the followup field period, due to time and budget constraints, searching through multiple listings was given less priority and sometimes was not pursued. (These cases were included in the "not found" category.) There were two main exceptions to this rule. First, when performing Directory Assistance searches for individuals with very uncommon names, all multiple listings were pursued in anticipation of reaching the sample member or a relative. When relatives were located, they were asked for information that would lead to location of the sample member and were also given Westat's toll-free number. The second exception was that when interviewers found multiple listings for a common name, listings on the same street were pursued even if the first names (or initials) or street addresses were not identical.

About 48% of sample members sought from Directory Assistance were found, although about 20% of the "finds" were non-published numbers. Directory Assistance searches cost \$.50 per call plus interviewer time.

Telephone Followup

When the multi-wave survey mailings failed to obtain a response from sample members, the cases were sent to Westat's Telephone Research Center (TRC) for followup interviewing. The TRC obtained and trained interviewers, developed a TRC case management system, conducted sample location and tracing efforts, and conducted interviews by telephone. Since changes occurred on a daily basis throughout the field period, the telephone followup effort involved extensive coordination with the mail survey component to keep accurate accounts of new addresses, as well as who had and had not responded.

The TRC maintained an extensive schedule to insure good coverage both for call-ins on Westat's toll-free number and for the conduct of telephone interviews. Hours of operation ran from 9:00 a.m. to 11:00 p.m. Monday through Friday, as well as maintaining hours on both Saturday and Sunday.

The TRC received the names, a telephone number (if available), and all known addresses for the mail nonrespondents (n=3,926). All information received about individual cases was input to the TRC automated case management system which generated

call records for the interviewers. Call records were updated on a daily basis to reflect work completed on cases. As work was performed, information was input to the TRC case management system to maintain a record of the current followup status. Weekly reports were generated to track followup progress.

Cases were distributed according to followup status: new cases, scheduled call-back appointments, foreign language interviews (interviews to be conducted in Spanish), and recontacting initial refusals. TRC supervisors interacted with survey mailing staff on a daily basis to check on mail receipts of completed surveys, and to forward requests for survey materials from sample members reached by telephone.

Followup Procedures. Upon receipt of a case, interviewers began work by contacting Directory Assistance, unless a telephone number had already been provided by Telematch. (Please refer to the discussion on Telematch in the previous subsection of this chapter.) Sample members contacted by telephone were screened for eligibility (i.e., sample member had served on active duty in the U.S. Army, and separated from active duty between 1 and 3 years ago). After a brief introduction and a reading of the 1974 Privacy Act, the interviewer attempted to conduct an immediate interview upon first contact. Failing this, an attempt was made to set a time for a call-back.

Occasionally, sample members indicated that they had not received the survey mailings and preferred to complete a mail survey rather than complete an interview over the phone. In such instances, a current address was obtained, the TRC supervisor contacted the mail survey staff, and survey materials were mailed. Interviewers also found that some sample members reported having already completed and mailed in a survey. This information was recorded and the mail supervisor was consulted to confirm receipt of the survey. When mail surveys did not arrive within one week of the original phone contact, the sample members were recontacted for a followup interview.

TRC Survey Refusals. The TRC encountered some difficulties with sample members not wishing to participate in the survey. Survey refusals were basically of two types: (1) sample members located through Directory Assistance indicated that they had not received any mailings and refused to complete an interview over the phone; and (2) individuals who reported receiving the survey mailings but who did not wish to participate. In the first instance, TRC interviewers attempted to obtain accurate address information and survey materials were mailed. In the second instance, a TRC interviewer specially trained in recontacting initial refusals called the sample member again and attempted to obtain an interview.

The TRC initially encountered 131 refusals to participate in a telephone interview for the Army Experience Survey. Due to time constraints, not every refusal could be recontacted. The TRC made 162 attempts to convert the 131 initial refusals into completed surveys. (Note: an attempt can mean calling but getting no answer.) Of these 162 attempts, 24 (15%) were successful in yielding a completed survey leaving 107 refusals not converted. The conversion rate based on 24 completed surveys out of 131 initial refusals is 18.3%.

Interviewers who encountered refusals filled out Non-Interview Response Forms (NIRF's). A review of NIRF's filled out for the AES indicated that reasons given for initial refusals were quite strong. In most cases, it was not just a matter of the respondent's lack of interest or time, but rather a strong lack of desire to remember or talk about their Army experiences which led to the interview refusal. Therefore, despite the fact that a full conversion effort could not be completed, it is doubtful that a full-scale effort would have made a major impact on the total number of completes. The majority of initial refusals were not likely to be converted. A data tape with keyed NIRF information on telephone survey refusals has been provided to ARI for further analytic examination.

Telephone/Mail Experiment

The basic data collection approach adopted for the AES was a combination of mail surveys with telephone followup for nonrespondents. In order to allow analysis of data obtained using different methodologies, and to compare survey methods, an experiment was conducted using a subsample (n=375) of first-term separatees. The experiment involved initiating data collection with attempted telephone contact following a mailing of the same prenotification letters sent to the overall sample. Survey instruments were sent to individuals who expressed a strong preference for completing a mail survey, and individuals who either had no telephone listing or had non-published numbers.

The subsample for this experiment was randomly selected from the sample of 5,131 first-term separatees; therefore, they were just as likely as other first-term separatee sample members to require name, address and telephone tracing prior to being contacted. Forty-nine (13%) of those sampled for the telephone/mail experiment had only an SSN with no name or address available from DMDC files. These sample members and others with inadequate name and/or address information (N=65) were sent to NPRC and RCPAC for tracing. Fifty-five (85%) of these cases were found. A second tracing search was conducted by the Johns Holding Company for cases not found by NPRC and for prenotification letters returned with no forwarding addresses (n=93). Johns Holding Company found addresses for 20 (22%) of 93 cases. The "workable" sample for

telephone contact after tracing was 339 (no names and/or addresses were ever located for 36 of the originally sampled cases).

Survey Returns

Table 7 provides an indication of the effectiveness of each of the data collection procedures.

Table 7
Contribution of Data Collection Procedures
to Survey Response Rate

Data Collection Procedures	N of Respondents	% of Sample
1st Wave Mail	2,610	31%
2nd Wave Mail	<u>834</u>	<u>10%</u>
Mail Survey Response Rate	3,444	41% $\pm$ 0.5%*
Telephone Followup	740	9%
Total Mail Sample = 8,359	4,184	50% $\pm$ 0.5%*
=====		
Telephone/Mail Experiment Response Rate	163	43% $\pm$ 2.6%*
Total Telephone/Mail Sample = 375		

* Standard error.

By itself, the telephone/mail procedure provided the highest response rate, at 43%. However, the combined efforts of multi-wave survey mailings yielded nearly the same response rate at 41%. Telephone followup of mail nonrespondents provided an additional 9% of survey respondents for a combined response rate of 50%. Depending upon temporal and financial constraints, different data collection procedures may be preferable. Mail surveys require more time to administer than telephone surveys, although time required for sample tracing efforts may not vary

substantially. Telephone surveys can be completed more rapidly than mail surveys but are more expensive to conduct.

Another potential advantage to using telephone interviewing is in the quality of data obtained. Telephone interviewers are trained to aid respondents in question interpretation and in maintaining respondent concentration and interest. The use of interviewers is likely to reduce the incidence of response errors, such as out-of-range answers, multiple responses when a single answer is requested, and missing data which often occurs on self-administered surveys. The improvement in data quality would result in a cost savings due to reductions in the need for data preparation and cleaning.

Table 8 shows the survey yield for each of the data collection procedures. About 60% of the total completed surveys were obtained from the first wave of survey mailings. The second wave of mail surveys and the telephone followup each elicited slightly less than 20% of the total receipts. The final 4% of survey completes were contributed by the telephone/mail experiment.

Table 8
Survey Returns

Survey Phase	N	%
1st Wave Mail	2,610	60%
2nd Wave Mail	834	19%
Telephone Followup	740	17%
Telephone/Mail Experiment	163	4%
Total	4,347	100%

Chapter 5. SURVEY METHODOLOGY RESULTS

This chapter defines and describes survey find, completion, and response rates for the total AES sample and for each separation group. Details are provided about the two address verification experiments conducted to determine sample find rates. Survey find, completion, and response rates are presented across demographic/service groups for each separation group and notable differences are discussed. Finally, the survey find, completion, and response rates are compared for the methodological experiment with the corresponding rates for the main methodology.

Address Verification Experiments: Estimating the Survey Find Rate

During the data collection period, questions arose about how to classify sampled individuals who did not respond to survey mail, but for whom we had received no indication of a bad address. At the time set for cut-off of receipts, there were 3,025 nonrespondents, constituting 35% of the sample. It was important, in calculating the find rate, to be able to develop an estimate of the proportion of nonrespondents who, in essence, refused to respond to the survey, and to be able to differentiate them from those who had never received their mail. Without such estimates, all nonrespondents would have been considered as having been located (thus inflating the find rate) and having refused to respond (thus deflating the response rate).

A variety of circumstances may lead to inaccurate classification of individuals as "found, but assumed to be refusals." For example, the address presumed to have been the respondent's may actually be a parent's or previous roommate's residence. These individuals may be holding mail for the respondent's infrequent visits. Also, respondents may have moved without ever having submitted changes of address to the post office. Further, mail may be going to old or incorrect addresses where it is being thrown away without notifying the post office.

In order to obtain better estimates of actual find and response rates, two experiments were conducted involving the use of certified mail and postmaster verification. Descriptions of each experiment are presented below followed by a discussion of findings.

The Postmaster Verification Experiment. Names and addresses of a random sample of 200 mail nonrespondents were sent to the postmaster in the addressees' zip codes, with a form letter signed by an ARI representative (see Appendix E) requesting address verification. Verification means that the post office states that the address is one at which mail for a postal customer is currently being delivered. It does not mean that the address is the postal customer's actual residence, nor that the customer is known to receive the mail delivered at the address.

The postmaster verification service is provided free of charge to government agencies (under Postal Bulletin #21489), in order to facilitate efforts to locate individuals who are typically difficult to locate (e.g., parents not making child support payments). The postmaster response time averaged about three weeks.

The Certified Mail Experiment. A second address verification procedure employed involved the use of certified mail to confirm a respondent's correct address. Certified letters (see Appendix E) were mailed to a separate random subsample of 200 mail nonrespondents using restricted delivery. Restricted delivery requires that only the named respondent or an authorized agent, such as a spouse or parent, sign the certified mail receipt. The signed receipts were then returned to Westat by the post office. This procedure cost \$2.70 for each mailing.

Address Verification Results. Table 9 shows the results of the two address verification experiments. A higher post office response rate was obtained for the Postmaster Verification Experiment (93%) than for the Certified Mail Experiment (85%). The results of both experiments indicated that 12-13% of the addressees submitted were clearly bad addresses (i.e., no forwarding address, no such address, unknown addressee, or no certified mail signature). Eighty-seven percent of the addresses sent to postmasters were verified to be accurate. For the Certified Mail Experiment, however, some uncertainty remains regarding the proportion of addresses to be considered verified because 19% of the mail was unclaimed. The post office gives addressees a limited period--usually two weeks--in which to claim certified mail. Thus, it is not clear whether mail was unclaimed because individuals refused to collect mail which was sent to the correct address--as when individuals were avoiding undesirable mail (e.g., bill collectors)--or whether mail never reached the right addressee.

Table 9

Results of Two Address Verification Experiments

<u>POSTMASTER</u>			<u>CERTIFIED MAIL</u>		
N Mailed = 200			N Mailed = 200		
N Returned = 186 (93%)			N Returned = 170 (85%)		
<u>Address Status</u>	<u>N</u>	<u>%</u>		<u>N</u>	<u>%</u>
Address Verified as Correct	161	87%	Respondent Signed	73	43%
No Forwarding Address	6	3%	Agent Signed	43	25%
Addressee Not Known	16	9%	Unclaimed	33	19%
No Such Address	3	1%	No Forwarding Address	20	12%
			No Signature	1	0%
	186	100%		170	100%

The experiments suggest that the true find rate among survey nonrespondents is between 68% and 87%. That is, the Certified Mail Experiment reached 68% of the nonrespondents sampled (or their authorized agents) and the Postmaster Experiment produced address verifications for 87% of the nonrespondents sampled. Of the two experiments, the postmaster address verification was a less stringent check on whether or not the sample member actually resides at the given address; the Certified Mail Experiment provided a better estimate of the accuracy of sample member residence except that the location of 19% of the sample was uncertain due to unclaimed mail. Not knowing which rate most closely represented the "true" rate of survey refusals, an average of the two rates (i.e., 78%) was used in calculating survey find and response rates. Thus, 78% of all nonrespondents were assumed to have been found by mail and to have refused survey participation ("assumed refusals"). The converse was that 22% of all nonrespondents were assumed not to have been located ("assumed not found").

Figure 3 presents a graphic description of how the AES sample was finally categorized into groups of cases found and not found. The overall sample first branches into three groups comprised of "true" finds, nonrespondents, and sample members not found (not locatable). Upon establishing contact with the "true" finds, 4,347 sample members provided completed surveys, 50 were determined to be ineligible (e.g., never in Army, deceased), and 135 refused to participate in the survey. The initial group of sample members labeled "not found" numbered 1,177. This group included sample members for whom either no address could be provided by DMDC, NPRC or RCPAC, or their mail was returned marked "no forwarding address" and no further address information was obtained from any other tracing sources. Among the 3,025 nonrespondents, 2,360, or 78% were assumed (based upon the results of the two address verification experiments) to have been found and to have refused survey participation. This contributed 2,360 cases to the total group of finds. Twenty-two percent of the nonrespondents were assumed not to have been located, thus contributing 665 cases to the total group of sample members not found. The total number of sample members found was 6,892, or 79% of the total AES sample. The total number of sample members not found was 1,842, or 21% of the total AES sample.

Table 10 presents the number and percentage of sample members, by separation status, falling into each final survey status group, i.e., surveys completed, refusals, ineligible, nonrespondents, and not found. The retiree sample had the highest rate of completed surveys and conversely, the lowest rates of survey refusals, ineligible, nonrespondents, and not founds of any other separation group.

The sample of individuals with "unknown" separation status had the lowest rate of survey completions and the highest rate of unlocatable cases (not founds) among all separation groups. This is not surprising given that key Army personnel data for these individuals were missing--obtaining address and other demographic/service information on these persons was also more difficult than for other separatee groups.

The other sampled groups had similar rates of survey completions, refusals, ineligible, nonrespondents, and not founds. Exit Survey respondents and first-term separatees attained somewhat higher survey completion rates and somewhat lower rates of cases not found than the other separation groups. The other rates tended to reflect the overall sample rates of refusals, ineligible, and nonrespondents.

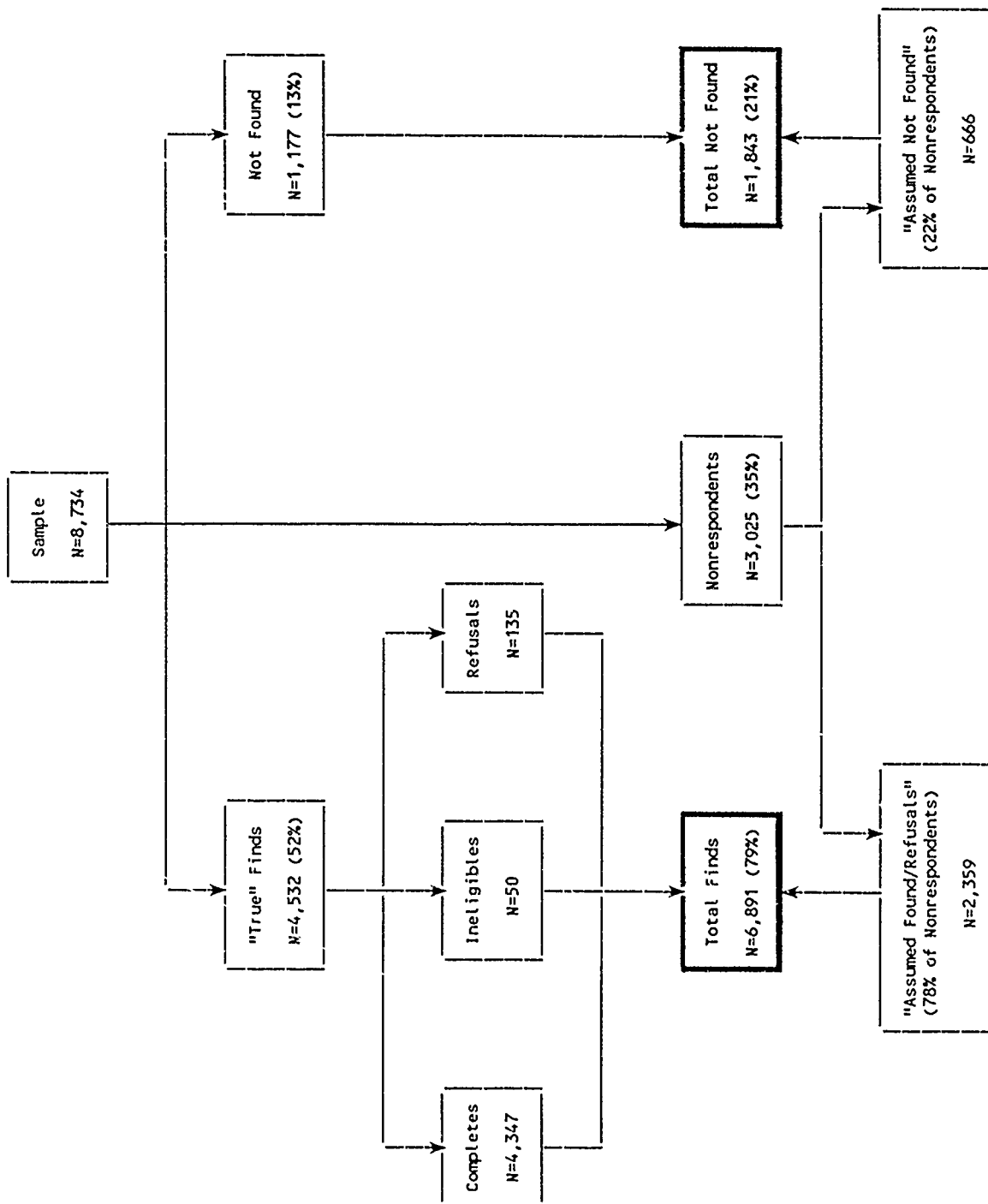


Figure 3. Army Experience Survey status flow.

Table 10
Final Status of AES Sample Members by Separation Status

Separation Status	Sampled N	Surveys Completed N %	Refusals N %	Ineligibles N %	Nonrespondents N %	Not Found N %
First-Term Separatees	5,131	2,563 50%	65 1%	26 1%	1,848 36%	629 12%
First-Term Attritees	1,616	692 43%	33 2%	11 2%	619 38%	261 16%
Mid-Career Separatees	1,098	513 47%	25 2%	5 1%	355 32%	200 18%
Enlisted Retirees	500	412 82%	6 1%	4 1%	63 13%	15 3%
Unknown	122	28 23%	4 3%	2 2%	45 37%	43 35%
Exit Survey Respondents	267	139 52%	2 1%	2 1%	95 36%	29 11%
TOTAL	8,734 100%	4,347 50%	135 2%	50 1%	3,025 35%	1,177 13%

Development of Survey Find, Completion, and Response Rates

The numbers and types of respondents obtained from the original sample are important indicators of sample coverage and generalizability of results. A variety of statistics were calculated to provide indications of sample coverage. Find rates were computed to provide an indication of how many sample members were successfully located. The find rate is of particular interest because of the difficulty involved in locating this type of population. Survey completion rates were computed to indicate the percentage of the located sample members who returned completed instruments.⁴ Survey response rates were calculated by multiplying the find and completion rates. The resulting product yields the proportion of sample members who constitute the respondent pool.

There are several ways in which find and response rates can be calculated (Council of American Survey Research Organizations, 1982); ARI and Westat agreed on the following. The find rate is equal to the sum of completed surveys, ineligible, actual refusals, and "assumed refusals,"⁵ divided by the total sample. The survey completion rate is equal to the number of completed questionnaires divided by the number of respondents found. Finally, the response rate is the result of multiplying the find

⁴Other researchers may be interested in an additional measure of survey completion, called a survey cooperation rate. This rate differs from the survey completion rate in that both sample members later determined to be ineligible for survey participation, as well as sample members completing a survey instrument, are considered. The cooperation rate, therefore, includes not only individuals completing a survey instrument, but also individuals responding to the survey request in a cooperative manner (i.e., providing enough information to determine their ineligibility). There were not large numbers of ineligible sample members in the AES, only 1% were determined to be ineligible, so the completion and cooperation rates were nearly identical. For this reason, AES reports only the slightly more conservative completion rate.

⁵"Assumed refusals" were determined by the results of address verification experiments discussed on page 37-39. Assumed refusals included a percentage of sample members for whom survey mail was not returned, telephone contact was not able to be established, and who did not mail back a completed survey. Since their mail was not returned as undeliverable, an assumption was made that the addressees had received their surveys and had chosen not to respond; however, since there had been no direct confirmation of contact, the "refusal" could only be assumed.

rate by the survey completion rate. This is equivalent to dividing the number of completed surveys by the total number in the sample.

Survey Results for Total AES Sample

Table 11 presents find, survey completion, and survey response rates by separation status for the entire AES sample. The overall sample find rate of 79% is very good considering that the AES sample consisted largely of a very young, mobile and hard-to-locate population. The only survey conducted on a similar sample was the 1983 Veteran's Attitude Tracking Study (VATS). Forty-five percent of the sampled males and 35% of the sampled females were located by VATS researchers (Arbor, Inc., 1984). Telephone interviewing was the only data collection method used by the VATS. Exclusive reliance on telephone interviewing as a data collection mechanism resulted in the automatic elimination of veterans who had no telephone, who had unlisted numbers, or who had telephone numbers listed under someone else's name. The systematic elimination of sample members without telephone listings likely introduced sample bias. Among AES sample members who were located, 63% overall completed a survey. By contrast, 33% of the located VATS sample members completed surveys (Arbor, Inc., 1984). The overall AES and VATS survey response rates (using AES formulae for rate calculations) are quite different at 50% and 13%, respectively.

Table 11

AES Sample Find, Completion, and Response Rates
by Separation Status

Separation Status	Sample N	Find Rate	Completion Rate	Response Rate (Find Rate X Completion Rate)
First-Term Separatees	5,131	80%	63%	50%
First-Term Attritees	1,616	75%	57%	43%
Mid-Career Separatees	1,098	75%	62%	47%
Retirees	500	94%	87%	82%
Unknown	122	57%	40%	23%
Exit Survey Respondents	267	81%	64%	52%
Overall	8,734	79%	63%	50%

Comparing AES separation groups in Table 11, retirees had the highest find and response rates of any separation group. The higher find rate is not surprising since there tends to be more current and complete address information for retirees than other veteran groups. Retired career Army personnel also responded at higher rates than the other separation groups. The find, completion, and response rates obtained for the other groups were similar to one another, with the highest rates obtained for the Exit Survey respondents and first-term separatees, and the lowest rates obtained for the first-term attritees.

Sample Coverage by Separation Group

In addition to examining response rates for each separation group, the demographic/service composition of respondents within each separation group was examined (see Tables 12-16).

Examination of survey outcomes for first-term separatees (Table 12) shows that their find, completion, and response rates were relatively high. In general, survey outcomes for the different demographic/service groups did not have highly divergent response patterns. The differences obtained showed somewhat greater tendencies for higher find and response rates among Whites, higher AFQT categories, two-year enlistees, and those who had separated one year before the survey.

First-term attritees (Table 13) show even more similar response patterns across their demographic/service categories. In this group, the females tended to be slightly more responsive, as did individuals who had left the service only a year prior to the survey.

The differences in rates across demographic/service groups were more marked for mid-career separatees than those obtained in other separation groups. Females were more easily found and responded at higher rates among the mid-career separatees (see Table 14). In addition, mid-career Whites were considerably more responsive than the other races. Also, the higher AFQT categories responded at a higher rate than the lower AFQT groups.

Table 15 shows the response patterns among retirees. In general, all retirees were easily found and were highly responsive to the survey. Still, find and response rates tended to be higher among males and Whites. Further, while sample members in the different AFQT categories were found at nearly the same rates, those in the lower AFQT categories responded less often than the others.

Table 12

AES Find, Completion, and Response Rates
For First-Term Separates

	Sample N	Find Rate	Completion Rate	Response Rate
<u>Gender</u>				
Male	4,245	80%	62%	50%
Female	886	78%	64%	50%
<u>Race</u>				
White, not Hispanic	3,031	82%	67%	55%
Black, not Hispanic	1,153	77%	52%	40%
Hispanic	793	75%	58%	44%
Other	154	76%	61%	46%
<u>AFOT Category</u>				
1&2	1,244	84%	70%	59%
3A	1,062	81%	66%	53%
3B	1,025	80%	61%	49%
4 & Below	1,768	76%	56%	43%
Unknown	32	59%	53%	31%
<u>Term of Initial Enlistment</u>				
2 Years	813	86%	71%	61%
3 Years	3,033	78%	59%	46%
4 or More Years	1,283	80%	65%	52%
Unknown	2	100%	0%	0%
<u>Time Since Separating</u>				
1 Year	1,355	82%	68%	56%
2 Years	2,137	79%	61%	48%
3 Years	1,639	79%	60%	47%
Total	5,131	80%	63%	50%

Table 13

AES Find, Completion, and Response Rates
For First-Term Attritees

	Sample N	Find Rate	Completion Rate	Response Rate
<u>Gender</u>				
Male	1,291	75%	55%	41%
Female	325	76%	62%	47%
<u>Race</u>				
White, not Hispanic	1,008	75%	58%	44%
Black, not Hispanic	305	78%	51%	40%
Hispanic	262	74%	57%	42%
Other	41	78%	56%	44%
<u>AFQT Category</u>				
1&2	419	77%	57%	44%
3A	391	75%	56%	42%
3B	431	76%	58%	44%
4 & Below	362	73%	56%	41%
Unknown	13	77%	60%	46%
<u>Term of Initial Enlistment</u>				
2 Years	254	76%	57%	43%
3 Years	859	75%	55%	41%
4 or More Years	501	76%	60%	46%
Unknown	2	100%	50%	50%
<u>Time Since Separating</u>				
1 Year	458	81%	62%	50%
2 Years	574	74%	55%	41%
3 Years	584	73%	54%	39%
Total	1,616	75%	57%	43%

Table 14

AES Find, Completion, and Response Rates
For Mid-Career Separates

	Sample N	Find Rate	Completion Rate	Response Rate
<u>Gender</u>				
Male	1,030	74%	62%	46%
Female	68	82%	66%	54%
<u>Race</u>				
White, not Hispanic	691	77%	70%	54%
Black, not Hispanic	334	71%	49%	35%
Hispanic	40	73%	41%	30%
Other	33	73%	67%	49%
<u>AFQT Category</u>				
1&2	289	77%	70%	54%
3A	212	74%	61%	45%
3B	282	77%	61%	47%
4 & Below	236	71%	53%	38%
Unknown	79	72%	70%	50%
<u>Term of Initial Enlistment</u>				
2 Years	61	75%	72%	54%
3 Years	592	77%	63%	49%
4 or More Years	271	73%	64%	47%
Unknown	174	70%	55%	39%
<u>Time Since Separating</u>				
1 Year	325	79%	64%	51%
2 Years	429	75%	61%	46%
3 Years	344	70%	63%	44%
Total	1,098	75%	63%	47%

Table 15

AES Find, Completion, and Response Rates
For Enlisted Retirees

	Sample N	Find Rate	Completion Rate	Response Rate
<u>Gender</u>				
Male	495	94%	88%	83%
Female	5	100%	80%	80%
<u>Race</u>				
White, not Hispanic	349	95%	91%	86%
Black, not Hispanic	124	91%	76%	69%
Hispanic	16	88%	86%	76%
Other	11	100%	91%	91%
<u>AFQT Category</u>				
1&2	106	94%	89%	84%
3A	68	97%	92%	89%
3B	98	94%	89%	84%
4 & Below	57	93%	77%	72%
Unknown	171	94%	86%	81%
<u>Term of Initial Enlistment</u>				
2 Years	0	--	--	--
3 Years	17	100%	94%	94%
4 or More Years	8	100%	100%	100%
Unknown	475	94%	87%	82%
<u>Time Since Separating</u>				
1 Year	124	94%	85%	80%
2 Years	171	96%	88%	84%
3 Years	205	93%	87%	81%
Total	500	94%	87%	82%

Table 16

AES Find, Completion, and Response Rates
For Exit Survey Respondents

	Sample N	Find Rate	Completion Rate	Response Rate
<u>Gender</u>				
Male	239	82%	63%	52%
Female	28	79%	77%	61%
<u>Race</u>				
White, not Hispanic	168	83%	66%	55%
Black, not Hispanic	79	78%	61%	48%
Hispanic	12	75%	78%	59%
Other	8	88%	29%	26%
<u>AFQT Category</u>				
1&2	57	89%	73%	65%
3A	36	86%	71%	61%
3B	44	75%	70%	53%
4 & Below	129	78%	55%	43%
Unknown	1	100%	100%	100%
<u>Term of Initial Enlistment</u>				
2 Years	22	91%	75%	68%
3 Years	150	78%	62%	48%
4 or More Years	95	85%	64%	54%
<u>Time Since Separating</u>				
1 Year	167	81%	63%	51%
2 Years	100	81%	65%	53%
3 Years	0	--	--	--
Total	267	81%	64%	52%

Table 16 shows the find, completion, and response rates for Exit Survey respondents. Females responded at a considerably higher rate than males. Whites, sample members in the higher AFQT categories, and persons with two-year enlistments also tended to have higher find, completion, and response rates.

Results of Telephone/Mail Experiment: Find and Return Rates

Table 17 presents survey results of the telephone-first data collection method for the experimental sample compared to the mail-first primary methodology. The telephone-first experimental sample was selected from the sample of first-term separatees. Of the 375 individuals selected for the telephone/mail experiment, 339 (90%) had names and workable addresses after tracing, and 121 (32%) were found to have telephone numbers.

Table 17
Comparison of Telephone-First Methodology
with Mail-First Methodology

Sample	Telephone-First Methodology N=375		Mail-First Methodology N=8,359
Names and Addresses Found (NAF)	N=339		N=7,232
Percent of Sample	90%		86%
Telephone Number Found (TNF)	YES N=121	NO N=218	a
Percent of Sample	32%	58%	
Percent of NAF	36%	64%	
.....			
Surveys Completed	By Phone N=91	By Mail N=72	a
Percent of Sample	24%	19%	
Percent of NAF	27%	21%	
Percent of TNF	75%	33%	
.....			
Response Rate	By Phone w/Mail Followup N=163		By Mail w/Phone Followup N=4,184
Percent of Sample	43%		50%
Percent of NAF	48%		58%

^a Frequencies/percentages could not be determined since mailed surveys did not ask for respondent phone number.

The remaining 218 individuals who had no telephone listings or unlisted numbers but who had workable addresses, were sent survey mailings. In addition, some individuals who were contacted by telephone were sent mail surveys upon request.

Table 18 shows the find, completion and response rates by demographic/service categories for the telephone/mail subsample. Like the first-term separatee sample, there were proportionately more respondents among those with two-year terms of enlistment, and those who had most recently left the service. In general, the rate differences among categories were greater for the experimental subsample than for the total sample of first-term separatees. Find and response rates were higher among males than females in the subsample, while no differences were found among first-term separatees. This can be attributed, at least in part, to name changes and lack of individual telephone listings among females. Differences in the response rates among the racial groups were far greater for the experimental subsample compared to the total first-term separatee group, with much lower response rates from non-Whites. Similar to the first-term separatee group, sample members in the lowest AFQT category tended to respond at lower rates than sample members in other categories.

Effects of Nonresponse on Interpretation of Survey Results

The main problem caused by nonresponse of sample members is that the survey findings cannot be assumed to be representative of the opinions and attitudes of the entire population. The potential bias may be considered as arising from two sources as follows:

1. Different rates of response among Army veterans having differing characteristics, such that the composition of the sample is a biased representation of the population. For example, in the case of first-term separatees, the response rates by AFQT category were as follows based on the weighted data:

<u>AFQT Category</u>	<u>Response Rate</u>
1&2	59%
3A	53%
3B	49%
4 & below	43%

Table 18

Find, Completion, and Response Rates for the
Telephone/Mail Experiment Sample Members

	Sample N	Find Rate	Completion Rate	Response Rate
<u>Gender</u>				
Male	312	77%	59%	45%
Female	63	65%	54%	35%
<u>Race</u>				
White, not Hispanic	226	75%	66%	50%
Black, not Hispanic	88	72%	43%	31%
Hispanic	51	76%	51%	39%
Other	10	80%	38%	30%
<u>AFQT Category</u>				
1&2	88	77%	65%	50%
3A	81	75%	67%	50%
3B	60	80%	65%	52%
4 & Below	141	72%	45%	32%
Unknown	5	80%	50%	40%
<u>Term of Initial Enlistment</u>				
2 Years	65	78%	75%	59%
3 Years	215	73%	49%	36%
4 or More Years	95	76%	65%	49%
<u>Time Since Separating</u>				
1 Year	97	73%	65%	47%
2 Years	160	74%	55%	41%
3 Years	118	77%	56%	43%
Total	375	75%	58%	43%

2. The opinions and attitudes of Army veterans who respond may be different from other veterans having the same demographic/service characteristics but who do not respond.

The weighting procedures used were designed to eliminate the first source of bias, but cannot compensate for the second potential source of bias. The second source of bias can only be mitigated by increasing the response rate. Except for retired veterans, 20-25 percentage points of the nonresponse rate was accounted for by veterans who could not be located and/or did not receive a survey form. Nonrespondents, therefore, may disproportionately represent more mobile veterans as well as women who married after leaving the Army.

No specific recommendation is generally applicable to all surveys as to what is an "acceptable" level of nonresponse. In principle, to guard against potential bias due to nonresponse, one should focus on strong findings where the potential bias in the survey data could not substantially change the conclusions drawn from the survey. Thus, clear patterns exhibited by the data are more likely to be valid than relatively small, even if statistically significant, differences between demographic/service categories. It is also important to keep in mind that response rates may vary considerably for small subgroups of veterans, as well as from one separation status group to another. In drawing conclusions based upon findings from subgroups of the AES population, it is necessary to consider the response rate of the particular subgroups (e.g., separation group, black male retirees) of interest and not simply the overall survey response rate.

It may also be noted that for the highest test categories (i.e., 1-3A), which are of the greatest interest in the AES, response rates are on the order of 50% and for the category 1&2 are close to 60% for the overall sample. Therefore, the opinions and attitudes expressed are of interest as representing a majority of veterans of similar demographic/service characteristics. However, it should be kept in mind that the opinions and attitudes of the nonrespondents might be quite different. When respondents represent a substantial part of the population, survey results are capable of providing useful guidance, when appropriately qualified, that a survey with a response rate of say 30% could not.

Chapter 6. DATA PROCESSING

There were a variety of activities comprising the data processing phases of the AES. The main activities consisted of: (1) sample management and data receipt control, (2) coding and coding verification, (3) data entry and editing, and (4) weighting. What follows are discussions on each of the data processing activities.

Data Receipt Control and Sample Management

The design and maintenance of sample management and receipt control systems were critical steps in establishing the status of individual cases in the processes of survey administration and data preparation. The sample management system was used in tracking survey mailings, mail returns, tracing activities, and survey receipts, thus aiding in the determination of survey status. The manual receipt control system was developed as a central reference source for recording the progress of individual surveys through the various stages of data preparation. Each system is briefly described below.

Receipt Control. A manual system was developed for maintaining a control log of surveys. Receipt control functions included opening, reviewing, sorting, counting, batching, and recording the receipt of all survey mail. The receipt control operation was responsible for determining the status of all returned surveys, identifying when sample members' addresses needed to be updated, when sample members needed to be traced, and entering this information into an automated sample management system. Table 19 lists all possible statuses for incoming surveys.

Sample and Tracing Management System. An automated sample management system was developed to provide a mechanism for recording ongoing survey administration activities. The sample management system was used for a number of functions including: (1) updating case information (e.g., inputting new addresses, changing case disposition), (2) producing periodic status reports, (3) producing mailing labels, and (4) keeping track of the numbers and dates of mailouts, as well as tracing activities undertaken and required.

Table 19

Case Status Codes of AES Sample Members

Complete Surveys

- Complete with no identified problems
- Complete but suspect data
- Complete, other than English language

Ineligibles

- Never in Army
- Never left Army
- Died
- Incapacitated, institutionalized (e.g., prison, hospital)
- Not currently accessible

Ineligible--Received After Cutoff Date

- Case finalized after 7/15/85

Not Found

- No forwarding address (and unsuccessful tracing with last known address)
- No name (or only first 4 characters of last name) and/or no address from DMDC, NPRC, or RCPAC; and not found by Credit Bureau
- No phone number found for telephone subsample

Nonresponse

- No mail survey returned, no successful telephone contact (e.g., no listing, multiple listing, non-published, no answer, maximum calls)
- Blank survey returned

Refusals

- No mail return and refuses telephone contact
 - From telephone-only subsample, refuses interview
 - Letter/note of refusal
 - Data on survey returned not appropriate for analysis
-

The sample management system was set up with a record for each case in the sample. The data file included numerous elements from the DMDC population tape: SSN, name, address, source of address (DMDC file name), gender, race, date of birth, term of enlistment, time since leaving, AFQT, and home of record. In addition, other elements that documented the survey experiences of each case were also recorded in the sample management system. These included: case ID, and dates of prenotification letter mailing, first and second wave mailouts, reminder postcard, and telephone followup, as well as the various tracing sources employed to locate the sample member. The system was updated daily.

Status reports were generated and submitted for ARI review on a weekly basis. The weekly reports provided statistics on the interim completion rates of sample members in each demographic/service category. Survey status reports were produced for the total sample and for each separation group separately. The status reports allowed the monitoring of how well the survey was achieving completion rates within each subgroup and across each separation status.

Coding

The AES contained numerous questions, some of which provided a specified list of answers, and others which requested written responses from the survey respondents. Many of the questions requesting written responses needed only brief answers, such as a zip code, state name, or a date. These questions did not require special processing for value category development and were handled by the close-ended coding operation. Other questions requesting written responses were considerably more complex. Thus, two types of coding operations were developed for the AES surveys: (1) coding close-ended and short-answer responses, and (2) coding the responses for more complex open-ended questions. Both operations are discussed below.

Close-Ended Coding. The close-ended coding process: (1) checked survey items for legibility; (2) assigned special codes when data were missing, when multiple responses were provided to questions requiring a single answer, or when answers were out-of-range; and (3) noted unusual occurrences in the data. In addition, the close-ended coding operation developed codes for

several short-answer questions (e.g., number of children, earnings, number of jobs worked), and categorized respondent descriptions of their industries and occupations.⁶

In general, coders were instructed that they were to preserve data just as they were provided. This meant that even when respondents failed to observe skip patterns in the questions or when they selected more than one response to questions which required a single answer, the actual responses were maintained whenever possible. Only the coding supervisors were allowed to assign the codes for out-of-range and multiple response errors.

Coders' work was checked for accuracy as a regular part of the coding procedures. One hundred percent of each coder's first batch of coding was examined by a coding supervisor for accuracy. If very few errors were identified, then 50% of the second batch was verified by the supervisor. Again, if few errors were identified, the verification rate was reduced to 20% of each coded batch. The verification rate was raised whenever coder error was observed to be increasing.

⁶The industrial and occupational coding was performed by coders who were specially trained and experienced in classifying descriptions of industries and job duties into the Industrial and Occupational Classification Systems developed by the Census Bureau. These classification systems are documented in their Alphabetical Index of Industries and Occupations: 1980 Census of Population, which is partially reproduced in Appendix F.

Open-Ended Coding. Table 20 lists the open-ended questions on the AES.

Table 20

1985 Army Experience Survey Open-Ended Questions

Question Number	Content Area
9E	Veteran benefits
16A	Value of Army experience
22	Most important reason for Army separation
23	What Army could have done to prevent separation
24A	One thing with which most dissatisfied in outprocessing/separation experience
28	What would you tell good friend about joining/not joining Army
31	Suggestions for improving Army service
34	Names of veteran associations to which you belong

Using the responses from a sample of approximately 10% of all respondents, categories were iteratively developed to classify the answers to the open-ended questions. The coding schemes were devised in a hierarchical format, i.e., broad response categories were subdivided into more specific categories. For example, in answer to question 16A ("Whether you were satisfied or not, how valuable was your Army experience to you?...Please explain why you feel this way.") a respondent might have written, "The Army allowed me to work while I continued my education." The first step in categorizing the response would be to determine that the response pertained to job and education factors; the second step in response classification would be to assign it into a subcategory regarding the respondent's evaluation that continuation of one's education was a valuable Army experience.

The coding schemes developed used two-digit codes; the first digit represented the broad content area. The second digit stood

for the subcategory. Alphanumeric characters were used to designate the broad content areas, and numerals to classify the subcategories. Appendix G contains the coding schemes used to categorize the open-ended responses. In the coding scheme for the previous example, the letter "D" was used to identify job and education-related factors; the subcategory regarding continuation of one's education was identified by the numeral "3"; thus, the open-ended response was coded, "D3".

In addition to the content codes, the coding schemes for each open-ended question contained categories for classifying responses such as "nothing" or "none," "don't know," and "no comment," as well as any extraneous or unusable responses (i.e., miscellaneous responses which either did not pertain to the question or were uninterpretable).

Sometimes respondents provided responses that were interpretable and useful but which were not directly within the focus of the question posed. For instance, in the same question used in the previous example, Q16A, some respondents elaborated on their answer to question 15, which asked how satisfied they were with their Army service. This occurred even though respondents were specifically requested to disregard how satisfied/dissatisfied they were in making an assessment of the value of their experience. In order to retain the information provided, a special content area labelled "satisfiers/dissatisfiers" was developed to classify answers related to factors which led to their satisfaction or dissatisfaction with Army service. This broad content area labelled, "I" in the coding scheme for Q16A, was further subdivided into more specific areas which were cited as having had an impact upon respondents' satisfaction/dissatisfaction with their Army experience. For example, some people reported dissatisfaction with their service experience due to the poor treatment they received (e.g., sexual harassment, lack of respect for individuals' rights); others reported satisfactory service experiences citing good Army leadership, opportunities for fulfilling one's patriotic duties, and so on.

In answering open-ended questions, some respondents directed their remarks to particular subgroups of enlistees. For instance, Q31 asked for suggestions that would improve Army service for future enlistees. Some respondents focused their remarks on improving the Army's treatment of women (rather than improvement in the Army's treatment of all enlistees). Code "D3" on Q31 categorizes such suggestions. Examples of such responses include the following suggestions: women should be allowed to serve in combat roles; women enlistees' physical training program should be made harder, others wanted easier training for women; the Army should return to a separate corps for female soldiers (reestablish WAC).

An interactive computerized system was developed to store coded data for the open-ended questions. The system included a case identifier, question number, and a maximum of 5 codes per question. The system verified valid codes while keying was in process, and allowed easy data retrieval and correction.

Coders were provided with verbatim responses that had been keyed from completed surveys. The first coding task was to unitize or to separate the responses into distinct thoughts or themes. The unitization was a necessary step in the coding process since respondents often included several different answers to a question in the same sentence or simply listed explanatory phrases. After unitization, codes were assigned from the coding scheme.

A full day training session was conducted to familiarize coders with the purpose of the survey and the open-ended coding task to be performed. Coders were instructed on the use of the coding schemes and corresponding decision rules; they were familiarized with frequently used Army acronyms. A major portion of the session focused on how to perform unitization. Actual coding exercises were performed in the training session in which the coders read responses, unitized separate themes, and then reviewed the unitized responses to assign codes. All coders unitized and coded identical responses which were then reviewed during an informal, open discussion; this relaxed manner allowed coders to ask questions freely, thus enhancing their understanding of the logic behind effective use of the coding schemes.

Checks were regularly conducted between the supervisors and coders, particularly during the early stages of coding, to test the inter-rater reliability of the open-ended coding. These inter-rater reliability checks aided the open-ended coding process in at least two ways: (1) reliability checks allowed coding supervisors to evaluate the performance of individual coders, and (2) to identify problems with the coding schemes. In some instances, new codes had to be developed to reduce ambiguity; in other cases, additional discussion between the supervisors and the coders was necessary to reestablish the intended meaning of particular codes.

Reliability was checked by taking a coder's completed printout, transcribing the unitized responses onto a blank printout, and then having a different coder (usually a supervisor) assign codes to the unitized responses. The number of code agreements and disagreements between the two printouts were then tallied separately, the total of which was equal to the number of units coded. The number of agreements divided by the total number of unitized responses provided the reliability percentage.

This particular coding task required a fairly high overall reliability of 85%. Review of the first week's reliability

checks revealed that some coders were better suited to coding particular questions than others. To enhance reliability to the prescribed standard, during the second week of the operation, individual coders were assigned to code the one or two specific questions on which they performed best. Reliability checks conducted thereafter revealed a substantial increase in inter-rater reliability on each question; inter-coder ratings remained consistently high. These results can probably be attributed to the coders' ability to focus on a particular question(s), thus becoming thoroughly familiar with the coding scheme(s) and the types of responses occurring. It should be noted that the entire coding operation proceeded more rapidly as well, another result attributable to having coders focus on a small number of questions.

The open-ended coding operations achieved an overall inter-rater reliability rating of 91%. The lowest rating achieved on any individual question was 87% and the highest 100%. Table 21 presents the reliability ratings for each open-ended question coded. The ratings given below for each question are based on reliability checks of responses from a 10% random sample of the respondents. These checks were conducted at various times throughout the coding operation, and then averaged to obtain an overall reliability rating for each question and a total overall rating. The high reliability rates obtained show that this open-ended coding can be considered highly successful.

Table 21
Reliability Ratings on Open-Ended Questions

Question #	No. of Coding Agreements	No. of Unitized/ Coded Responses	Reliability
9E	38	39	97%
16A	795	878	91%
22	661	721	92%
23	554	584	95%
24A	496	531	93%
28	680	757	90%
31	625	718	87%
34	74	74	100%
TOTAL	3,923	4,302	91%

Data Entry and Editing

Following coding, data layouts were produced for the telephone and mail versions of the survey instrument. Survey responses were keyed directly onto computer tape. All survey keying was 100% verified by senior data entry personnel.

Two levels of data editing were performed to ensure the accuracy and utility of the data collected by the AES. The first level consisted of checking variable value ranges and valid skip patterns. The second level of editing involved the construction of a series of logic variables which compared the internal consistency of related survey items and checked for skip pattern violations.

The first level of editing was performed as a check on the accuracy of transcribing responses from the survey instruments onto data tape. As such, the first stage of editing examined the work of coding and data entry. Computerized comparisons of the intended data layout with the actual keyed data identified values which fell outside the specified legitimate ranges (e.g., year of birth = 1990), and answers provided to questions which logically should have been skipped by a particular respondent. The editing staff then checked the actual survey instruments to insure that the values recorded were not due to either coding or keying errors. Transcription errors were corrected; however, when unexpected values were confirmed as correct transcriptions of respondent answers, the responses were not altered in the original version of the variable. Recoded versions of survey items were subsequently created to restrict value ranges and correct for skip pattern violations. The Data Sourcebook/User's Manual should be consulted for greater detail regarding variable recoding.

The second editing stage checked the internal consistency of respondents' answers to related survey items. For instance, a respondent who indicated that s/he had never been married in one question should indicate that s/he was single at the time of separation from the Army. This editing procedure involved the construction of numerous logic variables to record the results of checks performed to assess internal consistency. The logic variables are further described in the Data Sourcebook/User's Manual.

Data Quality

A strong indicator of data quality is the evaluation of how thoroughly and carefully respondents answered survey questions. Measures of respondents' thoroughness and care in answering a survey might include assessments of how many items were omitted, and how many times unexpected values arose and skip patterns were

violated. Development of such indicators, however, are not pure measures of the reliability of respondents' answers. For example, missing values may be the result of a respondent's deliberate choice not to answer certain questions or may be unintentional due to misunderstanding of survey directions. Further, faulty survey data may be the result of: distractions occurring during survey administration; technical problems with the construction of certain questions; or poor layout of the survey instrument itself.

The AES was primarily a self-administered mail survey. A pretest was conducted on an early draft of the survey instrument to detect problems with question wording and intelligibility, survey layout, administration time, and so on. Changes suggested by pretest respondents were incorporated in the final versions of the questionnaires to minimize respondent difficulty. Nonetheless, with self-administered surveys such as the AES, it is normal to expect some data problems since respondents were unable to ask for help in interpreting directions or clarifying the meaning of certain items. In addition, the 1974 Privacy Act was printed on the inside cover of each AES instrument emphasizing the voluntary nature of answering the survey and any particular survey items. It is possible that respondents simply skipped over survey items or even sections that they did not wish to complete.

Given these potential sources of missing or faulty data, a series of variables was created to provide an account of respondent reliability. Four variables were developed to calculate the occurrence of survey item response errors for each survey respondent. The four types of response errors tabulated were: (1) missing data; (2) out-of-range responses; (3) multiple responses provided when only one response was required; and (4) number of internal logic failures. A fifth variable summing all four response error counts was created to provide an overall measure of respondent reliability. The frequency distributions of response errors across respondents are presented in Tables 22-26 below.

As Table 22 indicates, the overall rate of all types of response errors was low, especially given the utilization of self-administered mail surveys to what was predominantly a young, mobile population. Ninety-four percent of the sample had 10 or fewer total response errors. The most prevalent type of response error was the occurrence of missing values (see Table 23). The frequency distribution of missing values is very similar to the overall response error distribution since missing values account for the vast majority of total response errors.

Table 22
Distribution of Total Response Errors

Number of Response Errors	% AES Respondents	Cum. %
0	12.2	12.2
1	25.6	37.8
2	20.6	58.4
3	11.2	69.6
4	8.1	77.7
5	5.0	82.7
6	3.7	86.4
7	2.4	88.8
8	1.6	90.4
9	1.4	91.8
10	1.0	92.8
11 or more	7.2	100.0

Table 23
Distribution of Missing Values

Number of Response Errors	% AES Respondents	Cum. %
0	42.8	42.8
1	19.7	62.5
2	11.3	73.8
3	5.5	79.3
4	5.1	84.4
5	3.4	87.8
6	2.3	90.1
7	1.2	91.3
8	0.9	92.2
9	1.1	93.3
10	0.6	93.9
11 or more	6.1	100.0

Additional tables were produced to check for patterns of missing values. In general, missing values seemed to be random. The exception to this rule was that among respondents with very high counts of missing values, respondents had typically skipped, either partially or completely, one or more of the multiple-part questions (i.e., survey questions #12A-M, #18A-M, #19A-W, #25A-X, refer to Appendix C for a copy of the mail version of the AES instrument).

As Tables 24, 25, and 26 indicate, problems with multiple response errors, out-of-range values, and failed logic checks were minimal. Only a small proportion of the respondents had more than one of these types of response errors.

Table 24

Distribution of Multiple Response Errors

Number of Response Errors	% AES Respondents	Cum. %
0	88.8	88.8
1	9.0	97.8
2	1.6	100.4
3	0.3	100.7
4	0.1	100.8
5	0.1	100.9
6&10	0.1	101.0

Table 25

Distribution of Out-Of-Range Responses

Number of Response Errors	% AES Respondents	Cum. %
0	94.6	94.6
1	4.6	99.2
2	0.6	99.8
3 or more	0.2	100.0

Table 26
Distribution of Failed Logic Checks

Number of Response Errors	%	AES Respondents	Cum. %
0	33.9		33.9
1	47.7		81.6
2	14.6		96.2
3	2.8		99.0
4	0.7		99.7
5	0.2		99.9
6	0.1		100.0

Considering the fact that 155 survey items plus 34 logic variables were considered in calculating AES response errors, the incidence of errors may be considered low. Not surprisingly, given the printed statement of the 1974 Privacy Act on each questionnaire and the voluntary nature of the AES, missing data was the largest contributor to response "errors."

Weighting of the Sample Data

Sample weights were produced for use with the AES data in order to provide estimates of the percentages that would have been obtained if the entire sampling frame had been surveyed. AES sample weighting was necessary primarily to compensate for unequal sample selection probabilities introduced by the sample supplements and segmentations. Sample weighting also aided in reducing sampling error, and in dampening the effects of biases due to nonresponse and "no finds."

Sample weighting was carried out in three steps. The first involved the application of weights to adjust for the unequal sampling rates. The second and third steps applied weights to adjust for sample nonresponse and "no finds," and to reduce sampling error. Each step in the process is described below.

Sample Rate Adjustment. The AES samples of first-term separatees and attritees were designed to meet sampling reliability specifications as described in Chapter 2 on Survey Sampling. In short, the specified level of sampling reliability required samples of at least 750 first-term separatees and 247 first-term attritees in each of fifteen demographic/service categories.

In order to meet these requirements, AES sampling was implemented using a two-stage selection process. First, systematic random samples of veterans from each of seven separation statuses were drawn from Enlisted Master File (EMF) records (refer to Figure 1, page 13). The first-term separatees and attritees selected in the first stage of sampling were then classified according to their demographic/service characteristics.

Only first-term separatees and attritees required a second stage of sampling. In the second sampling stage, each demographic/service category not meeting sample size requirements was then supplemented by drawing an additional sample of individuals in that category. The categories requiring supplementation were those for which the number of individuals in the separation group were too small to provide a sample of 750 or 247 individuals when sampled at the initial rate (see Table 1, page 11.)

As reflected in Figure 1, page 13, sampling rates varied across the veteran population according to the size of the separation groups. Within separation groups, however, all sample members in the basic (first-stage) samples were selected at the same rate. Among first-term separatees and attritees, due to the sample supplementations, the probability of an individual's selection from the EMF varied according to his or her demographic/service characteristics. Members of the supplemented categories were sampled at higher rates than sample members in categories that did not require supplementation.

A consequence of using different sampling rates both across and within separation groups is the necessity of using sample adjustment weights in order to make unbiased population projections. Sample rate weighting adjustments were made to each case in the AES sample to reflect their actual probability of selection. This adjustment was made by multiplying each case by the reciprocal of their probability of selection. For instance, if all retirees were selected at a rate of 1 in 1,000 veterans, then each sample member would be weighted (multiplied) by the factor (1000/1). Sampling rate adjustments for sample members in the first-term separatee and attritee groups had to take into account not only the overall group sampling rate but also the selection probabilities associated with the demographic/service characteristic supplements.

A simple example should clarify both the calculation and use of adjustment weights.

Calculation and Use of Adjustment Weights: An Example.

Suppose that in a given month 10,000 individuals (9,000 males and 1,000 females) separated from the Army, and that the Army wished to determine what percentage of these separatees joined local reserve units. If the Army wanted to determine what percentage

of all separatees joined (with a 95% confidence interval no wider than ± 5 percentage points), a total sample of 400 individuals would be required, assuming a 100% response rate. From the population of 10,000, then, 1 in 25 separatees must be sampled ($(1/25) * 10,000 = 400$).

If, on the other hand, the Army wanted to determine at the same level of precision, what percentage of male separatees and what percentage of female separatees joined reserve units, an overall 1 in 25 sampling rate would not be adequate. Using this rate one would obtain 360 males ($(1/25) * 10,000 * .9$), and only 40 females ($(1/25) * 10,000 * .1$). This sample yields too few individuals of either gender group. In order to avoid drawing an excessively large random sample, the idea of an overall sampling rate is dropped and separate rates are devised for males and females. In this case, a sampling rate for males of 1 in 22 would yield a sample of 409 males. The necessary rate for females, though, would be 1 in 2.5 ($(1/2.5) * 1,000 = 400$). This hypothetical example is analogous to the AES sample in which a degree of sampling reliability, required within specified demographic/service categories, could not be efficiently addressed using a single, overall sampling rate. Noting the necessity of using different sampling rates across groups of varying size, how are sampling weights calculated and how might they be used to obtain population projections?

To accomplish this, male and female counts are each weighted by the inverse of their probability of selection. That is, the adjustment weight for each male is 22/1 while that for females is 2.5/1. For population estimates, sample rate weights for males and females, then, must reflect this disparity.

These adjustments assure that weighted counts for males and females will reflect the composition of the population, rather than the composition of the unequally selected sample. This is very important since unadjusted sample counts and percentages could be very misleading when used as estimates of the percentages for all individuals. Suppose that in this example, 100 females and 300 males respond that they had joined a local reserve unit since their Army separation. Given a total sample size of 809, it would appear that about half of all separatees have joined reserve units ($400/809 = .49$), when in fact, a much greater proportion in the population have actually joined. If male and female responses are weighted, the positive counts for males and females become 6,600 ($300 * (22/1)$), and 250 ($100 * (2.5/1)$), respectively. Expressed as a percentage of the total weighted N of approximately 10,000 ($(409 * (22/1)) + (400 * (2.5/1)) = 9,998$), the estimated percentage of separatees having joined the Army Reserves becomes 69% ($6,850 \div 9,998$). This weighted finding is quite different from what might be inferred using unweighted sample data.

The second and third steps in designing sampling weights for the AES incorporated two additional weighting techniques. The first aimed at reducing the sampling errors of survey estimates. The second was used to reduce potential biases in the data caused by the inability to locate and obtain completed surveys from every AES sample member. Each of these steps is described below.

Post-Stratification Weights. Producing sample weight adjustments using post-stratification is a method of reducing sampling errors. Post-stratification compares the distribution of population and sample members after (post) sample selection across selected characteristics; sample weighting adjustments are then developed to make sampling proportions on key characteristics more closely resemble known population proportions, thereby reducing sampling error.

Weighting adjustments are made not only to reduce sampling errors on individual characteristics but for combinations of characteristics or post-strata. For example, a stratum may consist of a particular combination of values on the variables race, gender, AFQT category, and separation status. One such stratum would be represented by Black, male, 3A, retirees.

To expedite the AES sample selection operations, the basic sample and the supplements for the first-term separatees and first-term attritees were each drawn as independent systematic random samples. Similarly, the samples for each of the other separation status populations were drawn as systematic random samples without stratification by demographic/service category. Thus, the number of individuals in the sample from particular strata will vary from one sample to the next. The impact of this variation is to increase the sampling error of estimates from the survey to the same population strata. To compensate for this variation, and reduce the sampling errors of survey estimates, the sampling weights were based on post-stratification techniques (Hansen, Hurwitz, and Madow, 1953, Chapter 5, Section 16; Cochran, 1977, Section 5.A.0).

For the first-term separatees and attritees, the post-strata were defined by taking combinations of the demographic/service categories for which the basic samples were supplemented (see Table 1, page 11). Altogether, 60 post-strata were defined for the first-term separatee population, and 44 post-strata were defined for the first-term attritee population. In developing the post-strata, an effort was made to achieve an average of 50 or more sample members per post-stratum, with a minimum of 20 members.

By design, the sample within each post-stratum was self-weighting, i.e., each individual had the same chance of selection for that sample. Due to the different sample sizes needed for each supplemental category, however, sampling rates varied from

one post-stratum to another. The sampling weight for individuals in a given post-stratum was taken to be the reciprocal of the actual sampling rate. That is, if the number of individuals in the frame in post-stratum h is N_h , and the number of individuals in the sample from that post-stratum is n_h , the sampling weight for those individuals is

$$W_h = N_h/n_h \quad (1)$$

The number of post-strata defined for each of the other separation groups is shown in Table 27.

Table 27

Number of Post-Strata Established for Sampling Weights
by Separation Status Population

Separation Status	Number of Post-Strata
More than one term of service, but less than 10 years	11
10 or more years of service, but not retired	11
Retirees	11
Unknown separation status	2
Exit Survey respondents	1

The post-strata for the two mid-career separation groups and the retirees were developed by examining combinations of categories for the variables gender, race, and AFQT category, within the separation group. Among sample members with an unknown separation status, strata were developed based solely upon gender. No post-strata were designed for Exit Survey respondents, and these sample members were simply weighted up to the population from which they were selected.

Nonresponse Adjustment. The third type of weighting technique, called nonresponse adjustment, was incorporated into the final stage of producing sample weights in order to adjust for

nonresponse in the AES data. As the name implies, the objective of this sample adjustment procedure is to reduce biases in the data caused by differences in the composition of the sample and the respondent pool due to sample nonresponse and the inability to locate some sample members ("no finds"). To the extent that the opinions and attitudes of individuals are related to characteristics of sample members (e.g., females may be more likely than males to report experiencing sexual harassment), variation in response rates will lead to biased estimates of population values. Reweighting the data helps to dampen the potential biases (Thomsen and Siring, 1983).

Weighting-class adjustment refers to the technique in which groups of sample units, the nonresponse adjustment classes, are defined based on characteristics known for both respondents and nonrespondents. The groups are such that the response rates vary between groups, and sample members are expected to be relatively homogeneous within groups with regard to their opinions and attitudes. An estimate of a total known for both respondents and nonrespondents (e.g., number of black male retirees) is made using the full sample and the respondent pool using their post-stratification adjusted sampling weights. Then the adjusted sampling weights within each weighting class are multiplied by the ratio of the full-sample estimate to the respondent-based estimate.

The nonresponse adjusted sampling weight, W_{ch} , for post-stratum h , in nonresponse weighting class c , may be represented symbolically:

$$W_{ch} = g_c W_h \quad (2)$$

Where g_c is the nonresponse adjustment factor for class c represented by the ratio:

$$\frac{\sum_{h=1}^{M_c} \sum_{i=1}^{n_{ch}} W_{hi}}{\sum_{h=1}^{M_c} \sum_{i=1}^{n_{chr}} W_{hi}} \quad (3)$$

where W_{hi} is the sampling weight of veteran i in post-stratum h , n_{ch} is the number of individuals in the sample from post-stratum h in weighting class c , and n_{chr} is the corresponding number of respondents, and M_c is the number of post-strata in nonresponse weighting class c . When the nonresponse weighting class consists

of a single post-stratum, the factor g_c becomes n_h/n_{hr} , and the nonresponse adjusted sampling weight, w_{ch} , becomes N_h/n_{hr} where N_h is the number of veterans in the frame in post-stratum h . When the weighting class consists of a single post-stratum, the factor g_c reduces to the reciprocal of the response rate in the sample from the post-stratum.

For purposes of the nonresponse adjustment, responses were defined to include completed survey forms and individuals determined to be ineligible for the survey (e.g., individuals who died while in service). This assumes that the nonrespondents include ineligible individuals in the same proportion. Nonresponse adjustment classes were established consisting of: a single post-stratum, or combinations of post-strata to ensure a minimum of 10 respondents.⁷ The minimum size was established to control the impact of the weighting adjustment on the sampling errors of the survey estimates.

Due to the small number of respondents in certain subgroups (post-strata) identified during the post-stratification procedure, weighting classes for first-term separatees and attritees were developed by combining smaller subgroups with larger strata. For the first-term separatees, the original 60 post-strata were combined into 49 nonresponse weighting classes; for first-term attritees, the original 44 post-strata were combined into 35 weighting classes. The only post-strata collapsed to form weighting classes were the categories of: term of enlistment and time since leaving. No category collapsing was carried out across race, gender, or AFQT categories. For the other separation status populations, the nonresponse weighting classes were the same as the post-strata.

The sample weight adjustments developed for the AES data incorporate weighting factors for the sampling rate, post-stratification, and nonresponse in a single weighting factor. One particular weight was applied to each individual case. The Data Sourcebook/User's Manual provides instruction to aid the analyst in the use of the weighting factor.

⁷A few exceptions to this rule were allowed where it was judged that maintaining the distinctions between the categories would reduce potential biases to an extent offsetting an increase in sampling error.

Chapter 7. LESSONS LEARNED AND RECOMMENDATIONS

This chapter reviews lessons learned in the course of conducting the Army Experience Survey. There are three main areas covered in this review. The first of these three topic areas pertains to the use of data obtained from the Defense Manpower Data Center (DMDC) for sampling purposes. The second topic area concerns the methods for obtaining high response rates including tracing and locating procedures, the approach to data collection, and instrument design. The final area concerns data preparation techniques. Each is discussed in turn.

Many of the issues discussed in this chapter relate back to topics covered in greater detail in previous sections of the report (e.g., sampling, survey administration procedures). When such topics are raised in this chapter, reference is made to the more complete discussions presented in earlier sections of the report.

Sampling Army Veterans

As detailed in Chapter 2, the AES target population consisted of enlisted Army veterans who separated from active service during the period from FY82 to FY84. Further specifications were used to divide the desired sample to represent six groups of separatees with varying levels of Army experience. The separatees ranged from individuals who had completed less than one term of service, to individuals who retired from the Army after 20 or more years of service.

Operationalization of Target Population Definitions

While the definitions of the target populations discussed in Chapter 2 seemed straightforward when given the statement of work for this survey, the operationalization of the definitions using the data available on computerized records was quite difficult and time-consuming. Compare the variable and value definitions provided in Appendix A with these simple verbal definitions of the target groups:

- (1) First-term separatees are soldiers who separated from the Army after completion of their first term of enlistment;
- (2) First-term attritees are soldiers who separated from the Army prior to completion of their first term of enlistment;

- (3&4) The mid-career separatees consisted of soldiers who separated from the Army after serving more than one term of enlistment, but less than 10 years of service and soldiers who separated after 10 or more years of service, but who did not retire from the Army;
- (5) Enlisted retirees are soldiers who served 20 or more years in the Army and then retired; and
- (6) "Exit Survey respondents" surveyed in the AES, were sampled from among the group of 1,548 first-term separatees who completed a 1983 ARI Exit Survey between September and December 1983.

The difficulties encountered in developing operational definitions for each of these groups were several: (1) no single variable exists on Army data files to define separation status; (2) separation status had to be derived for each sample group using existing EMF variables; and (3) due to the lack of detailed EMF documentation, the variable creation process was more complicated than had been envisioned.

The process of developing a variable documenting separation status involved several iterations of discussions concerning Army discharge policies, and the definition and interpretation of EMF data elements. In addition, eligibility rules were devised and variables developed to define populations to be included and excluded from the sample. The AES population of Army veterans were defined as excluding immediate reenlistments, soldiers who separated to enter officer programs, medical retirees, soldiers who died while in service, and attritees discharged during a second or later term of service (non-first-term attritees).

Rules also had to be developed to distinguish different population groups. For example, while the major focus of the survey was comparison of first-term separatees (soldiers who leave at the end of term) with first-term attritees (soldiers who do not fulfill their contracts), there was no simple way to distinguish between these two groups. To distinguish attritees from first-term separatees it was necessary to consider their time in service--since the typical contract was for three years, less time usually indicated an attritee. However, this was not a sufficient criterion given the possible range of time in service for first terms, extensions, and early discharges. In particular, the availability of two year enlistments for high quality recruits made this distinction an especially difficult one to make. Thus, sampling group definitions had to include considerations of reasons for separation and types of discharge.

The lesson to be learned from the AES sampling experience is that the operationalization of separation subgroups is not a trivial aspect of the sample design effort for veteran surveys.

There are a number of different ways that this problem could be handled in future endeavors: (1) DMDC could implement a new variable specifying separation status;⁸ (2) the service(s) sponsoring a veteran survey could develop their own operational definitions of the subsample groups; or (3) the sponsor could specify the documents (i.e., regulations) and military offices responsible for setting discharge policy, and point to the EMF variables available to construct a separation variable.

As evidenced in Table 28, the separation groups, as defined by evaluating multiple EMF data elements, demonstrated a substantial level of correspondence with self-reported information regarding the number of enlistments (survey item #49), and portion of final enlistment term served (survey item #43). Thus, the lack of a single variable defining separation status certainly is not a requirement for accurately identifying veterans with differing levels of service experience. Nonetheless, future veteran survey efforts should take into account the time and effort needed to develop separation group definitions.

Constructing the Sampling Frame

The sampling frame is the file of all members of the target population from which the sample was selected. As discussed in Chapter 2, the primary data file used to construct the sampling frame for the AES was the Enlisted Master File (EMF) which is maintained by DMDC. The EMF is the Department of the Army's official information base for enlisted personnel management and strength accounting. The EMF contains a broad range of information including background data and demographics (e.g., race, ethnicity, date of birth, citizenship, number of dependents) and is updated monthly.

DMDC was requested to supply the EMF records and the most current address available for all enlisted Army personnel separating from active service between October 1981 and September 1984. DMDC provided the records for 618,880 individuals meeting this criterion using the EMF "loss transaction files." However, review of the sampling frame prior to sample selection revealed the inclusion of individuals who had immediately reenlisted upon completion of their last term of service. Future surveys of Army veterans should request DMDC to compare the EMF "loss transaction

⁸This suggested remedy would be difficult to implement since every branch of service would have to develop their own separation variables and include these elements on the data files they regularly deliver to DMDC. In order to maintain accurate information, every service would have to track changes in discharge policies and introduce changes to the construction of the new separation variable on an as-needed basis.

Table 28

**Correspondence* of Separation Groups as Defined
by EMF Data with Self-Reported Information**

Self-Reported Information	Separation Groups Defined by EMF Data			
	First-Term Separatees	First-Term Attritees	Mid-Career Separatees	Enlisted Retirees
<u>Survey Item</u>				
Q43 Nature of Separation				
Completed full term of last enlistment or released a few months early	98.1%	3.5%	94.5%	70.9%
Served less than full term of last enlistment	1.9%	96.5%	5.5%	29.1% **
Total	100%	100%	100%	100%
Q49 Number of Enlistment Terms				
Less than one enlistment	1.5%	88.9%	0.2%	0.0%
One enlistment	94.2%	9.8%	4.9%	0.0%
Two enlistments	1.4%	1.1%	44.6%	0.2%
Three enlistments	2.1%	0.1%	34.1%	2.2%
Four or more enlistments	0.8%	0.1%	16.2%	97.6%
Total	100%	100%	100%	100%

NOTE: Corresponding cells are circled. Percentages not circled represent inconsistencies.

*Correspondence is presented as the unweighted percent of respondents whose self-reported information is consistent with separation group as defined by EMF data.

**This percent likely represents NCO's who became eligible for retirement during their last term of enlistment.

file" with the "gain transaction file" in order to eliminate cases of immediate reenlistments.

For the AES, time considerations involved in obtaining data from DMDC--response to requests normally requires four weeks--resulted in the decision to develop screening procedures to eliminate all ineligible from the frame. Special variables had to be developed to distinguish among the different population groups, using combinations of variables described in Appendix A.

The construction of an accurate sampling frame became more difficult due to missing and inconsistent data in the EMF for variables used to define "separation status," and lack of specificity in the file documentation. Missing data led to some degree of sampling imprecision as persons with unknown separation statuses and unknown demographic/service characteristics could not be sampled at the sampling rate designed for specific characteristics, and some ineligible persons were included in the sample. In addition to problems encountered with missing data, variable values were found to be inconsistent. For example, sometimes "0" was used to indicate an actual data value; other times it represented missing or unknown data. Blanks and other characters were also used on occasion to indicate missing values.

The EMF documentation available had notable gaps that led to unforeseen significant increases in workload. It did not identify all the variables on the data file, and in some instances, lacked information on the meaning of particular values. Thus, additional information was needed to interpret the data.

The development of the AES sample would clearly have been facilitated by better documentation of the EMF data file. Even with considerable experience in working with the EMF files, it was necessary to refer to Army regulations and conduct discussions with various Army officials to obtain clarification on personnel policy issues (e.g., reenlistment periods, reasons for discharge and special extensions) that affected sample development. Future efforts should allow sufficient time for working with the data file to establish its contents and formats.

A recommendation for methodological analysis using EMF data is to compare selected survey responses with corresponding EMF variables. We are not making an assumption that either the respondent or the EMF is the correct source of information. For certain demographic items, such as gender, race, date of birth, and level of education, it is likely that the respondent is reporting the most accurate data. However, for military service-related items such as date of separation and term of initial enlistment, the EMF may be the more accurate source. In either case, inconsistencies would indicate a need for reconciliation and updating of records. Variables could be added to the data records to indicate whether responses to survey items were

consistent with comparable data elements recorded on EMF records. Then frequencies of inconsistencies would provide the basis for comparing each survey item with similar EMF data elements.

Methods for Obtaining High Response Rates

A successful data collection effort must concern itself with obtaining high rates of both sample location and survey completion. As discussed in Chapter 5, rates of sample location (find rates) and survey completion rates, each contribute to the overall survey response rate. The response rate is a measure of the representativeness of the pool of survey respondents. The higher the response rate achieved, the more likely it is that the opinions obtained through the survey are truly representative of opinions held by the entire population of interest.

The AES employed numerous methodological techniques designed to enhance the AES sample find and completion rates. Sample tracing procedures were undertaken to find workable addresses for all sample members. Contact was attempted at all addresses on record for each sample member. In addition, efforts were employed to design a high-quality survey instrument, based upon appearance, packaging, and sponsorship, that encouraged responsiveness. The data collection procedures were also designed to maximize the rate of survey completion by frequently contacting the sample members and by gradually increasing the level of personalization involved in each subsequent contact. These procedures are discussed in greater detail in the next two sections of this chapter.

Tracing and Locating Sample Members

In order to achieve adequate representation of the population of Army veterans, it was important for the AES to obtain addresses that would enable contact with each sample member. As discussed in Chapter 2, address information was taken primarily from DMDC through its military personnel files. Tracing procedures, which are more fully described in Chapter 4, were undertaken to locate sample members for whom DMDC address information was unavailable or inadequate. The results of AES tracing procedures and recommendations for future survey efforts are both discussed below.

Table 5 on page 28 reviews the numbers of AES sample members for whom address information was sought and the outcomes of the address searches by data source. Clearly, the best sources for address information proved to be the military personnel files provided by DMDC, and the reserve and military personnel files maintained at RCPAC and NPRC. These files provided addresses for over 80% of the sample members traced through them. Much of the

success in locating AES sample members using DMDC personnel data files is due to the accuracy and completeness of veteran address information maintained on the Reserve Address File and the Reserve Components Common Personnel Data System (RCCPDS). These files were particularly useful since the majority of first-term separatees were obligated for several years of (inactive) reserve duty upon their separations. Thus, the Reserve Address File and RCCPDS were able to provide addresses for the largest subsample in the overall AES sample--first-term separatees. These files provided 64% of all addresses supplied by DMDC. Attention should be given, in future surveys, to locating personnel files which are especially accurate for the particular separation group of interest.

DMDC was also a useful resource for providing updated address information. DMDC performed an additional search of their personnel records subsequent to the sampling process in order to provide potential address updates. We recommend that repeated searches of the personnel files be instituted as a normal part of the tracing procedure in future studies involving Army veterans.

Additional resources were employed to reach sample members for whom addresses could not be provided or were inadequate. These included searching credit bureau records, Telematch files, and Directory Assistance (the latter two sources provided telephone numbers to reach mail nonrespondents and the telephone-first experimental group). A least-cost sample location strategy (all other considerations being equal) would be to initiate sample member tracing with the address source having the lowest expected cost per case found; then the source with the next lowest expected cost per case found, and so on. In the case of AES, the sequence suggested by this strategy would have been DMDC, followed by Telematch, Directory Assistance, RCPAC and NPRC, and the Credit Bureau, in that order.

Random samples of all AES nonrespondents were drawn and their addresses tested through postmaster address verification and through certified mail receipts. The results of these two experiments (refer back to pp. 38-39) revealed that a fair proportion of the nonresponding sample members (20-25%) were never located. It is not known how this result is distributed across specific address sources. If possible, future studies may want to consider including time and money to conduct evaluations on the accuracy of addresses obtained from specific tracing sources. The results would provide good indications of the utility of each source for future tracing efforts.

The AES tracing effort was highly constrained by the time frame and resources provided for the survey. Major improvements in tracing results could be obtained with two modifications to the survey procedures. The first of these modifications relates

to the timing of survey operations; this has two aspects. First, a specific period should be allocated for tracing prior to the projected start of data collection. This advance period could be used to verify addresses from the primary tracing sources, and to obtain telephone numbers for the majority of the sample, while recognizing that further tracing would be conducted in parallel with the data collection effort. Further tracing would be required primarily for the subpopulations who are more difficult to locate, as well as for those individuals who had relocated between the last DMDC file updates and the start of data collection. Second, the tracing find rates would also be improved if the time allotted for data collection were lengthened. This additional time would have the largest incremental benefits for highly mobile individuals who would have to be followed through their various interim addresses.

In addition to time modifications, the effort to locate Army veterans would benefit from the employment of additional types of tracing operations. In other projects with similar objectives, Westat has been able to locate sample members inexpensively using the states' Department of Motor Vehicles (DMV). However, because each state has different procedures and formats, the use of this method requires a fairly long time period. Another method, the use of criss-cross directories,⁹ has also been found to be effective. However, this latter method is both time-consuming and labor-intensive.

Figure 4 graphically illustrates the flow of activities that might be undertaken in an expanded sample location effort.

First, DMDC should be requested to provide all addresses for each sample member from all available personnel files. NPRC and RCPAC should be searched to provide addresses for sample members which are unavailable from DMDC; in addition, sample members with DMDC-provided addresses whose mail is returned, stamped "no forwarding address," should also be sent for tracing to NPRC and RCPAC. Postmaster verification should be performed on all addresses provided by DMDC, RCPAC, or NPRC.

⁹Criss-cross directories cross-reference names, addresses, and telephone numbers. Starting with any of these items, the other two can be found. These directories are published annually by private companies (e.g., Haines and Company, F.L. Polk and Company, Stewart Directories, Inc.) and cover various areas of the U.S.

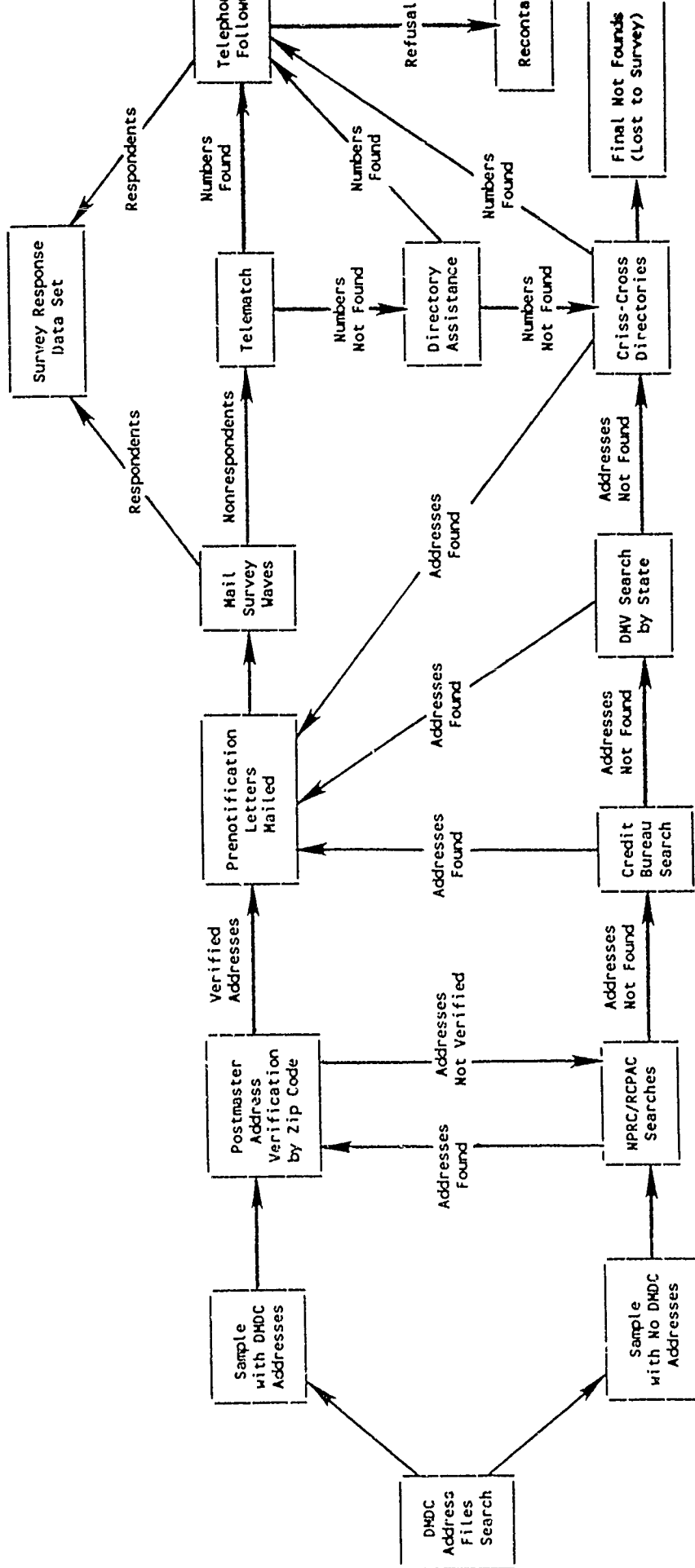


Figure 4. Schematic flow of recommended future veteran tracing activities.

Cases not located by DMDC, NPRC, or RCPAC, and cases for whom the postmaster address verification results are negative would be forwarded for search among credit bureau listings. While credit bureau records are being searched to locate these cases, prenotification letters can be mailed to the large proportion of the sample with addresses obtained from DMDC, RCPAC, NPRC, and postmaster verification.

Cases not located among the credit bureau listings would then be considered "hard-to-locate." The more time-consuming, labor-intensive methods would need to be employed for these cases. Motor Vehicle Department searches would be conducted in each state in which there are cases still not found; the cost, format, and timeframe for these searches differs by state. Also, criss-cross directories can be used to obtain the street addresses and phone numbers of neighbors near the sample member's last known address. Similarly, criss-cross directories may be used to obtain unlisted telephone numbers for telephone sample cases by looking up their addresses.

Telephone followup procedures could be expanded to allow more opportunities to locate sample members. In the 1985 AES, there was not sufficient time in the data collection period to attempt contact using all possible telephone listings for sample members. For example, when a sample member did not have a telephone listing under his/her exact name at a particular street address, Directory Assistance was asked to provide any listing for the individual at any address or for the same last name at the given address. In many instances there were no exact matches on either the sample member's name or address. However, sometimes there were several individuals with the same last name listed in the town. In future efforts, all telephone numbers of people in the same town with the same last name could be called in an attempt to locate the sample member or a relative who would know how to reach the sample member.

The AES data collection period was too short to permit recontact of all initial telephone refusals. Sometimes reluctant sample members will agree to complete a survey when recontacted by an experienced interviewer or interview supervisor (Rustemeyer and Levin, 1977, p. 6; Fitti, 1979, p. 4). Also, cases which are initially identified as temporarily unavailable (e.g., away on a cross-country trip) could be recontacted if the data collection period were long enough to allow it.

The simultaneous, rather than sequential, use of a variety of tracing sources may shorten the survey field time required. However, the time efficiency must be assessed against the additional costs that would be incurred, not only in direct service fees to the tracing agencies, but also in the management and reconciliation of the information obtained from the various sources. Furthermore, when divergent addresses and/or telephone

numbers are obtained, multiple contacts--either by mail or telephone--would have to be attempted, enlarging the effort even more. Subsampling of cases for successive steps in the sequence can be considered to control costs and sampling error.¹⁰

Procedures for Obtaining High Survey Completion Rates

There is a considerable body of literature available from various sources providing suggested survey design approaches for obtaining high response rates. The AES project reviewed the relevant literature (e.g., Dillman, 1978), expanding upon a Westat report submitted to the Department of The Army, Soldier Support Center (Baxter et al, 1984), which focused on producing high response rates in surveys of Army personnel. This report provides details about special problems involved in attempting mail, telephone, and in-person surveys with Army personnel. AES efforts were focused on two main areas, instrument design and the approach to data collection, to enhance survey completion rates.

Instrument Design. The quality and appearance of survey materials have been shown to influence the level of survey participation (Dillman, 1978). Factors which have been shown to impact positively upon survey completion rates include: (1) the careful design and production of survey materials such as cover letters and self-administered questionnaires; (2) the use of hand-applied and/or first-class postage; (3) the use of pre-survey notification; (4) sending prenotification letters, survey cover letters, and followup letters which indicate how and why the sample member was selected for participation, the importance of their participation, how the survey information will be used, and assuring the participant of confidentiality; and (5) obtaining and referencing a credible sponsor for the survey, for example, having the sponsor sign the survey letters, and using the sponsor's return address for receipt of the surveys.

The AES employed all five of these techniques in addition to other procedures intended to increase completion rates. The survey instruments were printed in colored ink on high quality paper. Considerable attention was paid to the layout of the questions including the placement of transition statements to introduce new topic areas, insertion of directions indicating when respondents should skip certain questions, and insertion of instructions about how to answer each question.

¹⁰See sections 13.5 and 13.6 in Sampling Techniques (1977) by William Cochran.

Due to the large numbers of survey mailings which were sent out for the AES, it was not cost or time-efficient to attach postage stamps onto each individual piece of mail. All mailings were, however, sent out using first-class postage.

The AES provided for pre-survey notification of all sample members. A prenotification letter signed by the Secretary of the Army was sent to sample members urging their participation. The letter was printed on Department of the Army stationery and contained the Secretary's signature (high quality copies of his original signature appeared on the letters). The mail surveys were accompanied by cover letters signed by the Director of Military Personnel Management (DMPM) again encouraging survey participation. A postcard (signed by DMPM) was sent to sample members a short time after the mailing of the first survey reminding them to complete and mail their surveys back and/or thanking them for their participation. A second questionnaire was sent a few weeks later to nonrespondents. It was accompanied by a second cover letter signed by the Secretary. Finally, at the end of the AES, the Secretary of the Army sent out thank you letters to all respondents to demonstrate his appreciation of their efforts in completing the survey.

Clearly, this survey effort incorporated the suggestions of having credible and influential sponsors, employing high quality survey materials, indicating the reasons for sample member selection, and encouraging their participation. In addition, the AES provided advance notification of the survey effort and followup correspondence from Army officials.

Data Collection

Research findings indicate that the two most important factors contributing to survey completion rates are: the number of followup contacts, and the salience of the questionnaire content to the respondents (Dillman, 1978). Another factor of demonstrated importance is the degree of personalization evidenced in survey contacts. The more personal the method of contact, the greater the likelihood that a response will be obtained. The data collection methodology chosen for the AES took these factors into careful consideration in designing the effort.

A multi-method approach was adopted which provided for initial contact of sample members through several waves of survey mail, followed by contact of nonrespondents using telephone interviews. The AES employed a carefully designed sequence of followups which have been demonstrated to have a substantial impact on completion rates. Each method of contact is listed below preceded by the number of days elapsed between the previous and the current contact.

<u>Number of Days Elapsed</u>	<u>Method of Sample Contact</u>
-	Mailed prenotification letter
5	Mailed first survey instrument and cover letter
7	Mailed reminder/thank you postcard
14	Mailed second survey instrument and cover letter
21	Telephone interview

The level of personalization increased with each followup contact. The prenotification letter was mainly informative, letting sample members know that they had been selected for participation in the survey and soliciting their cooperation. The cover letter to the first survey instrument mailing focused on encouraging participation. The postcard provided a friendly reminder that the AES instrument had been mailed and encouraged sample members to return the survey promptly and/or thanked sample members for their prompt attention to completion of the survey. The postcard also provided Westat's toll-free telephone number so that sample members could call for further information about the survey.

The cover letter enclosed with the second mailing of the survey instrument had a tone of insistence not evidenced in the earlier mailings. The first paragraph indicated that the sample member's completed survey had not yet been received. This message was a strong form of personalization, communicating to the sample member that his/her response was considered important to the success of the survey. Obviously, telephone contact was considered the most personalized form of contact employed to obtain responses.

On the whole, response rates achieved represented large proportions of the sampled groups. The retiree group and veterans most recently separated from the Army responded to the AES at somewhat higher rates than other groups of separatees. This may be due, in part, to the greater level of interest among these groups in Army-related matters. Persons devoting substantial portions of their professional lives and those most recently separated from active duty are likely to have perceived the greatest salience in the topics covered by the AES.

The results of the AES indicate that if sample members are found, they are likely to respond. This implies that if better address data were available for separated Army personnel,

response rates would increase. Therefore, it is recommended that procedures involved in outprocessing, especially the exit interview, be reviewed to insure that a valid forwarding address (or addresses, e.g., next-of-kin) is recorded. Obtaining a mailing address to forward the service member's last paycheck would further increase address accuracy. Finally, it would be useful to contact relatives of nonrespondents to let them know how important the survey is. It is quite possible that many surveys sat unopened at relatives' homes for the infrequent visits of sample members. Evidence for this is the continuing receipt of completed surveys which were mailed out over 6 to 9 months prior to their return.

Comparison of the Primary and Secondary Data Collection Methodologies

The primary data collection method, described in more detail in Chapter 4, involved multi-wave survey mailings with followup of nonrespondents through telephone interviews. A methodological experiment (see page 33) was conducted in which a subsample of first-term separatees was sent pre-survey notification through the mail and then initially contacted by telephone for an interview. Surveys were mailed only when contact by telephone was not possible (e.g., due to unlisted numbers) or when a strong preference was expressed for survey completion through the mail.

The examination of survey find and return rates indicates the general superiority of the primary data collection methodology (i.e., mail with telephone followup) employed for the AES. Higher find, completion, and response rates were obtained for the primary sample than for the telephone-mail experiment sample. The same pattern of results was obtained across demographic/service categories.

In order to obtain an even clearer picture of the relative advantages of starting off either by mail or telephone, we recommend that further analyses be conducted comparing the response rates among first-term separatees who participated in the telephone-first experiment with those who first received survey mail with telephone followup. If we portray the samples as divided into the groups shown below, we see that the main differences between the two data collection methodologies would be found in the first column (i.e., sample members with listed telephone numbers).

Table 29

Suggested Analyses for Comparison of
Mail-First vs. Telephone-First Methodologies

	Listed Telephone Numbers	Unlisted Telephone Numbers	No Telephone Numbers	Total Response Rate
Mail-First Telephone Followup (Main Sample)	__%	*	*	50%
Telephone-First Mail Followup (Experimental Subsample)	__%	*	*	43%

The subgroups indicated by *, who were inaccessible by telephone, could only have responded by mail, and therefore are irrelevant to the mail vs. telephone comparison. Therefore, the analysis should include only first-term separatees with telephone numbers, since the experimental "telephone-first" group consisted of first-term separatees only.

This analysis was not possible for this study for two reasons. First, the sample management file was not structured to permit tracking of specific individuals by separation group according to the method of initial contact. Second, the survey instrument contained no questions on the accessibility of a telephone, so these data were unavailable for the mail-first sample. We recommend that future efforts consider such an analysis in the early stages of the project so that survey mechanisms can be structured to provide the needed information.

An important observation that can be derived from the initial comparison of data collection methodologies is the disadvantage deriving from sole dependence on telephone methodology for this type of young and mobile population. As already noted, extensive tracing was necessary for the entire sample, and it would not have been sufficient, even for the experimental subsample, to use only telephone tracing, i.e., Directory Assistance. The telephone-mail experiment also showed that less than half of the first-term separatees had locateable telephone numbers, and that it was considerably harder to find and obtain responses from certain subgroups (i.e., females and minorities).

These limitations on sample coverage and the higher data collection costs associated with an effort that begins with a telephone contact, make it appear that it would be difficult to argue for this approach.

However, factors other than sample coverage should be considered in making this comparative assessment. The initial costs of telephone surveys are high, but this is balanced to some extent by the degree to which data processing and editing costs are lowered. Because they are self-administered in uncontrolled settings, mail surveys usually require much more work to check the consistency and quality of the data, thus raising the data preparation costs.

In addition, further examination is required to assess the differences, if any, in data quality obtained by different methods. For example, do the different methods elicit different levels and types of response errors and missing data? Are specific types of questions (e.g., demographic or list questions) more problematic for one type of methodology than another? Which method tends to elicit response sets, either in positive or negative directions? Do telephone surveys result in more socially desirable responses? Do mail surveys provide more honest responses? Which method provides more useful open-ended responses? These are only a few examples of the types of analyses that could be conducted to exploit fully the data gathered to compare the experimental and primary data collection methods.

Questionnaire Structure

As evident from the preceding discussion and the actual survey materials, the AES questionnaire was well-designed with thorough attention to details. However, survey responses indicated that there are lessons to be learned from the best designed instruments.

There were three main problems associated with the design of certain questions in the AES instrument, namely, the inappropriate use of skip patterns, a misinterpreted item instruction, and the inclusion of a "not applicable" response within a set of question answers. Two questions, Q5 and Q19, included skip patterns which led to the loss of potentially interesting data. In the first instance, individuals who had not held a full-time job since separating from the Army (Q5) were asked to skip the two subsequent questions regarding the level of difficulty encountered in obtaining their first full-time job (Q6) and whether or not they had lined up a job prior to leaving the service (Q7). In retrospect, it would have been better to have permitted all respondents to answer each of the three questions. The second question, Q6, could have been reworded to ask how difficult the job search process had been, or could have been

separated into two questions. Consider the following example, "Have you been looking for full-time work since leaving the Army?" "If so, how difficult has it been to find a full-time job?"

A skip pattern was also employed for Q19 excluding individuals who served more than 20 years in the Army from evaluating a list of reasons for separating from active duty. Just like other separatees, Army retirees have a variety of reasons for leaving the service. This was evidenced by the responses of retirees who failed to follow the skip pattern and provided answers about important reasons for leaving. Further, open-ended responses to Q22 (most important reason for separating) also provided reasons for Army separation, other than just "time to retire." Exclusion of their responses resulted in the loss of potentially useful data about retirees. Careful consideration must be given before excluding respondents from answering questions. Only clearly inappropriate questions should be omitted.

Question 9 listed several Army benefits and requested that respondents indicate which benefits they have received or are currently receiving since leaving the Army. Respondents were further requested to indicate to the right of their Army benefits the amount of money within one hundred dollars that had been received. It is suspected that the direction to report dollar values "within \$100" may have led respondents to report values in hundreds of dollars. For example, a reported value of "6" may actually mean \$600 rather than \$6. Unfortunately, at this point, it is not possible to clarify respondents' answers. Perhaps a better way of presenting the instructions for Question 9 might have been to put the following direction after the presentation of the question: "The amount you report need not be an exact figure; estimate the benefits amount to the nearest \$100. For example, \$475 may be reported as \$500." Great care must be exercised in preparing unambiguous instructions for the completion of survey items.

One final problem was encountered in the incorporation of an inapplicable response ("Does not apply to me") in a question response set rather than employing a skip pattern. Question 51 was intended to be answered only by respondents who, in their first tour of duty, had enlisted for two years. Unfortunately, Q50, which asked for the length of their original enlistment term did not provide directions for individuals with other than a two-year enlistment to skip Q51. Even though the response, "Does not apply to me" appeared first in Q51, over one-fourth (26.5%) of all respondents who should have provided that answer failed to select that response code. Instead these respondents attempted to answer the question intended only for individuals with a two-year enlistment. A skip pattern consistent with the other skip patterns used in the AES is clearly preferred. This deviation from the normal skip pattern employed in the AES was the result

of an attempt to make Q5i identical to a question asked in a previous ARI survey of new recruits. In this instance, the sacrifice of consistency for comparability resulted in misinterpretation of the question by a large proportion of respondents.

Data Preparation

Some valuable lessons were learned in two main areas in preparing the AES data for analysis: coding (especially developing codes for the open-ended questions) and data editing. Each area is described more fully in Chapter 6. Lessons learned from the AES experience are presented below.

Open-Ended Coding

The strategy used for coding open-ended questions appeared to have worked relatively well. In brief, the process involved: (1) the development of a hierarchical coding scheme based on approximately 10% of responses; (2) a full day coder training session; (3) coding; and (4) inter-rater reliability checks.

The overall inter-rater reliability ratings achieved--91%--showed that the open-ended coding operation was highly successful. Although there was some variation among questions--from 87% to 100%--inter-rater reliability was consistently high (see pp. 59-62 of the Data Processing chapter for more details). The success of this effort is largely attributable to the development of a well-defined coding scheme, the training session that involved coders in actual practice in addition to instruction, and the careful monitoring by supervisors. In addition, the specialized approach, i.e., assigning coders to particular questions, facilitated the speed at which coders became adept at working with the coding scheme.

The AES strategy of coding themes within the context of the entire response is also recommended for future efforts. Rather than performing coding on individual phrases removed from their original context, presentation of the entire response made it easier to achieve accurate interpretation of responses and assignment of codes.

Future efforts may be able to create still greater efficiency in open-ended coding by: (1) reducing the number of codes, if possible; and (2) obtaining early input from all relevant actors regarding expectations for response categories, in terms of content and level of specificity. In AES, coders had to learn about 150 codes which made distinctions among types of responses a difficult task. The ultimate value of such fine distinctions should be considered seriously at the start of the

survey effort, and should be weighed against the extra effort accompanying a complex coding scheme. It would also serve to facilitate the category development process to have an extensive discussion with the sponsor at the start of the task to make explicit expectations regarding what responses would be of particular interest. This would help project staff focus on designing a scheme that both incorporates the sponsors' ideas and creates efficiencies in the development and review process.

Editing

The AES requirements for the retention of original responses in the data set, while flagging inconsistencies and excluding them as inappropriate from tabulations, created a major increase in the level of effort beyond initial plans. In the majority of Westat surveys, the edit process includes the correction of three types of errors: (1) keying errors; (2) coding errors; and (3) respondent errors (e.g., inconsistent responses; answers to intended skips). Errors are typically identified in several cycles, using a combination of human examination and machine identification. Errors are usually corrected by referring back to the original questionnaire.

For the AES, the first two types of errors generated in keying and coding were to be corrected, but respondent errors were to be retained in order to allow examination of methodological issues. The differential treatment of these various types of errors was a major source of difficulty for the editing staff and their supervisors. Since the machine edit program generated error messages for all identified errors, it was necessary for staff to re-evaluate each error message with each editing iteration. Normally, corrections of errors would result in decreasing numbers of error messages with each editing cycle. This decrease was not possible, given the need to retain original respondent errors. Even with notations in the error messages, which differentiated "allowable" respondent errors from others needing action, the sheer volume of messages greatly expanded the editing effort.

The requirement for retaining original respondent data suggests that efficiencies can be obtained in future efforts with a change in the data preparation approach. We recommend that questionnaire data be keyed directly after a quick visual scan-edit to facilitate legibility for keying. Global machine edits would then be performed on the data file to identify and flag respondent errors, e.g., skip-pattern violations, and inconsistent responses. Rules for computerized handling of inconsistencies would be developed so that no original questionnaires are re-examined. Such a procedure, which parallels those designed for optical scanning, minimizes the need for human intervention and relies on generic rules rather than case by case inspection.

It should be noted, however, that this approach would include both respondent errors as well as those from data processing (i.e., coding and keying). Experience has shown most of the errors to be due to "real" responses; errors due to data processing are typically very low, i.e., less than 1%.

Summary

The procedures developed for AES tracing and data collection were carefully developed and well-implemented. Intensive, collaborative work between ARI and Westat resulted in a complex survey involving multiple sampling groups of "hard-to-find" populations and multiple data collection methods. Experimental procedures were developed and implemented to refine the difficult question of defining nonrespondents as found or not found. Overall response rates obtained were commendable considering the difficult population involved. Improvements in response rates can be achieved for similar efforts using steps discussed in this report. Tracing outcomes and find rates can also be improved with the allocation of more time and resources.

The AES survey data has necessitated a sophisticated weighting scheme to achieve a good representation of the targeted populations. Thus, the AES data provides Army policymakers with an accurate portrayal of the experiences and attitudes of different groups of recent Army veterans. The initial tabulations prepared under this contract can be supplemented as necessary by other analyses that take into account AES' complex sample design.

REFERENCES

- Arbor, Inc. (1984). Veterans Attitude Tracking Study 1983 Wave I: Volume I: Major Findings and Implications (Contract No. MDA903-81-C-0612). Arlington, VA: Defense Manpower Data Center, June 1984.
- Baxter, S., Waksberg, M.M., and Nieva, V.F. (1984). Improving Survey Response Rates: A Review of the Literature. Report to the Department of the Army, Soldier Support Center. Rockville, MD: Westat, Inc., April 1984.
- Cochran, W.G. (1977). Sampling Techniques, Third Edition. John Wiley and Sons, New York.
- Council of American Survey Research Organizations (1982). On the Definition of Response Rates. A Special Report of the CASRO Task Force on Completion Rates.
- Dillman, D.A. (1978). Mail and Telephone Surveys: The Total Design Method. New York: John Wiley.
- Fay, Robert E. (1985). "A Jackknifed Chi-Square Test for Complex Samples," Journal of the American Statistical Association, 80, 148-157.
- Fitti, J.E. (1979). Some Results from the Telephone Health Interview System. Paper presented at the American Statistical Annual Meeting, August 1979, Washington, DC.
- Hansen, M.H., Hurwitz, W.N., and Madow, W.G. (1953). Sample Survey Methods and Theory, Vol. I. John Wiley and Sons, New York.
- Madow, W.G., Nisselson, H, and Olkin, I. (Eds.) (1983). Incomplete Data in Sample Surveys, Vol. I. Academic Press, New York.
- Miettinen, O.S. (1968). "The Matched Pairs Design in the Case of All-Or-None Responses," Biometrics, 24, 339-352.
- Rao, J.N.K., and Scott, A.J. (1981). "The Analysis of Categorical Data from Complex Sample Surveys: Chi-Squared Tests for Goodness of Fit and Independence in Two-Way Tables," Journal of the American Statistical Association, 76, 221-230.
- Rustemeyer, A., and Levin, A. (1977). Report on a Telephone Survey Using Computer Assistance. Washington, DC: Bureau of the Census, November 1977.
- Thomsen, I., and Siring, E. (1983). "On The Causes and Effects of Nonresponse: Norwegian Experiences," in Incomplete Data in Sample Surveys, Vol. III. Academic Press, New York.

APPENDIX A

OPERATIONAL DEFINITIONS OF SEPARATION STATUS GROUPS

The sample for the 1985 Army Experience Survey was drawn from the population of former enlisted soldiers separating from service between October 1981 and September 1984. The sample frame was made available by the Defense Manpower Data Center (DMDC) which provided the Enlisted Master File (EMF) loss records for the population of interest. The sample was to be selected by separation status; these separation groups were:

- First term separatees
- First term attritees
- Soldiers who served > 1 term, < 10 years
- Soldiers who served 10 or more years, but not retired
- Retirees

However, there is no single data element on the EMF which indicates the former soldier's separation status. Therefore, this information had to be derived from several EMF data elements. The EMF variables used to operationalize separation status were:

- Date of Separation (Month, Year)
- Basic Active Service Date (Month, Year)
- Expiration of Term of Service Date
- Year of Latest Enlistment
- Character of Service
- Interservice Separation Code

The way in which these variables were used to categorize former soldiers into the appropriate separation group is shown in Attachment A. Attachment B is a column layout of EMF data elements, followed by documentation which describes each data element.

APPENDIX A (continued)

EMF

Columns

Enlisted Master File (EMF) Variables

45,46	DSEP	=	Date of Separation (Month, Year)
48-50	BASD	=	Basic Active Service Date (Month, Year)
51,52	ETS	=	Expiration of Term of Service (Month, Year)
55	LENL_Y	=	Year of Latest Enlistment
60	CHAR_SRV	=	Character of Service
44	ISC	=	Interservice Separation Code

Computed Variables

DIF_BASE	=	INT((DSEP_BASE)/(365/12))
DIF_ETS	=	INT((DSEP_ETS)/(365/12))

First Term Separatees -- Members who left the Army after completing one term (2,3,4, or 6 years) of service.

Operational Definition

```
IF      (18 <= DIF_BASD <= 78) AND
        LENL_Y = BASD_Y AND
        (-6 < DIF_ETS <= 12) AND
        CHAR_SRV=1 OR CHAR_SRV=2 OR CHAR_SRV=0
THEN    SEP_STAT = 1
```

- o If members separated after serving at least 18 months, but no more than 78 months; if the year of their latest enlistment is the same as the year they entered the service (only one contract); if they separated no earlier than 5 months before their ETS, but no more than 12 months after their ETS; and if their separation was under honorable or honorable conditions, they are deemed first term separatees.

APPENDIX A (continued)

First Term Attritees -- Members who left the Army before completing one term (2,3,4, or 6 years) of service.

Operational Definition

ELSE IF DIF_BASD < 78 AND
LENL_Y = BASD_Y AND
DIF_ETS < -6
THEN SEP_STAT = 2

- o If members separated before serving at least 78 months; if the year of their latest enlistment is the same as the year they entered the service (only one contract); and if they separated at least 6 months before their ETS, they are deemed first term attritees.

Soldiers who Completed More Than One Term, but Who Served Less Than 10 years

Operational Definition

ELSE IF LENL_Y > BASD_Y AND
(18 <= DIF_BASD < 120)
THEN SEP_STAT = 3

- o If member's year of latest enlistment is greater than the year they entered the service (more than one contract); and if they served at least 18 months, but fewer than 120 months (10 years), they fall into the group of soldiers who served more than one term, but less than 10 years.

Soldiers who Completed 10 or More Years of Service, but Who Did Not Retire Based on Years of Service

Operational Definition

ELSE IF (120 <= DIF_BASD < 120) AND
(ISC_NE 50 OR ISC_NE 51 OR ISC_NE 52)
THEN SEP_STAT = 4

- o If members served at least 10 years of service, but fewer than 20 years of service, and if they do not have a retirement code based on years of service, they are placed in this group.

Retired Based on Years of Service (>=20)

Operational Definition

```
ELSE IF DIF_BASD > = 240 OR  
        (ISC=50 OR ISC=51 OR ISC=52)  
THEN    SEP_STAT = 5
```

- o If members served at least 20 years of service, or if they have retirement code based on years of service, they are deemed retirees.

Appendix B

Crosswalk of Survey Items to Original Survey Source 1985 Army Experience Survey

Item Number	Information	Item Source				
		YATS 84	VATS 83 Active Version	VATS 83 Reserve Version	1983 ARI Exit Survey	FY85 MEPS Followup Survey Form G
	<u>EDUCATION</u>					
1a	Education at Accession					
1b	Education at Separation					
1c	Education Since Separation					
2	Current Enrollment in Training/School.....		Q12a**			
3	Importance of Financial Aid to Enlist					
	<u>EMPLOYMENT STATUS</u>					
4	Employment Status at Present Time.....					
4a	Kind of Business Employed.....		Q4a,5a**			Q28b
4b	Job Title.....					Q29a*
4c	Main Activities/Duties.....					Q29b
4d	Job Satisfaction.....					
4e	Similarity Between Job Skills in Army/Current Job					
5	Number of Full-Time Jobs Since Separation					
6	Difficulty Obtaining Job After Separation					
7	Job Lined Up Before Separation					
8	Army/Civilian Standard of Living Comparison					
	<u>USE OF SERVICE BENEFITS</u>					
9a	Army College Fund: Use/Amount					
9b	Veterans Educational Assistance Program: Use/Amount					
9c	GI Bill Education Benefits: Use/Amount					
9d	Retirement Pay: Use/Amount					
9e	Others: Use/Amount					

(continued)

* Question wording variation.

** Question/response category variation.

*** Difference in question/response format.

**** Error in YATS 1984 administration limits comparability of questions.

Appendix B. (continued)

Item Number	Information	Item Source					Census 80
		YATS 84	VATS 83 Active Version	VATS 83 Reserve Version	1983 ARI Exit Survey	FY85 MEPS Followup Survey Form G	
10	ARMY BONUSES/INCENTIVES						
11	Receive Cash Enlistment Bonus						
	Receive Army College Fund Incentive						
	REASONS FOR JOINING ARMY-IMPORTANCE RATING						
12a	Chance to Better Myself.....					Q40,41***	
12b	To Get Training in a Skill.....					Q10,7c	
12c	Money for a College Education.....					Q16,6i,7i	
12d	To Serve My Country.....					Q17,6j,7j	
12e	I Was Unemployed.....					Q6e,7e,13	
12f	To Prove that I Could Make It.....					Q6a,7a,8	ALL
12g	To Be Away From Home On My Own.....					Q6h,7h	*
12h	Earn More Money.....					Q6b,7b,9	**
12i	Travel.....					Q14,6f,7f	***
12j	Get Away from a Personal Problem.....					Q11,6c	
12k	Family Tradition to Serve.....					Q12,6d,7d	
12l	Needed Time to Mature.....					Q15,6g,7g	
12m	I Was Drafted or Enlisted to Avoid the Draft					Q22	
	ATTITUDES TOWARD ARMY SERVICE						
13	Initial Plan to Pursue Army as Career						
14	Agreement-"I Am Proud to Have Been a Soldier"						
15	Satisfaction with Army Service.....		Q20**				
16	Valueableness of Army Service						
16a	Explain Answer to Item 16						
17	Comparison Army/Civilian Satisfaction.....		Q34a**				

* Question wording variation.

** Question/response category variation.

*** Difference in question/response format.

**** Error in YATS 1984 administration limits comparability of questions.

(continued)

Appendix B. (continued)

Item Number	Information	Item Source				
		YATS 84	VATS 83 Active Version	VATS 83 Reserve Version	1983 ARI Exit Survey	FY85 MEPS Followup Survey Form G
	<u>EFFECTS OF ARMY SERVICE</u>					
18a	Development of Job Skills					
18b	Self-Confidence					
18c	Leadership Ability					
18d	Ability to Work with Others as a Team					
18e	Respect for Authority					
18f	Pride in Self					
18g	Openness to New Ideas					
18h	Pride in Serving Your Country					
18i	Ability to Make Friends					
18j	Establishing Independence					
18k	Self-Discipline					
18l	Relationship with Spouse					
18m	Relationship with Children					
	<u>REASONS FOR LEAVING ARMY</u>				Q87-Q120	
19a	Officers Didn't Care About Enlisted People				Q89	
19b	Could Get a Good Civilian Job				Q91	
19c	Failed to Get Promoted					
19d	Poor NCO Leadership				Q94	
19e	Too Many PCS Moves					
19f	Pay Was Too Low				Q96	
19g	Working Hours Were Too Long				Q88	
19h	No Credit for Doing a Good Job				Q102	
19i	Too Much Family Separation				Q105	
19j	Wanted to go to School/College				Q110	
19k	Couldn't Get Education or Skill				Q106	
19l	Didn't Get Along with NCOS				Q100*	
19m	Family Problems at Home				Q119	

(continued)

* Question wording variation.

** Question/response category variation.

*** Difference in question/response format.

**** Error in YATS 1984 administration limits comparability of questions.

Appendix B. (continued)

Item Number	Information	Item Source				
		YATS 84	VATS 83 Active Version	VATS 83 Reserve Version	1983 ARI Exit Survey	FY85 MEPS Followup Survey Form G
	<u>REASONS FOR LEAVING ARMY (continued)</u>					
19n	Too Many Military Rules and Regulations					
19o	Pregnant/Just Had a Baby.....				Q120	
19p	Poor Relations with Fellow Soldiers.....				Q113*	
19q	Family Wanted You to Get Out of Army					
19r	Too Much Unfair Treatment.....				Q107	
19s	Not Enough Chance to do Interesting/Challenging Work.....				Q116	
19t	Family Support Services Inadequate					
19u	Wanted to Use Service Benefits					
19v	Not Being Treated with Respect.....				Q90	
19w	Sexual Harassment.....				Q111	
	<u>FEELINGS ABOUT ARMY SEPARATION EXPERIENCE</u>					
20	Would Decide to Join Army Again					
21	Would Have Decided to Stay in Army					
22	Most Important Reason for Separation from Army.....				Q147**	
23	One Thing Army Could Have Done to Keep You from Separating					
24	Satisfaction-Overall Outprocessing Separation Experience					
25	One Thing Most Dissatisfied-Overall Outprocessing Separation Experience					

(continued)

* Question wording variation.

** Question/response category variation.

*** Difference in question/response format.

**** Error in YATS 1984 administration limits comparability of questions.

Appendix B. (continued)

Item Number	Information	Item Source					Census 80
		YATS 84	VATS 83 Active Version	VATS 83 Reserve Version	1983 ARI Exit Survey	FY85 MEPS Followup Survey Form G	
<u>COMPARISON OF ARMY LIFE AND CIVILIAN LIFE</u>							
25a	Chance for Adventure.....	.....	.....	.....	.....	Q201**	
25b	Promotion Opportunities.....	 Q670.....	.....	.....	.....	Q205**	
25c	Good Supervisors.....	.....	.....	.....	.....	Q209	
25d	Opportunity for a Stable Home Life.....	.....	.....	.....	.....	Q217**	
25e	Personal Freedom.....	 Q656.....	.....	.....	.....	Q221**	
25f	Opportunities for Continued Self-Improvement and Development.....	.....	.....	.....	.....	Q225**	
25g	Development of Community Ties						
25h	Recreation Opportunities.....	.....	.....	.....	.....	Q229**	
25i	Credit for Doing a Good Job						
25j	Travel Opportunities.....	.....	.....	.....	.....	Q235**	
25k	Physical Training and Challenge.....	.....	.....	.....	.....	Q237**	
25l	Chance to do Something for Your Country.....	 Q652.....	.....	.....	.....	Q249**	
25m	Opportunity to Learn Valuable Trade or Skill.....	 Q664.....	.....	.....	.....	Q253**	
25n	Job Security, that is, a Steady Job.....	 Q678.....	.....	.....	.....	Q257**	
25o	Good Income.....	 Q658.....	.....	.....	.....	Q261**	
25p	Having a Lot in Common with Co-workers.....	 Q666.....	.....	.....	.....		
25q	Overall Support Services for Family Life						
25r	Easy Work/Duties.....	.....	.....	.....	.....	Q269**	
25s	Enjoying Your Work.....	 Q668.....	.....	.....	.....	Q269**	
25t	Adequate Retirement Benefits.....	 Q672.....	.....	.....	.....	Q277**	
25u	Equal Pay and Opportunity for Men and Women.....	 Q676.....	.....	.....	.....		
25v	Good Environment for Rearing Children						
25w	Freedom from Sexual Harassment						
25x	Opportunities for Making Friends						

* Question wording variation.

** Question/response category variation.

*** Difference in question/response format.

**** Error in YATS 1984 administration limits comparability of questions.

(continued)

Appendix B. (continued)

Item Number	Information	Item Source				
		YATS 84	VATS 83 Active Version	VATS 83 Reserve Version	1983 ARI Exit Survey	FY85 MEPS Followup Survey Form G
	<u>RECOMMENDATIONS TO OTHERS ABOUT ARMY SERVICE</u>					
26	Positive About Army with Acquaintances					
27	Advice to Good Friend About Joining Army..... Q690					
28	Specific Advice to Good Friend					
29	Number of People Talked with About Joining the Army					
30	Feelings About Children's Service in Army					
30a	Son					
30b	Daughter					
31	Ways Army Service Could be Improved for Future Enlistees					
	<u>FEELINGS ABOUT SERVICE OPTIONS</u>					
32a	All Young Men Owe One Year of Military Service	YATS 84				
32b	All Young Women Owe One Year of Military Service	Q680, 681				
32c	All Young Men Owe One Year Service to the Nation	(ALL FOOT-				
32d	All Young Women Owe One Year of Service to the Nation	NOTES APPLY)				
	<u>SERVICE IN NATIONAL GUARD OR RESERVE UNIT</u>					
33	Joined a National Guard/Reserve Unit Since Separation					
33a	Likelihood of Joining..... Q16d-f**					
33b	Satisfaction with Unit					
33c	Reason for Not Joining National Guard/Reserve Unit					
	<u>MEMBERSHIP IN ARMY/VETERAN ORGANIZATIONS</u>					
34	Names of Organizations					
35	Interest in Joining an Association for Former Soldiers					

* Question wording variation.

** Question/response category variation.

*** Difference in question/response format.

**** Error in YATS 1984 administration limits comparability of questions.

(continued)

Item Number	Information	Item Source					
		YATS 84	VATS 83 Active Version	VATS 83 Reserve Version	1983 ARI Exit Survey	FY85 MEPS Followup Survey Form G	Census 80
	<u>INTEREST IN RECRUITMENT ACTIVITIES</u>						
36	Helping Recruiters Identify Potential Enlistees						
37	Interest in Speaking to High School Students About Army						
	<u>INTEREST IN RECEIVING UP-TO-DATE INFORMATION</u>						
38	Interest in Receiving Newsletter or Magazine						
	<u>DEMOGRAPHICS</u>						
39	Sex						
40	Current Zip Code						
41	Year of Entry						
42	Date of Separation						
43	Nature of Separation						
44	Date of Birth						
45	Racial/Ethnic Identification						
46	Ever Married						
46a	Marital Status at Separation						
46b	Age at First Marriage						
46c	Current Marital Status						
46d	Employment Status of Spouse						
47	Number of Children						
47a	Age of Oldest Child						
48	State Living In When Joined Army						
49	Number of Terms of Active Enlistment						
50	Length of Obligation - First Term						
51	Response if MOS had not Offered 2 Year Option						
52	Personal Earnings Per Month						
53	Household Earnings Per Month						
54	Other Comments						

*** Question/response category variation.

*** Difference in question/response format.

*** Error in YATS 1984 administration limits comparability of questions.

THE 1985 ARMY EXPERIENCE SURVEY INSTRUMENT: MAIL VERSION

ARMY EXPERIENCE SURVEY

OMB 0702-0065
EXP 31 JAN 88



This questionnaire is numbered to maintain confidentiality of your responses. Please read carefully and complete all questions on this survey in the way that best reflects your feelings. Return this questionnaire as soon as possible in the postage-paid envelope provided. Thank you.

ARI PT. 5604

U.S. ARMY RESEARCH INSTITUTE
c/o WESTAT, Inc.
1650 Research Boulevard
Rockville, Maryland 20850
Spring 1985

NOTE:

Public Law 93-573, called the Privacy Act of 1974, requires that you be informed of the purpose and uses to be made of the information that is collected.

The Department of the Army may collect the information requested in this survey under the authority of 10 United States Code 137.

Providing information in this questionnaire is voluntary. Failure to respond to any particular question will not result in any penalty for the respondent.

The information collected in this survey and from Army files will be used for research and analysis purposes only. The Army Research Institute, under guidance of the Office of the Deputy Chief of Staff for Personnel, has primary research and analysis responsibility.

WE WOULD LIKE TO BEGIN BY ASKING YOU A FEW QUESTIONS ABOUT YOUR SCHOOLING EXPERIENCE BEFORE, DURING, AND AFTER YOUR SERVICE IN THE ARMY.

1a. **First**, what is the highest grade or degree that you had completed when you **entered** the Army? (CIRCLE ONE NUMBER)

- 1 LESS THAN HIGH SCHOOL (1 TO 8 YEARS)
- 2 SOME HIGH SCHOOL BUT DID NOT GRADUATE
- 3 GED
- 4 CERTIFICATE OF COMPLETION/ATTENDANCE
- 5 GRADUATED HIGH SCHOOL
- 6 SOME COLLEGE BUT DID NOT GRADUATE
- 7 2 YEAR COLLEGE DEGREE
- 8 4 YEAR COLLEGE DEGREE
- 9 GRADUATE DEGREE
- 10 OTHER (FOR EXAMPLE, VOCATIONAL, TECHNICAL, BUSINESS, OR SECRETARIAL SCHOOL)

1b. **Next**, what is the highest grade or degree that you had completed when you **separated** from the Army? (CIRCLE ONE NUMBER)

- 1 LESS THAN HIGH SCHOOL (1 TO 8 YEARS)
- 2 SOME HIGH SCHOOL BUT DID NOT GRADUATE
- 3 GED
- 4 CERTIFICATE OF COMPLETION/ATTENDANCE
- 5 GRADUATED HIGH SCHOOL
- 6 SOME COLLEGE BUT DID NOT GRADUATE
- 7 2 YEAR COLLEGE DEGREE
- 8 4 YEAR COLLEGE DEGREE
- 9 GRADUATE DEGREE
- 10 OTHER (FOR EXAMPLE, VOCATIONAL, TECHNICAL, BUSINESS, OR SECRETARIAL SCHOOL)

1c. **Last**, what is the highest grade or degree that you have completed **since** you left the Army?
(CIRCLE **ONE** NUMBER)

- 1 LESS THAN HIGH SCHOOL (1 TO 8 YEARS)
- 2 SOME HIGH SCHOOL BUT DID NOT GRADUATE
- 3 GED
- 4 CERTIFICATE OF COMPLETION/ATTENDANCE
- 5 GRADUATED HIGH SCHOOL
- 6 SOME COLLEGE BUT DID NOT GRADUATE
- 7 2 YEAR COLLEGE DEGREE
- 8 4 YEAR COLLEGE DEGREE
- 9 GRADUATE DEGREE
- 10 OTHER (FOR EXAMPLE, VOCATIONAL, TECHNICAL,
BUSINESS, OR SECRETARIAL SCHOOL)

2. Are you currently enrolled in any type of training or schooling? (CIRCLE **ONE** NUMBER)

- 1 YES, ENROLLED FULL-TIME
- 2 YES, ENROLLED PART-TIME
- 3 NO, NOT ENROLLED

3. How important was the opportunity to receive financial aid for education to your decision to enlist in the Army? (CIRCLE **ONE** NUMBER)

- 1 VERY IMPORTANT
- 2 IMPORTANT
- 3 NOT VERY IMPORTANT
- 4 NOT AT ALL IMPORTANT

NOW WE WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT WORK.

4. Which of the following best describes your employment status at the present time?
(CIRCLE **ONE** NUMBER)

- 1 EMPLOYED FULL-TIME (35 OR MORE HOURS PER WEEK)
- 2 EMPLOYED PART-TIME (LESS THAN 35 HOURS PER WEEK), BUT LOOKING FOR FULL-TIME EMPLOYMENT
- 3 EMPLOYED PART-TIME (LESS THAN 35 HOURS PER WEEK)
- 4 NOT EMPLOYED BUT LOOKING FOR WORK
- 5 NOT EMPLOYED AND **NOT** LOOKING FOR WORK

IF NOT
EMPLOYED
SKIP TO Q. 5

(Q. 4a - 4e REFER TO YOUR **CURRENT** JOB. IF YOU WORK **MORE** THAN ONE JOB, PLEASE ANSWER REFERRING TO YOUR **MAIN** JOB.)

4a. What kind of business or industry do you work for? (Describe the nature of the business at the location where you are employed. EXAMPLE: hospital, newspaper publishing, mail order house, auto engine manufacturing, breakfast cereal manufacturing.)

KIND OF BUSINESS/INDUSTRY: _____

4b. What is your job title? (EXAMPLE. registered nurse, personnel manager, supervisor of order department, gasoline engine assembler, grinder operator.)

JOB TITLE: _____

4c. What are your main activities or duties? (EXAMPLE: patient care, directing hiring policies, supervising order clerks, assembling engines, operating grinding mill.)

MAIN ACTIVITIES OR DUTIES: _____

4d. Overall, how satisfied are you with your **current** job? (CIRCLE **ONE** NUMBER)

- 1 VERY SATISFIED
- 2 SATISFIED
- 3 DISSATISFIED
- 4 VERY DISSATISFIED

4e. How similar are the job skills you developed in the Army to those required in your **current** job? (CIRCLE **ONE** NUMBER)

- 1 VERY SIMILAR
- 2 SIMILAR
- 3 DISSIMILAR
- 4 VERY DISSIMILAR

5. How many different full-time jobs with different employers (35 or more hours per week) have you had since you left the Army? (IF NONE, WRITE "0.")

NUMBER OF FULL-TIME JOBS: _____ →

IF "0," SKIP
TO Q. 8

6. How difficult was it to get your first **full-time** job after leaving the Army? (CIRCLE **ONE** NUMBER)

- 1 VERY DIFFICULT
- 2 DIFFICULT
- 3 EASY
- 4 VERY EASY

7. Did you have a full-time job lined up before you left the Army? (CIRCLE **ONE** NUMBER)

- 1 YES
- 2 NO

8. Compared to just before you left active service, would you say that your standard of living is now: (CIRCLE **ONE** NUMBER)

- 1 A LOT BETTER
- 2 SOMEWHAT BETTER
- 3 ABOUT THE SAME
- 4 SOMEWHAT WORSE
- 5 A LOT WORSE

THE NEXT QUESTION ASKS YOU ABOUT YOUR USE OF SERVICE BENEFITS. (NOTE: IF YOU HAVE **NOT** RECEIVED ANY BENEFITS SINCE LEAVING ACTIVE SERVICE, CHECK HERE _____ AND SKIP TO Q. 10.)

9. Below is a list of benefits. **First**, circle the letter next to each benefit you have received, or are currently receiving, since leaving the service.

Then, if you have received the benefit, place the amount of money within one hundred dollars that you have received to date, or are currently receiving per month, in the space provided to the right of the benefit.

BENEFIT (CIRCLE LETTER FOR EACH BENEFIT RECEIVED)	AMOUNT RECEIVED (within \$100)
a. ARMY COLLEGE FUND (ACF)	\$ _____ to date
b. VETERANS EDUCATIONAL ASSISTANCE PROGRAM (VEAP)	\$ _____ to date
c. GI BILL EDUCATION BENEFITS	\$ _____ to date
d. RETIREMENT PAY	\$ _____ per month
e. OTHERS (PLEASE SPECIFY AND WRITE WHETHER AMOUNT IS "TO DATE" OR "PER MONTH")	
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____

WE WOULD NOW LIKE TO TURN TO ANOTHER TOPIC AND ASK YOU SOME QUESTIONS ABOUT YOUR SERVICE IN THE ARMY.

10. Did you receive a cash enlistment bonus when you first joined the Army?
(CIRCLE **ONE** NUMBER)

1 YES
2 NO

11. Did you receive an Army College Fund (ACF) incentive? (ACF is an extra amount of money contributed by the Army under the Veterans Education Assistance Program (VEAP). In 1980-81, the ACF was called Ultra VEAP or Super VEAP Kicker). (CIRCLE **ONE** NUMBER)

1 YES
2 NO

12. Below is a list of reasons that people may give for joining the Army. Using the scale on the right, circle the number that best represents how important each reason was for you in joining the Army.

(CIRCLE ONE NUMBER FOR EACH ITEM a-m)	Very Important	Important	Not Very Important	Not at All Important
a. CHANCE TO BETTER MYSELF	1	2	3	4
b. TO GET TRAINED IN A SKILL	1	2	3	4
c. MONEY FOR A COLLEGE EDUCATION	1	2	3	4
d. TO SERVE MY COUNTRY	1	2	3	4
e. I WAS UNEMPLOYED	1	2	3	4
f. TO PROVE THAT I COULD MAKE IT	1	2	3	4
g. TO BE AWAY FROM HOME ON MY OWN	1	2	3	4
h. EARN MORE MONEY	1	2	3	4
i. TRAVEL	1	2	3	4
j. GET AWAY FROM A PERSONAL PROBLEM	1	2	3	4
k. FAMILY TRADITION TO SERVE	1	2	3	4
l. NEEDED TIME TO MATURE	1	2	3	4
m. I WAS DRAFTED OR ENLISTED TO AVOID THE DRAFT	1	2	3	4

13. When you first entered the Army, did you plan to pursue the Army as a career (a minimum of 20 years)? (CIRCLE ONE NUMBER)
- 1 DEFINITELY
 - 2 PROBABLY
 - 3 PROBABLY NOT
 - 4 DEFINITELY NOT
14. How much do you agree with the following statement: "I am proud to have been a soldier"? (CIRCLE ONE NUMBER)
- 1 STRONGLY AGREE
 - 2 AGREE
 - 3 DISAGREE
 - 4 STRONGLY DISAGREE

15. in general, how satisfied were you with your Army service? (CIRCLE **ONE** NUMBER)

- 1 VERY SATISFIED
- 2 SATISFIED
- 3 DISSATISFIED
- 4 VERY DISSATISFIED

16. Whether you were satisfied or not, how valuable was your Army experience to you?
(CIRCLE **ONE** NUMBER)

- 1 VERY VALUABLE
- 2 VALUABLE
- 3 NOT VERY VALUABLE
- 4 NOT AT ALL VALUABLE

16a. Please explain why you feel this way. (PLEASE PRINT YOUR ANSWER)

17. Overall, **compared to being in the Army**, would you say you are: (CIRCLE **ONE** NUMBER)

- 1 MUCH MORE SATISFIED AS A CIVILIAN
- 2 MORE SATISFIED AS A CIVILIAN
- 3 JUST AS SATISFIED AS A CIVILIAN
- 4 LESS SATISFIED AS A CIVILIAN
- 5 MUCH LESS SATISFIED AS A CIVILIAN

18. Now we are interested in knowing what type of effect, if any, your Army service had on various aspects of your life. Using the scale on the right, circle the number that best represents your feelings about each item listed below.

(CIRCLE ONE NUMBER FOR EACH ITEM a-m)					
What type of effect, if any, did your Army service have on your:	Strong Positive Effect	Positive Effect	No Effect	Negative Effect	Strong Negative Effect
a. DEVELOPMENT OF JOB SKILLS	1	2	3	4	5
b. SELF-CONFIDENCE	1	2	3	4	5
c. LEADERSHIP ABILITY	1	2	3	4	5
d. ABILITY TO WORK WITH OTHERS AS A TEAM	1	2	3	4	5
e. RESPECT FOR AUTHORITY	1	2	3	4	5
f. PRIDE IN SELF	1	2	3	4	5
g. OPENNESS TO NEW IDEAS	1	2	3	4	5
h. PRIDE IN SERVING YOUR COUNTRY	1	2	3	4	5
i. ABILITY TO MAKE FRIENDS	1	2	3	4	5
j. ESTABLISHING INDEPENDENCE	1	2	3	4	5
k. SELF DISCIPLINE	1	2	3	4	5

ANSWER THIS ITEM IF YOU WERE MARRIED DURING YOUR ARMY SERVICE:					
What type of effect, if any, did your Army service have on your:	Strong Positive Effect	Positive Effect	No Effect	Negative Effect	Strong Negative Effect
l. RELATIONSHIP WITH SPOUSE	1	2	3	4	5

ANSWER THIS ITEM IF YOU WERE A PARENT DURING YOUR ARMY SERVICE					
What type of effect, if any, did your Army service have on your:	Strong Positive Effect	Positive Effect	No Effect	Negative Effect	Strong Negative Effect
m. RELATIONSHIP WITH CHILDREN	1	2	3	4	5

IF YOU SERVED 20 OR MORE YEARS IN THE SERVICE, SKIP TO Q. 20.

19. Below is a list of reasons that people may give for getting out of the Army. Using the scale on the right, circle the number that best represents how important **each** reason was for you in leaving the Army.

(CIRCLE ONE NUMBER FOR EACH ITEM a-w)	Extremely Important	Very Important	Important	Of Little Importance	Not True or Not Important
a. OFFICERS DIDN'T CARE ABOUT ENLISTED PEOPLE	1	2	3	4	5
b. YOU COULD GET A GOOD CIVILIAN JOB	1	2	3	4	5
c. FAILED TO GET PROMOTED	1	2	3	4	5
d. POOR NCO LEADERSHIP	1	2	3	4	5
e. TOO MANY PCS MOVES	1	2	3	4	5
f. PAY WAS TOO LOW	1	2	3	4	5
g. WORKING HOURS WERE TOO LONG	1	2	3	4	5
h. NO CREDIT FOR DOING A GOOD JOB	1	2	3	4	5
i. TOO MUCH FAMILY SEPARATION	1	2	3	4	5
j. YOU WANTED TO GO TO SCHOOL/COLLEGE	1	2	3	4	5
k. COULDN'T GET EDUCATION OR SKILL YOU WANTED	1	2	3	4	5
l. DIDN'T GET ALONG WITH YOUR NCOS	1	2	3	4	5
m. FAMILY PROBLEMS AT HOME	1	2	3	4	5
n. TOO MANY MILITARY RULES AND REGULATIONS	1	2	3	4	5
o. YOU WERE PREGNANT/JUST HAD A BABY	1	2	3	4	5
p. POOR RELATIONS WITH FELLOW SOLDIERS	1	2	3	4	5
q. FAMILY WANTED YOU TO GET OUT OF ARMY	1	2	3	4	5
r. TOO MUCH UNFAIR TREATMENT	1	2	3	4	5
s. NOT ENOUGH CHANCE TO DO INTERESTING/CHALLENGING WORK	1	2	3	4	5
t. FAMILY SUPPORT SERVICES INADEQUATE	1	2	3	4	5
u. WANTED TO USE SERVICE BENEFITS	1	2	3	4	5
v. NOT BEING TREATED WITH RESPECT	1	2	3	4	5
w. SEXUAL HARASSMENT	1	2	3	4	5

20. If you had it to do all over again, would you decide to join the Army? (CIRCLE **ONE** NUMBER)

- 1 DEFINITELY
- 2 PROBABLY
- 3 PROBABLY NOT
- 4 DEFINITELY NOT

21. If you had it to do all over again, would you have decided to stay in the Army?
(CIRCLE **ONE** NUMBER)

- 1 DEFINITELY
- 2 PROBABLY
- 3 PROBABLY NOT
- 4 DEFINITELY NOT

22. Now, tell us in your own words the most important reason that you separated from the Army.
(PLEASE PRINT YOUR ANSWER)

23. What one thing could the Army have done, if anything, that would have kept you from leaving the service? (PLEASE PRINT YOUR ANSWER)

24. How satisfied were you with the overall outprocessing/separation experience when you left active service? (CIRCLE **ONE** NUMBER)

- 1 VERY SATISFIED
- 2 SATISFIED
- 3 DISSATISFIED
- 4 VERY DISSATISFIED

24a. Please describe the one thing that you were most dissatisfied with in your overall outprocessing/separation experience. (PLEASE PRINT YOUR ANSWER)

25. Below is a list of items for comparing Army life and civilian life. For each item, please tell us whether you think that it is more likely to occur in Army life, in civilian life, or equally likely in either one.

(CIRCLE ONE NUMBER FOR EACH ITEM a-x)	More Likely in Army Life	More Likely in Civilian Life	Equally Likely in Either
a. CHANCE FOR ADVENTURE	1	2	3
b. PROMOTION OPPORTUNITIES	1	2	3
c. GOOD SUPERVISORS	1	2	3
d. OPPORTUNITY FOR A STABLE HOME LIFE	1	2	3
e. PERSONAL FREEDOM	1	2	3
f. OPPORTUNITIES FOR CONTINUED SELF IMPROVE- MENT AND DEVELOPMENT	1	2	3
g. DEVELOPMENT OF COMMUNITY TIES	1	2	3
h. RECREATION OPPORTUNITIES	1	2	3
i. CREDIT FOR DOING A GOOD JOB	1	2	3
j. TRAVEL OPPORTUNITIES	1	2	3
k. PHYSICAL TRAINING AND CHALLENGE	1	2	3
l. CHANCE TO DO SOMETHING FOR YOUR COUNTRY	1	2	3
m. OPPORTUNITY TO LEARN VALUABLE TRADE OR SKILL	1	2	3
n. JOB SECURITY, THAT IS, A STEADY JOB	1	2	3
o. GOOD INCOME	1	2	3
p. HAVING A LOT IN COMMON WITH CO-WORKERS	1	2	3
q. OVERALL SUPPORT SERVICES FOR FAMILY LIFE	1	2	3
r. EASY WORK/DUTIES	1	2	3
s. ENJOYING YOUR WORK	1	2	3
t. ADEQUATE RETIREMENT BENEFITS	1	2	3
u. EQUAL PAY AND OPPORTUNITY FOR MEN AND WOMEN	1	2	3
v. GOOD ENVIRONMENT FOR REARING CHILDREN	1	2	3
w. FREEDOM FROM SEXUAL HARASSMENT	1	2	3
x. OPPORTUNITIES FOR MAKING FRIENDS	1	2	3

26. When you talk about Army-related topics with acquaintances such as friends or neighbors, how positive are you about the Army in general? (CIRCLE **ONE** NUMBER)

- 1 VERY POSITIVE
- 2 POSITIVE
- 3 NEGATIVE
- 4 VERY NEGATIVE
- 5 NEVER TALK ABOUT ARMY

27. If a good friend of yours asked your advice about joining the Army, would you say it was: (CIRCLE **ONE** NUMBER)

- 1 A WASTE OF TIME
- 2 UP TO HIM OR HER
- 3 A GOOD IDEA

28. **Specifically**, what would you tell a good friend about joining or not joining the Army? (PLEASE PRINT YOUR ANSWER)

29. Approximately how many people would you say you have talked with about their joining or not joining the Army since you left active service? (IF NONE, WRITE "0.")

NUMBER OF PEOPLE: _____

30. Would you like to see your son or daughter, at some point, join the military? Answer even if you presently have **no** children or **do not** plan to have children. (CIRCLE **ONE** NUMBER IN **EACH** COLUMN)

30a. YOUR SON?

- 1 YES
- 2 NO

30b. YOUR DAUGHTER?

- 1 YES
- 2 NO

31. Think about ways Army service could be **improved** for future enlistees. What would you suggest the Army do to make the Army experience more positive or useful to them?
(PLEASE PRINT YOUR ANSWER)

32. Below is a list of service options. Using the scale on the right, please circle the number that best represents how you would feel about a program that required each service option.

(CIRCLE ONE NUMBER FOR EACH ITEM a-d)		Strongly Favor It	Probably Favor It	Probably Oppose It	Strongly Oppose It
a.	ALL YOUNG MEN TO GIVE ONE YEAR OF SERVICE IN THE MILITARY	1	2	3	4
b.	ALL YOUNG WOMEN TO GIVE ONE YEAR OF SERVICE IN THE MILITARY	1	2	3	4
c.	ALL YOUNG MEN TO GIVE ONE YEAR OF SERVICE TO THE NATION — EITHER IN THE MILITARY OR IN NONMILITARY WORK SUCH AS IN HOSPITALS OR WITH ELDERLY PEOPLE	1	2	3	4
d.	ALL YOUNG WOMEN TO GIVE ONE YEAR OF SERVICE TO THE NATION — EITHER IN THE MILITARY OR IN NONMILITARY WORK SUCH AS IN HOSPITALS OR WITH ELDERLY PEOPLE	1	2	3	4

33. Have you **joined** a National Guard or Reserve **unit** since you left active service?
(CIRCLE **ONE** NUMBER)

- 1 YES, ARMY **RESERVE**
- 2 YES, AIR FORCE **RESERVE**
- 3 YES, NAVY **RESERVE**
- 4 YES, MARINE CORPS **RESERVE**
- 5 YES, ARMY **NATIONAL GUARD**
- 6 YES, AIR **NATIONAL GUARD**

7 NO

33a. IF **NO**: How likely is it that you will join a National Guard or Reserve unit? Would you say: (CIRCLE **ONE** NUMBER)

- 1 DEFINITELY
- 2 PROBABLY
- 3 PROBABLY NOT
- 4 DEFINITELY NOT

33b. IF **YES**: How satisfied are you with your National Guard or Reserve unit? (CIRCLE **ONE** NUMBER)

- 1 VERY SATISFIED
- 2 SATISFIED
- 3 DISSATISFIED
- 4 VERY DISSATISFIED

SKIP
TO Q. 34

33c. Which statement below best explains why you are not now in a Reserve or National Guard Unit? (CIRCLE **ONE** NUMBER)

- 1 MY COMMUNITY DOES NOT HAVE THE KIND OF UNIT I SHOULD BE IN.
- 2 IT WOULD INTERFERE WITH MY CIVILIAN JOB.
- 3 IT WOULD INTERFERE WITH MY FAMILY RESPONSIBILITIES.
- 4 I APPLIED BUT WAS NOT ACCEPTED.
- 5 I WAS NOT INTERESTED.
- 6 I COMPLETED MY MILITARY SERVICE OBLIGATION.
- 7 I WAS NOT ELIGIBLE.

FINALLY, WE WOULD LIKE TO ASK SOME QUESTIONS ABOUT YOURSELF.

39. Are you: (CIRCLE **ONE** NUMBER)

1 MALE

2 FEMALE

40. What is your current Zip Code? (PRINT NAME OF COUNTRY IF **OUTSIDE** U.S.)

ZIP CODE:

--	--	--	--	--	--

COUNTRY: _____

41. What year did you first enter active service?

YEAR OF ENTRY: 19 _____

42. What was your separation date from the Army?

MONTH: _____

YEAR: 19 _____

43. Which of the following statements best describes the nature of your separation from the Army?
(CIRCLE **ONE** NUMBER)

1 I COMPLETED THE FULL TERM OF MY LAST ENLISTMENT OR RE ENLISTMENT CONTRACT.

2 I WAS RELEASED FROM SERVICE A FEW MONTHS EARLY BECAUSE OF A HOLIDAY OR BECAUSE OF THE END OF THE YEAR.

3 I SERVED LESS THAN THE FULL TERM OF MY LAST ENLISTMENT OR RE-ENLISTMENT.

44. What is your year of birth?

YEAR OF BIRTH: 19 _____

45. Which of the following best describes your racial or ethnic identification? (CIRCLE **ONE** NUMBER)

1 HISPANIC

2 BLACK, NOT OF HISPANIC ORIGIN

3 WHITE, NOT OF HISPANIC ORIGIN

OTHER (SPECIFY) _____

FINALLY, WE WOULD LIKE TO ASK SOME QUESTIONS ABOUT YOURSELF.

39. Are you: (CIRCLE **ONE** NUMBER)

1 MALE

2 FEMALE

40. What is your current Zip Code? (PRINT NAME OF COUNTRY IF **OUTSIDE** U.S.)

ZIP CODE:

--	--	--	--	--	--

COUNTRY: _____

41. What year did you first enter active service?

YEAR OF ENTRY: 19 _____

42. What was your separation date from the Army?

MONTH: _____

YEAR: 19 _____

43. Which of the following statements best describes the nature of your separation from the Army?
(CIRCLE **ONE** NUMBER)

1 I COMPLETED THE FULL TERM OF MY LAST ENLISTMENT OR RE ENLISTMENT CONTRACT.

2 I WAS RELEASED FROM SERVICE A FEW MONTHS EARLY BECAUSE OF A HOLIDAY OR BECAUSE OF THE END OF THE YEAR.

3 I SERVED LESS THAN THE FULL TERM OF MY LAST ENLISTMENT OR RE-ENLISTMENT.

44. What is your year of birth?

YEAR OF BIRTH: 19 _____

45. Which of the following best describes your racial or ethnic identification? (CIRCLE **ONE** NUMBER)

1 HISPANIC

2 BLACK, NOT OF HISPANIC ORIGIN

3 WHITE, NOT OF HISPANIC ORIGIN

OTHER (SPECIFY) _____

46. Have you ever been married? (CIRCLE ONE NUMBER)

SKIP TO
Q 47

1 YES

← 2 NO

46a. What was your marital status when you left active service? (CIRCLE ONE NUMBER)

1 MARRIED

2 WIDOWED

3 DIVORCED

4 SEPARATED

5 SINGLE, NEVER MARRIED

46b. How old were you when you were **first** married?

AGE WHEN FIRST MARRIED: _____

46c. What is your current marital status? (CIRCLE ONE NUMBER)

1 MARRIED

2 WIDOWED

3 DIVORCED

4 SEPARATED

SKIP TO
Q 47

(IF MARRIED)

46d. Is your spouse presently employed or self-employed for pay? (CIRCLE ONE NUMBER)

1 YES, EMPLOYED FOR PAY FULL-TIME (35 HOURS PER WEEK OR MORE)

2 YES, EMPLOYED FOR PAY PART-TIME (LESS THAN 35 HOURS PER WEEK)

3 NO, NOT EMPLOYED

47. How many children do you have? (IF NONE, WRITE "0.")

NUMBER OF CHILDREN: _____

IF NO CHILDREN
SKIP TO Q 48

47a. What is the age of the oldest child you have? (IF LESS THAN ONE YEAR OLD, WRITE "0.")

AGE OF OLDEST CHILD: _____

48. What state were you living in when you joined the Army? (PRINT NAME OF **COUNTRY** IF **OUTSIDE** U.S.)

NAME OF STATE: _____

49. How many terms of active enlistment did you serve?

- 1 LESS THAN ONE ENLISTMENT
- 2 ONE ENLISTMENT
- 3 TWO ENLISTMENTS
- 4 THREE ENLISTMENTS
- 5 FOUR OR MORE ENLISTMENTS

50. How long were you obligated to serve during your **first** tour of active service in the Army?
(CIRCLE **ONE** NUMBER)

- 1 I **ENLISTED** FOR **TWO** YEARS
- 2 I WAS **DRAFTED** FOR **TWO** YEARS
- 3 I **ENLISTED** FOR **THREE** YEARS
- 4 I **ENLISTED** FOR **FOUR** YEARS
- 5 I **ENLISTED** FOR **FIVE OR MORE** YEARS
- 6 OTHER (SPECIFY) _____

51. Suppose the MOS you signed up for did not offer a 2 year option. What would you have done?
(CIRCLE **ONE** NUMBER)

- 1 DOES NOT APPLY TO ME (I WAS DRAFTED, OR I ENLISTED FOR 3 OR MORE YEARS)
- 2 SIGNED UP FOR THE SAME JOB ANYWAY
- 3 SIGNED UP FOR A DIFFERENT JOB IN THE ARMY WHETHER OR NOT IT HAD A 2 YEAR OPTION
- 4 SIGNED UP FOR A DIFFERENT JOB IN THE ARMY **ONLY** IF IT HAD A 2 YEAR OPTION
- 5 TRIED TO JOIN A DIFFERENT SERVICE
- 6 NOT ENLISTED AT ALL

-
52. How much are you earning **on the average** each month (before taxes) from all sources? (**EXCLUDE** MILITARY RETIREMENT P/Y. **INCLUDE** EVERYTHING ELSE, E.G., WAGES, SALARIES, TIPS, COMMISSIONS, INTEREST AND DIVIDENDS.) Give your best estimate. (IF NO INCOME, WRITE "0.")

EARNINGS PER MONTH: \$ _____

53. How much is your entire **household, including yourself**, earning on the average each month (before taxes) from all different kinds of work? (**EXCLUDE** MILITARY RETIREMENT PAY. **INCLUDE** EVERYTHING ELSE, E.G., WAGES, SALARIES, TIPS, COMMISSIONS, INTEREST AND DIVIDENDS.) Give your best estimate. (IF NO INCOME, WRITE "0.")

EARNINGS PER MONTH: \$ _____

54. Is there anything else you would like to tell us about your experience in the Army, or about how you feel the Army experience has affected you since leaving the Army?
(PLEASE PRINT YOUR ANSWER.)

THIS COMPLETES THE QUESTIONNAIRE.

PLEASE LOOK OVER YOUR ANSWERS TO BE SURE YOU HAVE NOT OMITTED ANY QUESTIONS THAT APPLIED TO YOU.

THEN MAIL THE QUESTIONNAIRE IN THE ENCLOSED, POSTAGE PAID ENVELOPE.

THANK YOU FOR YOUR COOPERATION AND ASSISTANCE.

APPENDIX D

THE 1985 ARMY EXPERIENCE SURVEY INSTRUMENT:
TELEPHONE VERSION

Project #: 978604
OMB #: 0702-0065
Expiration Date: 01/31/88
Time Started: _____
ID #: _____

Army Experience Survey

Hello, my name is (YOUR NAME). May I please speak to (RESPONDENT)?

IF RESPONDENT: I am calling from Westat, a research firm in Rockville, Maryland, on behalf of the Army Research Institute. We are conducting a survey to help the Army learn more about the experiences of former soldiers. While you may choose not to answer any question, the information you give us is protected under the Privacy Act of 1974. This means your answers will be kept confidential and your identity will never be known to anyone except the research project staff.

A. First, are you currently an active service member in the regular Army?

YES 1 PROBE
NO. 2 (Q.B)

IF YES: Is that active Army service or the National Guard or Reserves?

ACTIVE ARMY 1 PROBE
NATIONAL GUARD, RESERVES
OR OTHER SERVICE (e.g.,
MARINES). 2 (Q.B)

IF ACTIVE ARMY: Have you ever been separated from Army service?

YES 1 (Q.1A)
NO. 2 TERMINATE

B. Have you ever served in the regular Army?

YES 1 (Q.1A)
NO. 2 TERMINATE

IF TERMINATE: Thank you very much, but we are only interested in talking to people who are former Army service personnel.

I would like to begin by asking you a few questions about your schooling experience before, during, and after your service in the Army.

1a. First, what is the highest level of education that you had completed when you entered the Army?

- | | | |
|--|---|------------|
| Less than high school (1 to 8 years) | 1 | } (Q.1a-1) |
| Some high school but did not graduate; | 2 | |
| A GED; | 3 | |
| A certificate of completion/attendance; or | 4 | |
| You graduated from high school with a diploma. | 5 | } (Q.1b) |
| You completed some college but did not graduate; | 6 | |
| A 2 year college degree; | 7 | |
| A 4 year college degree; or. | 8 | |
| A graduate degree. | 9 | |

1a-1 Did you attend any other type of school, for example, vocational, technical, business, or secretarial school?

YES
NO

1b. At the time you separated from the Army, was your level of education different from when you entered the Army?

YES
NO (Q.1c)

[IF YES:] What was your highest level of education at the time you separated?

- | | | |
|--|---|------------|
| Less than high school (1 to 8 years) | 1 | } (Q.1b-1) |
| Some high school but did not graduate; | 2 | |
| A GED; | 3 | |
| A certificate of completion/attendance; or | 4 | |
| You graduated from high school with a diploma. | 5 | } (Q.1c) |
| You completed some college but did not graduate; | 6 | |
| A 2 year college degree; | 7 | |
| A 4 year college degree; or. | 8 | |
| A graduate degree. | 9 | |

1b-1 Did you attend any other type of school, for example, vocational, technical, business, or secretarial school?

YES
NO

1c. Last, since you left the Army, have you pursued any additional education?

YES

NO (Q.2)

[IF YES:] What is the highest level of education that you have at this time?

- | | | |
|--|---|------------|
| Less than high school (1 to 8 years) | 1 | } (Q.1c-1) |
| Some high school but did not graduate; | 2 | |
| A GED; | 3 | |
| A certificate of completion/attendance; or | 4 | |
| You graduated from high school with a diploma. | 5 | } (Q.2) |
| You completed some college but did not graduate; | 6 | |
| A 2 year college degree; | 7 | |
| A 4 year college degree; or. | 8 | |
| A graduate degree. | 9 | |

1c-1 Did you attend any other type of school, for example, vocational, technical, business, or secretarial school?

YES

NO

2. Are you currently enrolled in any type of training or schooling? (IF YES, PROBE: Is that full-time or part-time?)

- | | |
|------------------------|---|
| FULL-TIME. | 1 |
| PART-TIME. | 2 |
| NOT ENROLLED | 3 |

3. How important was the opportunity to receive financial aid for education to your decision to enlist in the Army? Would you say it was...

- | | |
|----------------------------------|---|
| Very important;. | 1 |
| Important; | 2 |
| Not very important; or | 3 |
| Not at all important?. | 4 |

Now I would like to ask you some questions about work.

4. Which of the following best describes your employment status at the present time?
Are you...

Employed full-time 35 or more
hours per week; 1

IF FULL TIME ASK ——— [Is this one or more jobs? . . ONE . . .MORE]

Employed part-time less than
35 hours per week, but looking
for full-time employment; 2

Employed part-time less than
35 hours per week; 3

Not employed but looking for work; or. . . . 4 (Q.5)

Are you not employed and not looking
for work? 5 (Q.5)

The next few questions refer to your current job. If you work more than one job, please
answer only for your main job.

- 4a. What kind of business or industry do you currently work for? (RESPONDENT SHOULD
DESCRIBE THE NATURE OF THE BUSINESS AT THE LOCATION WHERE HE/SHE IS EMPLOYED.
EXAMPLE: HOSPITAL, NEWSPAPER PUBLISHING, MAIL ORDER HOUSE, AUTO ENGINE MANUFAC-
TURING, BREAKFAST CEREAL MANUFACTURING. IF MILITARY, WHICH SERVICE?)

KIND OF BUSINESS/INDUSTRY: _____

- 4b. What is your job title? (EXAMPLE: REGISTERED NURSE, PERSONNEL MANAGER, SUPER-
VISOR OF ORDER DEPARTMENT, GASOLINE ENGINE ASSEMBLER, GRINDER OPERATOR.)

JOB TITLE: _____

- 4c. What are your main activities or duties? (EXAMPLE: PATIENT CARE, DIRECTING
HIRING POLICIES, SUPERVISING ORDER CLERKS, ASSEMBLING ENGINES, OPERATING GRIND-
ING MILL.) (PROBE FOR SPECIFICS)

MAIN ACTIVITIES OR DUTIES: _____

4d. Overall, how satisfied are you with your current job? Would you say you are...

Very satisfied;. 1
Satisfied; 2
Dissatisfied; or 3
Very dissatisfied? 4

4e. How similar are the job skills you developed in the Army to those required in your current job? Would you say they are...

Very similar;. 1
Similar; 2
Dissimilar; or 3
Very dissimilar? 4

5. How many different full-time jobs with different employers (35 or more hours per week) have you had since you left the Army? (IF NONE, WRITE "0.")

NUMBER OF FULL-TIME JOBS: _____

IF Q5 = NONE, SKIP TO Q8.

6. How difficult was it to get your first full-time job after leaving the Army? Would you say it was...

Very difficult;. 1
Difficult; 2
Easy; or 3
Very easy? 4

7. Did you have a full-time job lined up before you left the Army?

YES. 1
NO 2

8. Compared to just before you left active service, would you say that your standard of living is now:

- A lot better; 1
- Somewhat better; 2
- About the same; 3
- Somewhat worse; or 4
- A lot worse? 5

The next question asks you about your use of service benefits. Have you received any service benefits (such as the Army College Fund or Retirement Pay) since leaving active service?

- YES. 1
- NO 2 (Q.10)

9. Now I will read you a list of service benefits. Please tell me which of these benefits you are currently receiving or have received since leaving active service. [IF YES, ASK: What is the dollar amount received (to date/per month) for (BENEFIT)?]

<u>BENEFIT</u>		<u>AMOUNT RECEIVED</u> (within \$100)
a. Army College Fund (ACF)?	YES. . . . 1 ———>	\$ _____ to date
	NO 2	
b. Veterans Educational Assistance Program (VEAP)?	YES. . . . 1 ———>	\$ _____ to date
	NO 2	
c. GI Bill Education Benefits?	YES. . . . 1 ———>	\$ _____ to date
	NO 2	
d. Retirement Pay?	YES. . . . 1 ———>	\$ _____ per month
	NO 2	
e. Any other benefits? (SPECIFY BENEFIT)	YES. . . . 1	
	NO 2	

Now I'd like to ask you some questions about your service in the Army.

10. Did you receive a cash enlistment bonus when you first joined the Army?

YES. 1

NO 2

11. The Army has what is called an Army College Fund or ACF. ACF is an extra amount of money contributed by the Army under the Veterans' Education Assistance Program (VEAP). In 1980-81, the ACF was called Ultra VEAP or Super VEAP Kicker. Did you receive an Army College Fund (ACF) incentive?

YES. 1

NO 2

12. Now I will read you a list of reasons that people may give for joining the Army. Please tell me how important each reason was for you in joining the Army.

Was (REASON) a very important, important, not very important, or not at all important reason for your joining the Army?

(CIRCLE ONE NUMBER FOR EACH ITEM a-m)

	Very Important	Important	Not Very Important	Not at All Important
a. A chance to better yourself	1	2	3	4
b. To get trained in a skill	1	2	3	4
c. Money for a college education	1	2	3	4
d. To serve your country	1	2	3	4
e. Being unemployed	1	2	3	4
f. To prove that you could make it	1	2	3	4
g. To be away from home on your own	1	2	3	4
h. To earn more money	1	2	3	4
i. To travel	1	2	3	4
j. To get away from a personal problem	1	2	3	4
k. A family tradition to serve	1	2	3	4
l. Needing time to mature	1	2	3	4
m. Being drafted or enlisting to avoid the draft	1	2	3	4

13. When you first entered the Army, did you plan to pursue the Army as a career, a minimum of 20 years? Would you say...

Definitely;. 1
Probably;. 2
Probably not; or 3
Definitely not?. 4

14. How much do you agree with the following statement: "I am proud to have been a soldier"? Would you say that you...

Strongly agree;. 1
Agree; 2
Disagree; or 3
Strongly disagree? 4

15. In general, how satisfied were you with your Army service? Would you say you were...

Very satisfied;. 1
Satisfied; 2
Dissatisfied; or 3
Very dissatisfied? 4

16. Whether you were satisfied or not, how valuable was your Army experience to you? Would you say...

Very valuable; 1
Valuable;. 2
Not very valuable; or. 3
Not at all valuable? 4

16a. Please explain why you feel this way. (WRITE COMMENTS VERBATIM)

17. Overall, compared to being in the Army, would you say you are...

- Much more satisfied as a civilian; 1
- More satisfied as a civilian;. 2
- Just as satisfied as a civilian; 3
- Less satisfied as a civilian; or 4
- Much less satisfied as a civilian? 5

18. We are interested in what type of effect, if any, your Army service had on various aspects of your life.

What type of effect, if any, did your Army service have on your (REASON)? Would you say a strong positive effect, a positive effect, no effect, a negative effect, or a strong negative effect?

	Strong Positive Effect	Positive Effect	No Effect	Negative Effect	Strong Negative Effect
a. Development of job skills	1	2	3	4	5
b. Self-confidence	1	2	3	4	5
c. Leadership ability	1	2	3	4	5
d. Ability to work with others as a team	1	2	3	4	5
e. Respect for authority	1	2	3	4	5
f. Pride in self	1	2	3	4	5
g. Openness to new ideas	1	2	3	4	5
h. Pride in serving your country	1	2	3	4	5
i. Ability to make friends	1	2	3	4	5
j. Establishing independence	1	2	3	4	5
k. Self discipline	1	2	3	4	5

l. Were you married during your Army service? YES NO → SKIP TO ITEM m
1 2

What type of effect, if any, did your Army service have on your:

Relationship with your spouse 1 2 3 4 5

m. Were you a parent during your Army service? YES NO → SKIP TO Q.18n
1 2

What type of effect, if any, did your Army service have on your:

Relationship with your children 1 2 3 4 5

18n. Did you serve 20 or more years in the service?

YES. 1 (Q.20)

NO 2

19. The following is a list of reasons that people give for getting out of the Army. Please tell me how important each reason was for you in leaving the Army.

How important for your getting out of the Army (was/was it that) (REASON)? Would you say extremely important, very important, important, of little importance, or not true or not important?

(READ LIST, CIRCLE ONE NUMBER)

	Extremely Impor- tant	Very Impor- tant	Impor- tant	Of little Impor- tance	Not True or Not Impor- tant
a. The officers didn't care about enlisted people	1	2	3	4	5
b. You could get a good civilian job	1	2	3	4	5
c. Failing to get promoted	1	2	3	4	5
d. Poor NCO leadership	1	2	3	4	5
e. Too many PCS moves	1	2	3	4	5
f. The pay was too low	1	2	3	4	5
g. The working hours were too long	1	2	3	4	5
h. No credit for doing a good job	1	2	3	4	5
i. Too much family separation	1	2	3	4	5
j. You wanted to go to school or college	1	2	3	4	5
k. You couldn't get the education or skill you wanted	1	2	3	4	5
l. You didn't get along with your NCO	1	2	3	4	5
m. Family problems at home	1	2	3	4	5
n. There were too many military rules and regulations	1	2	3	4	5
o. You were pregnant/just had a baby	1	2	3	4	5
p. Poor relations with fellow soldiers	1	2	3	4	5
q. Your family wanted you to get out of Army	1	2	3	4	5
r. Too much unfair treatment	1	2	3	4	5
s. Not enough chance to do interesting or challenging work	1	2	3	4	5
t. Family support services were inadequate	1	2	3	4	5
u. You wanted to use veterans benefits	1	2	3	4	5
v. Not being treated with respect	1	2	3	4	5
w. Sexual harassment	1	2	3	4	5

20. If you had it to do all over again, would you decide to join the Army?

Definitely 1
Probably 2
Probably not 3
Definitely not 4

21. If you had it to do all over again, would you have decided to stay in the Army?

Definitely 1
Probably 2
Probably not 3
Definitely not 4

22. Now, please tell me in your own words the most important reason that you separated from the Army? (WRITE COMMENTS VERBATIM)

23. What one thing could the Army have done, if anything, that would have kept you from leaving the service? (WRITE COMMENTS VERBATIM)

24. How satisfied were you with the overall outprocessing or separation experience when you left active service? Would you say you were...

Very satisfied; 1
Satisfied; 2
Dissatisfied; or 3
Very dissatisfied? 4

24a. Please describe the one thing that you were most dissatisfied with in your overall outprocessing or separation experience. (WRITE COMMENTS VERBATIM)

25. Now I am going to read you a list of items comparing Army life and civilian life. For each item, please tell me whether you think that the item is more likely to occur in Army life, in civilian life, or equally likely in either one?

(ITEM) more likely to occur in Army life, in civilian life, or equally likely in either one?	More Likely In Army Life	More Likely in Civilian Life	Equally Likely in Either
a. Is the chance for adventure	1	2	3
b. Are promotion opportunities	1	2	3
c. Are good supervisors	1	2	3
d. Is the opportunity for a stable home life	1	2	3
e. Is personal freedom	1	2	3
f. Are opportunities for continued self improvement and development	1	2	3
g. Is the development of community ties	1	2	3
h. Are recreation opportunities	1	2	3
i. Is credit for doing a good job	1	2	3
j. Are travel opportunities	1	2	3
k. Is physical training and challenge	1	2	3
l. Is the chance to do something for your country	1	2	3
m. Is the opportunity to learn a valuable trade or skill	1	2	3
n. Is job security, that is, a steady job	1	2	3
o. Is a good income	1	2	3
p. Is having a lot in common with co-workers	1	2	3
q. Are overall support services for family life	1	2	3
r. Are easy work or duties	1	2	3
s. Is enjoying your work	1	2	3
t. Are adequate retirement benefits	1	2	3
u. Are equal pay and opportunity for men and women	1	2	3
v. Is good environment for rearing children	1	2	3
w. Is freedom from sexual harassment	1	2	3
x. Is the opportunities for making friends	1	2	3

26. When you talk about Army-related topics with acquaintances such as friends or neighbors, how positive are you about the Army in general? Would you say you are...

Very positive; 1
Positive;. 2
Negative;. 3
Very negative; or. 4
Do you never talk about Army?. 5

27. If a good friend of yours asked your advice about joining the Army, would you say it was...

A waste of time; 1
Up to him or her; or 2
A good idea? 3

28. Specifically, what would you tell a good friend about joining or not joining the Army? (RECORD COMMENTS VERBATIM)

29. Approximately how many people would you say you have talked with about their joining or not joining the Army since you left active service? (IF NONE, WRITE "U.")

NUMBER OF PEOPLE: _____

30. Would you like to see your son or daughter, at some point, join the military, even if you presently have no children or do not plan to have children? (CIRCLE ONE NUMBER IN EACH COLUMN)

30a. How about your son?

YES. . . . 1
NO 2

30b. Your daughter?

YES. . . . 1
NO 2

31. Think about ways Army service could be improved for future enlistees. What would you suggest the Army do to make the Army experience more positive or useful to them?
(RECORD COMMENTS VERBATIM)

32. Please tell me how you would feel about a program that (REQUIREMENT)? Would you strongly favor it, probably favor it, probably oppose it, or strongly oppose it?

(CIRCLE ONE NUMBER FOR EACH ITEM a-d)

	Strongly Favor It	Probably Favor It	Probably Oppose It	Strongly Oppose It
a. Required all young men to give one year of service in the military	1	2	3	4
b. Required all young women to give one year of service in the military	1	2	3	4
c. Required all young men to give one year of service to the nation -- either in the military or in nonmilitary work such as in hospitals or with elderly people	1	2	3	4
d. Required all young women to give one year of service to the nation -- either in the military or in nonmilitary work such as in hospitals or with elderly people	1	2	3	4

33. Have you joined a National Guard or Reserve unit since you left active service?

(PROBE YES RESPONSE)

YES, ARMY <u>RESERVE</u>	1	} (Q.33b)
YES, AIR FORCE <u>RESERVE</u>	2	
YES, NAVY <u>RESERVE</u>	3	
YES, MARINE CORPS <u>RESERVE</u>	4	
YES, ARMY <u>NATIONAL GUARD</u>	5	
YES, AIR <u>NATIONAL GUARD</u>	6	
NO	7	(Q.33a)

33a. How likely is it that you will join a National Guard or Reserve unit? Would you say...

Definitely;.	1	} (Q.33c)
Probably;.	2	
Probably not; or . . .	3	
Definitely not?. . . .	4	

33b. How satisfied are you with your National Guard or Reserve Unit? Are you...

Very satisfied;.	1	} (Q.34)
Satisfied;	2	
Dissatisfied; or . . .	3	
Very dissatisfied? . . .	4	

33c. Which statement best explains why you are not now in a Reserve or National Guard Unit? (READ LIST, CIRCLE ONE NUMBER)

My community does not have the kind of unit I should be in;.	1
It would interfere with my civilian job;. . .	2
It would interfere with my family responsibilities;.	3
I applied but was not accepted;.	4
I was not interested;.	5
I completed my military service obligation; or	6
I was not eligible	7

34. What associations for former military personnel do you presently belong to?
(LIST EACH ORGANIZATION)

NONE 1
NAMES OF ORGANIZATIONS (PLEASE SPECIFY). 2

35. Whether or not you now belong to an organization for former military personnel, would you be interested in joining an association for former soldiers? Would you say you would be...

Definitely interested; 1
Probably interested; 2
Probably not interested; or. 3
Definitely not interested? 4

36. Would you be interested in helping recruiters identify potential enlistees? Would you say...

Definitely;. 1
Probably;. 2
Probably not; or 3
Definitely not?. 4

37. Would you be interested in speaking to groups of high school students about the Army? Would you say...

Definitely;. 1
Probably;. 2
Probably not; or 3
Definitely not?. 4

38. Would you be interested in receiving a newsletter or magazine that kept you up-to-date on information useful to former soldiers? Would you say...

Definitely;. 1
Probably;. 2
Probably not; or 3
Definitely not?. 4

Finally, I would like to ask some questions about yourself. Although some of the answers to these questions are apparent from your earlier comments, I must ask you each question before I can write a response.

39. Are you: (CIRCLE ONE NUMBER)

[INTERVIEWER: USE	MALE	1
JUDGEMENT - ASK	FEMALE	2
IF NECESSARY]		

40. What is your current Zip Code? (PRINT NAME OF COUNTRY ONLY IF OUTSIDE U.S.)

ZIP CODE: | | | | |

COUNTRY: _____

41. What year did you first enter active service?

YEAR OF ENTRY: 19 _____

42. What was your separation date from the Army?

MONTH: _____

YEAR: 19 _____

43. Which of the following statements best describes the nature of your separation from the Army?

I completed the full term of my last
enlistment or re-enlistment contract 1

I was released from service a few months
early because of a holiday or because of
the end of the year. 2

I served less than the full term of my
last enlistment or re-enlistment 3

44. What is your year of birth?

YEAR OF BIRTH: 19 _____

45. Which of the following best describes your racial or ethnic identification?

Hispanic; 1
Black; not of hispanic origin; 2
White, not of hispanic origin; or. 3
Some other race (SPECIFY). 4

46. Have you ever been married?

YES. 1
NO 2 (Q.47)

46a. What was your marital status when you left active service? Were you...

Married. 1
Widowed. 2
Divorced 3
Separated. 4
Single, never married. 5

46b. How old were you when you were FIRST married?

AGE WHEN FIRST MARRIED: _____

46c. What is your current marital status? Are you...

Married. 1 (Q.46d)
Widowed. 2
Divorced 3 } (Q.47)
Separated. 4 }

(IF MARRIED)

46d. Which of the following statements best describes the present employment status of your spouse? Is he/she...

Employed for pay full-time 35 hours per week or more	1
IF FULL TIME ASK — [Is this one or more jobs? . . . ONE . . . MORE]	
Employed for pay part-time less than 35 hours per week	2
Not employed.	3

47. How many children do you have? (IF NONE, WRITE "0.")

NUMBER OF CHILDREN: _____

IN NO CHILDREN, SKIP TO Q.48

47a. What is the age of the oldest child you have? (IF LESS THAN ONE YEAR OLD, WRITE "0.")

AGE OF OLDEST CHILD: _____

48. What state were you living in when you joined the Army? (PRINT NAME OF COUNTRY IF OUTSIDE U.S.)

NAME OF STATE: _____

49. How many terms of active enlistment did you serve?

Less than one enlistment	1
One enlistment	2
Two enlistments.	3
Three enlistments.	4
Four or more enlistments	5

50. How long were you obligated to serve during your first tour of active service in the Army? Were you...

Enlisted for two years 1 (Q.51)
Drafted for two years. 2
Enlisted for three years 3
Enlisted for four years. 4 (SKIP TO Q.
Enlisted for five or more years. 5
Other (SPECIFY) _____ 6

51. Suppose the MOS you signed up for did not offer a 2 year option. Which of the following statements best describes what you would have done?

. 1
Signed up for the same job anyway 2
Signed up for a different job in the Army
whether or not it had a 2 year option . . . 3
Signed up for a different job in the Army
only if it had a 2 year option. 4
Tried to join a different service 5
Not enlisted at all 6

52. How much are you earning on the average each month (before taxes) from all sources? Please Exclude military retirement pay but include everything else, such as wages, salaries, tips, commissions, interest and dividends. Please give me your best estimate. (IF NO INCOME, WRITE "0.")

EARNINGS PER MONTH: \$ _____

53. How much is your entire household (including yourself) earning on the average each month before taxes from all different kinds of work? Please exclude military retirement pay but include everything else, such as wages, salaries, tips, commissions, interest and dividends. Please give me your best estimate. (IF NO INCOME, WRITE "0.")

EARNINGS PER MONTH: \$ _____

54. Is there anything else you would like to tell me about your experience in the Army, or about how you feel the Army experience has affected you since leaving the Army?
(WRITE COMMENTS VERBATIM)

This completes the questionnaire. Thank you very much for your cooperation and assistance.

TIME ENDED _____

INTERVIEWER

MALE 1

FEMALE 2

APPENDIX E

SURVEY LETTERS

Survey prenotification letter sent to sample members.



SECRETARY OF THE ARMY
WASHINGTON

Dear Veteran:

Because of the role the Army plays in our national defense, it is my desire, to assist in every way that I can to make service in the Army as meaningful as possible. I seek your help in achieving this goal.

The United States Army Research Institute has been directed to conduct a survey of a randomly selected group of former Army service members to determine how they feel about their Army experience. You are one of those selected to participate in this survey.

You will be contacted either by phone or through a mail survey, and I would be grateful if you would take the time to answer all the questions. To ensure confidentiality, your responses will be combined with the others in the group surveyed and not identified by name.

I would like to thank you in advance for your time and cooperation.

Sincerely,

A handwritten signature in cursive script, reading "John O. Marsh, Jr.", is written over the typed name. The signature is fluid and extends to the left and right of the typed name.

John O. Marsh, Jr.

Cover letter sent with the first survey mailout.



SECRETARY OF THE ARMY
WASHINGTON

Dear Veteran:

Enclosed is a copy of the survey of former Army service members which I mentioned in my recent letter to you.

I would be most grateful if you would fill out this survey and return it in the enclosed stamped envelope.

I want to personally thank you for your service in the Army and for taking the time to complete and return the survey.

Sincerely,

A handwritten signature in cursive script, reading "John O. Marsh, Jr.". The signature is written in dark ink and is positioned above the printed name.

John O. Marsh, Jr.

Cover letter sent with the second survey mailout.



DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF FOR PERSONNEL
WASHINGTON, D.C. 20310

Dear Veteran:

About three weeks ago a questionnaire was sent to you asking for your views about your service in the Army. As of today, we have not yet received your completed questionnaire.

If you have already completed and returned the questionnaire to us, please accept our sincere thanks. If not, please try to complete it today. Your individual participation is quite important to the accuracy of the study. We must receive a completed questionnaire from each and every person selected to participate in the project in order to get the best information possible.

In the event that your questionnaire has been misplaced, a replacement is enclosed. Please answer your questionnaire and return it today.

Sincerely,

BOBBY B. PORTER
Major General, GS
Director of Military
Personnel Management

Letter sent to postmasters in the zip codes of 1985 AES
sample members selected for post office address verification.



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY

US ARMY RESEARCH INSTITUTE
5001 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22333-5600

TO: Postmaster

ADDRESS INFORMATION REQUEST

Please furnish this agency with the new address, if available, for the following individual or verify whether or not the address given below is one at which mail for this individual is currently being delivered. If the following address is a post office box, please furnish the street address as recorded on the boxholder's application form.

I certify that the address information for this individual is required for the performance of this agency's official duties.

Paul A. Gade, Ph.D.
Chief, Personnel Utilization
Technical Area

FOR POST OFFICE USE ONLY

☐ MAIL IS DELIVERED TO ADDRESS GIVEN	NEW ADDRESS
☐ NOT KNOWN AT ADDRESS GIVEN	_____
☐ MOVED, LEFT NO FORWARDING ADDRESS	BOXHOLDER'S STREET ADDRESS
☐ NO SUCH ADDRESS	_____
☐ OTHER (SPECIFY): _____	_____

Agency return address

US Army Research Institute
ATTN: PERI-RP (Dr. Gade)
5001 Eisenhower Avenue
Alexandria, VA 22333-5600

Postmark/Date Stamp

Letter delivered to 1985 AES sample members as part
of the certified mail address verification experiment.

U.S. Army Research Institute
c/o WESTAT
1650 Research Boulevard
Rockville, Maryland 20850

Dear Army Veteran:

On behalf of the Secretary of the Army, John O. Marsh, we
have attempted to send to your home address:

- A letter notifying you of your selection for
participation in the Army Experience Survey.
- Two copies of the Army Experience Survey.
- A reminder postcard.

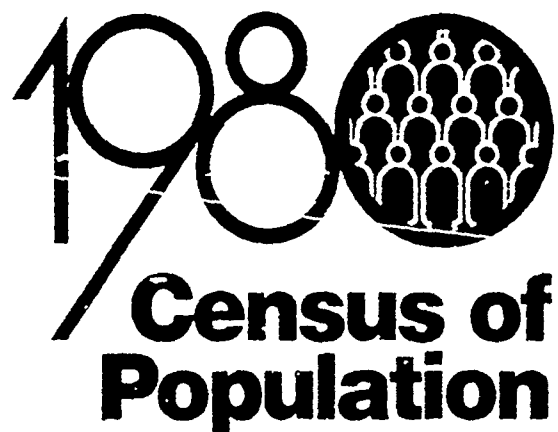
As of yet, we have received no response from you. Perhaps
we have an incorrect address and the mail never reached you. It
is very important for the accuracy of the survey results that the
opinions of everyone selected be included (your responses will be
combined with others so that your individual responses will
remain absolutely confidential).

We are providing our toll-free telephone number and ask that
you call anytime (day, evening or weekend) to respond to the
survey. We look forward to hearing from you as soon as possible.
Thank you for your cooperation.

Call toll-free (800) 638-8985

Ask for Terry Cole

APPENDIX F
ALPHABETICAL INDEX OF
INDUSTRIES AND OCCUPATIONS



Alphabetical Index
of Industries
and Occupations

PHC80-R3
FINAL EDITION

Issued November 1982



U.S. Department of Commerce
Malcolm Baldrige, Secretary
Guy W. Fiske,
Deputy Secretary
Robert G. Dederick,
Under Secretary for
Economic Affairs

BUREAU OF THE CENSUS
Bruce Chapman, Director

Industrial Classification System

Equivalent numeric codes follow the alphabetic codes. Either code may be used, depending on the processing method. Numbers in parentheses following the industry categories are the SIC definitions. The abbreviation "pt" means "part" and "n.e.c." means "not elsewhere classified."

Industry code	Industry category	Industry code	Industry category
AGRICULTURE, FORESTRY, AND FISHERIES		MANUFACTURING—Con.	
A (010)	Agricultural production, crops (01)	Nondurable Goods—Con.	
011	Agricultural production, livestock (02)	Paper and allied products	
020	Agricultural services, except horticultural (07, except 078)	160	Pulp, paper, and paperboard mills (261-263, 266)
021	Horticultural services (078)	161	Miscellaneous paper and pulp products (264)
030	Forestry (08)	162	Paperboard containers and boxes (265)
031	Fishing, hunting, and trapping (09)	Printing, publishing, and allied industries	
		C (171)	Newspaper publishing and printing (271)
		172	Printing, publishing, and allied industries, except newspapers (272-279)
MINING		Chemicals and allied products	
040	Metal mining (10)	180	Plastics, synthetics, and resins (282)
041	Coal mining (11, 12)	181	Drugs (283)
042	Crude petroleum and natural gas extraction (13)	182	Soaps and cosmetics (284)
050	Nonmetallic mining and quarrying, except fuel (14)	190	Paints, varnishes, and related products (285)
		191	Agricultural chemicals (287)
		192	Industrial and miscellaneous chemicals (281, 286, 289)
B (060)	CONSTRUCTION (15, 16, 17)	Petroleum and coal products	
		200	Petroleum refining (291)
		201	Miscellaneous petroleum and coal products (295, 299)
MANUFACTURING		Rubber and miscellaneous plastics products	
Nondurable Goods		210	Tires and inner tubes (301)
Food and kindred products		211	Other rubber products, and plastics footwear and belting (302-304, 306)
100	Meat products (201)	212	Miscellaneous plastics products (307)
101	Dairy products (202)	Leather and leather products	
102	Canned and preserved fruits and vegetables (203)	220	Leather tanning and finishing (311)
110	Grain mill products (204)	221	Footwear, except rubber and plastic (313, 314)
111	Bakery products (205)	222	Leather products, except footwear (315-317, 319)
112	Sugar and confectionery products (206)	Durable Goods	
120	Beverage industries (208)	Lumber and wood products, except furniture	
121	Miscellaneous food preparations and kindred products (207, 209)	230	Logging (241)
122	Not specified food industries	231	Sawmills, planing mills, and millwork (242, 243)
130	Tobacco manufactures (21)	232	Wood buildings and mobile homes (245)
Textile mill products		241	Miscellaneous wood products (244, 249)
132	Knitting mills (225)	242	Furniture and fixtures (25)
140	Dyeing and finishing textiles, except wool and knit goods (226)	250	Stone, clay, glass, and concrete products
141	Floor coverings, except hard surface (227)	251	Glass and glass products (321-323)
142	Yarn, thread, and fabric mills (228, 221-224)		Cement, concrete, gypsum, and plaster products (324, 327)
150	Miscellaneous textile mill products (229)	252	Structural clay products (325)
Apparel and other finished textile products		261	Pottery and related products (326)
151	Apparel and accessories, except knit (231-238)	262	Miscellaneous nonmetallic mineral and stone products (328, 329)
152	Miscellaneous fabricated textile products (239)		

Industrial Classification System

Industry code	Industry category	Industry code	Industry category
MANUFACTURING—Con.		TRANSPORTATION, COMMUNICATIONS, AND OTHER PUBLIC UTILITIES	
Durable Goods—Con.			
Metal industries		Transportation	
270	Blast furnaces, steelworks, rolling and finishing mills (331)	400	Railroads (40)
271	Iron and steel foundries (332)	401	Bus service and urban transit (41, except 412)
272	Primary aluminum industries (3334, pt 334, 3353-3355, 3361)	402	Taxicab service (412)
280	Other primary metal industries (3331-3333, 3339, pt 334, 3351, 3356, 3357, 3362, 3369, 339)	410	Trucking service (421, 423)
281	Cutlery, hand tools, and other hardware (342)	411	Warehousing and storage (422)
282	Fabricated structural metal products (344)	412	U.S. Postal Service (43)
290	Screw machine products (345)	420	Water transportation (44)
291	Metal forgings and stampings (346)	421	Air transportation (45)
292	Ordnance (348)	422	Pipe lines, except natural gas (46)
300	Miscellaneous fabricated metal products (341, 343, 347, 349)	432	Services incidental to transportation (47)
301	Not specified metal industries	Communications	
Machinery, except electrical		440	Radio and television broadcasting (483)
310	Engines and turbines (351)	441	Telephone (wire and radio) (481)
311	Farm machinery and equipment (352)	442	Telegraph and miscellaneous communication services (482, 489)
312	Construction and material handling machines (353)	Utilities and sanitary services	
320	Metalworking machinery (354)	460	Electric light and power (491)
321	Office and accounting machines (357, except 3573)	461	Gas and steam supply systems (492, 496)
322	Electronic computing equipment (3573)	462	Electric and gas, and other combinations (493)
331	Machinery, except electrical, n.e.c. (355, 356, 358, 359)	470	Water supply and irrigation (494, 497)
332	Not specified machinery	471	Sanitary services (495)
Electrical machinery, equipment, and supplies		472	Not specified utilities
340	Household appliances (363)	WHOLESALE TRADE	
341	Radio, TV, and communication equipment (365, 366)	Durable Goods	
342	Electrical machinery, equipment and supplies, n.e.c. (361, 362, 364, 367, 369)	500	Motor vehicles and equipment (501)
350	Not specified electrical machinery, equipment, and supplies	501	Furniture and home furnishings (502)
Transportation equipment		502	Lumber and construction materials (503)
351	Motor vehicles and motor vehicle equipment (371)	510	Sporting goods, toys, and hobby goods (504)
352	Aircraft and parts (372)	511	Metals and minerals, except petroleum (505)
360	Ship and boat building and repairing (373)	512	Electrical goods (506)
361	Railroad locomotives and equipment (374)	521	Hardware, plumbing and heating supplies (507)
362	Guided missiles, space vehicles, and parts (376)	522	Not specified electrical and hardware products
370	Cycles and miscellaneous transportation equipment (375, 379)	530	Machinery, equipment, and supplies (508)
Professional and photographic equipment, and watches		531	Scrap and waste materials (5093)
371	Scientific and controlling instruments (381, 382)	532	Miscellaneous wholesale, durable goods (5094, 5099)
372	Optical and health services supplies (383, 384, 385)	Nondurable Goods	
380	Photographic equipment and supplies (386)	540	Paper and paper products (511)
381	Watches, clocks, and clockwork operated devices (387)	541	Drugs, chemicals, and allied products (512, 515)
382	Not specified professional equipment	542	Apparel, fabrics, and notions (513)
390	Toys, amusement, and sporting goods (394)	550	Groceries and related products (514)
391	Miscellaneous manufacturing industries (39 exc. 394)	551	Farm products-raw materials (515)
392	Not specified manufacturing industries	552	Petroleum products (517)
		560	Alcoholic beverages (518)
		561	Farm supplies (5191)
		562	Miscellaneous wholesale, nondurable goods (5194, 5198, 5199)
		571	Not specified wholesale trade

Industry code	Industry category	Industry code	Industry category
RETAIL TRADE		BUSINESS AND REPAIR SERVICES—Con.	
580	Lumber and building material retailing (521, 523)	730	Commercial research, development, and testing labs (7391, 7397)
581	Hardware stores (525)	731	Personnel supply services (736)
582	Retail nurseries and garden stores (526)	732	Business management and consulting services (7392)
590	Mobile home dealers (527)	740	Computer and data processing services (737)
D (591)	Department stores (531)	741	Detective and protective services (7393)
592	Variety stores (533)	742	Business services, n.e.c. (732, 733, 735, 7394, 7395, 7396, 7399)
600	Miscellaneous general merchandise stores (539)	750	Automotive services, except repair (751, 752, 754)
E (601)	Grocery stores (541)	751	Automotive repair shops (753)
602	Dairy products stores (545)	752	Electrical repair shops (762, 7694)
610	Retail bakeries (546)	760	Miscellaneous repair services (763, 764, 7692, 7699)
611	Food stores, n.e.c. (542, 543, 544, 549)		
612	Motor vehicle dealers (551, 552)	PERSONAL SERVICES	
620	Auto and home supply stores (553)		
621	Gasoline service stations (554)		
622	Miscellaneous vehicle dealers (555, 556, 557, 559)		
630	Apparel and accessory stores, except shoe (56, except 566)	J (761)	Private households (88)
631	Shoe stores (566)	762	Hotels and motels (701)
632	Furniture and home furnishings stores (571)	770	Lodging places, except hotels and motels (702, 703, 704)
640	Household appliances, TV, and radio stores (572, 573)	771	Laundry, cleaning, and garment services (721)
F (641)	Eating and drinking places (58)	772	Beauty shops (723)
642	Drug stores (591)	780	Barber shops (724)
650	Liquor stores (592)	781	Funeral service and crematories (726)
651	Sporting goods, bicycles, and hobby stores (5941, 5945, 5946)	782	Shoe repair shops (725)
652	Book and stationery stores (5942, 5943)	790	Dressmaking shops (pt 729)
660	Jewelry stores (5944)	791	Miscellaneous personal services (722, pt 729)
661	Sewing, needlework, and piece goods stores (5949)		
662	Mail order houses (5961)		
670	Vending machine operators (5962)		
671	Direct selling establishments (5963)		
672	Fuel and ice dealers (598)	800	Theaters and motion pictures (78, 792)
681	Retail florists (5992)	801	Bowling alleys, billiard and pool parlors (793)
682	Miscellaneous retail stores (593, 5947, 5948, 5993, 5994, 5999)	802	Miscellaneous entertainment and recreation services (791, 794, 799)
691	Not specified retail trade		
FINANCE, INSURANCE, AND REAL ESTATE			
G (700)	Banking (60)	812	Offices of physicians (801, 803)
701	Savings and loan associations (612)	820	Offices of dentists (802)
702	Credit agencies, n.e.c. (61, except 612)	821	Offices of chiropractors (8041)
710	Security, commodity brokerage, and investment companies (62, 67)	822	Offices of optometrists (8042)
H (711)	Insurance (63, 64)	830	Offices of health practitioners, n.e.c. (8049)
712	Real estate, including real estate-insurance-law offices (65, 66)	K (831)	Hospitals (806)
		832	Nursing and personal care facilities (805)
		840	Health services, n.e.c. (807, 808, 809)
		841	Legal services (81)
		L (842)	Elementary and secondary schools (821)
		M (850)	Colleges and universities (822)
		851	Business, trade, and vocational schools (824)
		852	Libraries (823)
		860	Educational services, n.e.c. (829)
721	Advertising (731)	861	Job training and vocational rehabilitation services (833)
722	Services to dwellings and other buildings (734)	862	Child day care services (835)

Industrial Classification System

Industry code	Industry category	Industry code	Industry category
PROFESSIONAL AND RELATED SERVICES—Con.		PUBLIC ADMINISTRATION—Con.	
870	Residential care facilities, without nursing (836)	910	Justice, public order, and safety (92)
871	Social services, n.e.c. (832, 839)	921	Public finance, taxation, and monetary policy (93)
872	Museums, art galleries, and zoos (84)	922	Administration of human resources programs (94)
880	Religious organizations (866)	930	Administration of environmental quality and housing programs (95)
881	Membership organizations (861-865, 869)	931	Administration of economic programs (96)
882	Engineering, architectural, and surveying services (891)	932	National security and international affairs (97)
890	Accounting, auditing, and bookkeeping services (893)		
891	Noncommercial educational and scientific research (892)		
892	Miscellaneous professional and related services (899)		
PUBLIC ADMINISTRATION		990	INDUSTRY NOT REPORTED¹
900	Executive and legislative offices (911-913)		
901	General government, n.e.c. (919)		

¹ Code used when not-reported cases are not allocated.

Occupational Classification System

Equivalent numeric codes follow the alphabetic code. Either code may be used, depending on the processing method. Numbers in parentheses following the occupation categories are the 1980 Standard Occupational Classification code equivalents. The abbreviation "pt" means "part" and "n.e.c." means "not elsewhere classified."

Occupation code	Occupation category	Occupation code	Occupation category
MANAGERIAL AND PROFESSIONAL SPECIALTY OCCUPATIONS		MANAGERIAL AND PROFESSIONAL SPECIALTY OCCUPATIONS—Con.	
Executive, Administrative, and Managerial Occupations		Professional Specialty Occupations—Con.	
		Engineers, architects, and surveyors—Con.	
		Engineers—Con.	
003	Legislators (111)	048	Chemical engineers (1626)
004	Chief executives and general administrators, public administration (112)	049	Nuclear engineers (1627)
005	Administrators and officials, public administration (1132-1139)	053	Civil engineers (1628)
006	Administrators, protective services (1131)	054	Agricultural engineers (1632)
007	Financial managers (122)	055	Electrical and electronic engineers (1633, 1636)
008	Personnel and labor relations managers (123)	056	Industrial engineers (1634)
009	Purchasing managers (124)	057	Mechanical engineers (1635)
013	Managers, marketing, advertising, and public relations (125)	058	Marine engineers and naval architects (1637)
014	Administrators, education and related fields (128)	059	Engineers, n.e.c. (1639)
015	Managers, medicine and health (131)	063	Surveyors and mapping scientists (164)
016	Managers, properties and real estate (1353)	064	Mathematical and computer scientists
017	Postmasters and mail superintendents (1344)	065	Computer systems analysts and scientists (171)
018	Funeral directors (pt 1359)	066	Operations and systems researchers and analysts (172)
019	Managers and administrators, n.e.c. (121, 126, 127, 132-139, except 1344, 1353, pt 1359)	067	Actuaries (1732)
Management related occupations		068	Statisticians (1733)
023	Accountants and auditors (1412)	069	Mathematical scientists, n.e.c. (1739)
024	Underwriters (1414)	073	Natural scientists
025	Other financial officers (1415, 1419)	074	Physicists and astronomers (1842, 1843)
026	Management analysts (142)	075	Chemists, except biochemists (1845)
027	Personnel, training, and labor relations specialists (143)	076	Atmospheric and space scientists (1846)
028	Purchasing agents and buyers, farm products (1443)	077	Geologists and geodesists (1847)
029	Buyers, wholesale and retail trade, except farm products (1442)	078	Physical scientists, n.e.c. (1849)
033	Purchasing agents and buyers, n.e.c. (1449)	079	Agricultural and food scientists (1853)
034	Business and promotion agents (145)	083	Biological and life scientists (1854)
035	Construction inspectors (1472)	084	Forestry and conservation scientists (1852)
036	Inspectors and compliance officers, exc. construction (1473)	085	Medical scientists (1855)
037	Management related occupations, n.e.c. (149)	086	Health diagnosing occupations
Professional Specialty Occupations		087	Physicians (261)
Engineers, architects, and surveyors		088	Dentists (262)
043	Architects (161)	089	Veterinarians (27)
Engineers		095	Optometrists (281)
044	Aerospace engineers (1622)	096	Podiatrists (283)
045	Metallurgical and materials engineers (1623)	097	Health diagnosing practitioners, n.e.c. (289)
046	Mining engineers (1624)	099	Health assessment and treating occupations
047	Petroleum engineers (1625)	103	Registered nurses (29)
		104	Pharmacists (301)
		105	Dietitians (302)
			Therapists
			Inhalation therapists (3031)
			Occupational therapists (3032)
			Physical therapists (3033)
			Speech therapists (3034)
			Therapists, n.e.c. (3039)

Occu- pation code	Occupation category	Occu- pation code	Occupation category
MANAGERIAL AND PROFESSIONAL SPECIALTY OCCUPATIONS—Con.		MANAGERIAL AND PROFESSIONAL SPECIALTY OCCUPATIONS—Con.	
Professional Specialty Occupations—Con.		Professional Specialty Occupations—Con.	
Health assessment and treating occupations—Con.		Social, recreation, and religious workers	
106	Physicians' assistants (304)	174	Social workers (2032)
113	Teachers, postsecondary	175	Recreation workers (2033)
	Earth, environmental, and marine science teachers (2212)	176	Clergy (2042)
114	Biological science teachers (2213)	177	Religious workers, n.e.c. (2049)
115	Chemistry teachers (2214)	178	Lawyers and judges
116	Physics teachers (2215)	179	Lawyers (211)
117	Natural science teachers, n.e.c. (2216)		Judges (212)
118	Psychology teachers (2217)	183	Writers, artists, entertainers, and athletes
119	Economics teachers (2218)	184	Authors (321)
123	History teachers (2222)	185	Technical writers (398)
124	Political science teachers (2223)	186	Designers (322)
125	Sociology teachers (2224)	187	Musicians and composers (323)
126	Social science teachers, n.e.c. (2225)	188	Actors and directors (324)
127	Engineering teachers (2226)		Painters, sculptors, craft-artists, and artist printmakers (325)
128	Mathematical science teachers (2227)	189	Photographers (326)
129	Computer science teachers (2228)	193	Dancers (327)
133	Medical science teachers (2231)	194	Artists, performers, and related workers, n.e.c. (328, 329)
134	Health specialties teachers (2232)	195	Editors and reporters (331)
135	Business, commerce, and marketing teachers (2233)	197	Public relations specialists (332)
136	Agriculture and forestry teachers (2234)	198	Announcers (333)
137	Art, drama, and music teachers (2235)	199	Athletes (34)
138	Physical education teachers (2236)		
139	Education teachers (2237)		
143	English teachers (2238)		
144	Foreign language teachers (2242)		
145	Law teachers (2243)		
146	Social work teachers (2244)		
147	Theology teachers (2245)		
148	Trade and industrial teachers (2246)		
149	Home economics teachers (2247)		
153	Teachers, postsecondary, n.e.c. (2249)	203	Technicians and Related Support Occupations
154	Postsecondary teachers, subject not specified	204	Health technologists and technicians
155	Teachers, except postsecondary	205	Clinical laboratory technologists and technicians (362)
	Teachers, prekindergarten and kindergarten (231)	206	Dental hygienists (363)
N (156)	Teachers, elementary school (232)	207	Health record technologists and technicians (364)
P (157)	Teachers, secondary school (233)	208	Radiologic technicians (365)
158	Teachers, special education (235)		Licensed practical nurses (366)
159	Teachers, n.e.c. (236, 239)		Health technologists and technicians, n.e.c. (369)
163	Counselors, educational and vocational (24)		Technologists and technicians, except health
164	Librarians, archivists, and curators	213	Engineering and related technologists and technicians
	Librarians (251)	214	Electrical and electronic technicians (3711)
165	Archivists and curators (252)	215	Industrial engineering technicians (3712)
166	Social scientists and urban planners	216	Mechanical engineering technicians (3713)
	Economists (1912)	217	Engineering technicians, n.e.c. (3719)
167	Psychologists (1915)	218	Drafting occupations (372)
168	Sociologists (1916)		Surveying and mapping technicians (373)
169	Social scientists, n.e.c. (1913, 1914, 1919)	223	Science technicians
173	Urban planners (192)	224	Biological technicians (382)
		225	Chemical technicians (3831)
			Science technicians, n.e.c. (3832, 3833, 384, 389)

Occupational Classification System

Occupation code	Occupation category	Occupation code	Occupation category
TECHNICAL, SALES, AND ADMINISTRATIVE SUPPORT OCCUPATIONS—Con.		TECHNICAL, SALES, AND ADMINISTRATIVE SUPPORT OCCUPATIONS—Con.	
Technicians and Related Support Occupations—Con.		Administrative Support Occupations, Including Clerical—Con.	
	Technicians, except health, engineering, and science		Supervisors, administrative support occupations—Con.
226	Airplane pilots and navigators (825)		Supervisors; distribution, scheduling, and adjusting clerks (4522, 4524-4528)
227	Air traffic controllers (392)	307	Computer equipment operators
228	Broadcast equipment operators (393)		Computer operators (4612)
229	Computer programmers (3971, 3972)	308	Peripheral equipment operators (4613)
233	Tool programmers, numerical control (3974)	309	Secretaries, stenographers, and typists
234	Legal assistants (396)		Secretaries (4622)
235	Technicians, n.e.c. (399)		Stenographers (4623)
			Typists (4624)
			Information clerks
	Sales Occupations	R (313)	Interviewers (4642)
		314	Hotel clerks (4643)
243	Supervisors and proprietors, sales occupations (40)	315	Transportation ticket and reservation agents (4644)
	Sales representatives, finance and business services		Receptionists (4645)
253	Insurance sales occupations (4122)	316	Information clerks, n.e.c. (4649)
254	Real estate sales occupations (4123)	317	Records processing occupations, except financial
255	Securities and financial services sales occupations (4124)	318	Classified-ad clerks (4662)
256	Advertising and related sales occupations (4153)	319	Correspondence clerks (4663)
257	Sales occupations, other business services (4152)	323	Order clerks (4664)
	Sales representatives, commodities except retail		Personnel clerks, except payroll and timekeeping (4692)
258	Sales engineers (421)	325	Library clerks (4694)
259	Sales representatives, mining, manufacturing, and wholesale (423, 424)	326	File clerks (4696)
	Sales workers, retail and personal services	327	Records clerks (4699)
263	Sales workers, motor vehicle; and boats (4342, 4344)	328	Financial records processing occupations
264	Sales workers, apparel (4346)		Bookkeepers, accounting, and auditing clerks (4712)
265	Sales workers, shoes (4351)	329	Payroll and timekeeping clerks (4713)
266	Sales workers, furniture and home furnishings (4348)	335	Billing clerks (4715)
267	Sales workers; radio, television, hi-fi, and appliances (4343, 4352)	336	Cost and rate clerks (4716)
268	Sales workers, hardware and building supplies (4353)		Billing, posting, and calculating machine operators (4718)
269	Sales workers, parts (4367)	S (337)	Duplicating, mail and other office machine operators
274	Sales workers, other commodities (4345, 4347, 4354, 4356, 4359, 4362, 4369)	338	Duplicating machine operators (4722)
275	Sales counter clerks (4363)	339	Mail preparing and paper handling machine operators (4723)
Q (276)	Cashiers (4364)	343	Office machine operators, n.e.c. (4729)
277	Street and door-to-door sales workers (4366)	344	Communications equipment operators
278	News vendors (4365)		Telephone operators (4732)
	Sales related occupations		Telegraphers (4733)
283	Demonstrators, promoters and models, sales (445)	347	Communications equipment operators, n.e.c. (4739)
284	Auctioneers (447)		Mail and message distributing occupations
285	Sales support occupations, n.e.c. (444, 446, 449)	348	Postal clerks, exc. mail carriers (4742)
		349	Mail carriers, postal service (4743)
		353	Mail clerks, exc. postal service (4744)
			Messengers (4745)
	Administrative Support Occupations, Including Clerical		Material recording, scheduling, and distributing clerks, n.e.c.
		354	Dispatchers (4751)
	Supervisors, administrative support occupations	355	Production coordinators (4752)
303	Supervisors, general office (4511, 4513-4519, 4529)	356	
304	Supervisors, computer equipment operators (4512)	357	
305	Supervisors, financial records processing (4521)		
306	Chief communications operators (4523)	359	
		363	

Occupational Classification System

Occupation code	Occupation category	Occupation code	Occupation category
TECHNICAL, SALES, AND ADMINISTRATIVE SUPPORT OCCUPATIONS—Con.		SERVICE OCCUPATIONS—Con.	
Administrative Support Occupations, Including Clerical—Con.		Protective Service Occupations—Con.	
		Guards	
		425	Crossing guards (5142)
		426	Guards and police, exc. public service (5144)
		427	Protective service occupations, n.e.c. (5149)
364	Traffic, shipping, and receiving clerks (4753)	Service Occupations, Except Protective and Household	
365	Stock and inventory clerks (4754)	Food preparation and service occupations	
366	Meter readers (4755)	Supervisors, food preparation and service occupations (5211)	
368	Weighers, measurers, and checkers (4756)	433	Bartenders (5212)
369	Samplers (4757)	434	Waiters and waitresses (5213)
373	Expediteurs (4758)	U (435)	Cooks, except short order (5214)
374	Material recording, scheduling, and distributing clerks, n.e.c. (4759)	436	Short-order cooks (5215)
	Adjusters and investigators	437	Food counter, fountain and related occupations (5216)
375	Insurance adjusters, examiners, and investigators (4782)	438	Kitchen workers, food preparation (5217)
376	Investigators and adjusters, except insurance (4783)	439	Writers'/waitresses' assistants (5218)
377	Eligibility clerks, social welfare (4784)	443	Miscellaneous food preparation occupations (5219)
378	Bill and account collectors (4786)	444	Health service occupations
	Miscellaneous administrative support occupations		Dental assistants (5232)
379	General office clerks (463)	445	Health aides, except nursing (5233)
383	Bank tellers (4791)	446	Nursing aides, orderlies, and attendants (5236)
384	Proofreaders (4792)	447	Cleaning and building service occupations, except household
385	Data-entry keyers (4793)		Supervisors, cleaning and building service workers (5241)
386	Statistical clerks (4794)	448	Maids and housemen (5242, 5249)
387	Teachers' aides (4795)	449	Janitors and cleaners (5244)
389	Administrative support occupations, n.e.c. (4787, 4799)	V (453)	Elevator operators (5245)
		454	Pest control occupations (5246)
SERVICE OCCUPATIONS		455	Personal service occupations
Private Household Occupations			Supervisors, personal service occupations (5251)
403	Launderers and ironers (503)	456	Barbers (5252)
404	Cooks, private household (504)	457	Hairdressers and cosmetologists (5253)
405	Housekeepers and butlers (505)	458	Attendants, amusement and recreation facilities (5254)
406	Child care workers, private household (506)	459	Guides (5255)
T (407)	Private household cleaners and servants (502, 507, 509)		Ushers (5256)
Protective Service Occupations		463	Public transportation attendants (5257)
Supervisors, protective service occupations		464	Baggage porters and bellhops (5262)
413	Supervisors, firefighting and fire prevention occupations (5111)	465	Welfare service aides (5263)
414	Supervisors, police and detectives (5112)	466	Child care workers, except private household (5264)
415	Supervisors, guards (5113)	467	Personal service occupations, n.e.c. (5258, 5269)
	Firefighting and fire prevention occupations	468	
416	Fire inspection and fire prevention occupations (5122)	469	
417	Firefighting occupations (5123)	FARMING, FORESTRY, AND FISHING OCCUPATIONS	
	Police and detectives	Farm operators and managers	
418	Police and detectives, public service (5132)	W (473)	Farmers, except horticultural (5512-5514)
423	Sheriffs, bailiffs, and other law enforcement officers (5134)	474	Horticultural specialty farmers (5515)
424	Correctional institution officers (5133)	475	Managers, farms, except horticultural (5522-5524)
		476	Managers, horticultural specialty farms (5525)

Occupational Classification System

Occupation code	Occupation category	Occupation code	Occupation category
FARMING, FORESTRY, AND FISHING OCCUPATIONS—Con.		PRECISION PRODUCTION, CRAFT, AND REPAIR OCCUPATIONS—Con.	
Other agricultural and related occupations		Mechanics and repairers—Con.	
Farm occupations, except managerial		Mechanics and repairers, except supervisors—Con.	
477	Supervisors, farm workers (5611)	535	Miscellaneous mechanics and repairers
479	Farm workers (5612-5617)		Camera, watch, and musical instrument repairers (6171, 6172)
483	Marine life cultivation workers (5618)		Locksmiths and safe repairers (6173)
484	Nursery workers (5619)		Office machine repairers (6174)
Related agricultural occupations			Mechanical controls and valve repairers (6175)
485	Supervisors, related agricultural occupations (5621)		Elevator installers and repairers (6176)
486	Groundskeepers and gardeners, except farm (5622)		Millwrights (6178)
487	Animal caretakers, except farm (5624)		Specified mechanics and repairers, n.e.c. (6177, 6179)
488	Graders and sorters, agricultural products (5625)		Not specified mechanics and repairers
489	Inspectors, agricultural products (5627)		
Forestry and logging occupations		549	
494	Supervisors, forestry and logging workers (571)	553	Construction trades
495	Forestry workers, except logging (572)		Supervisors, construction occupations
496	Timber cutting and logging occupations (573, 579)		Supervisors; brickmasons, stonemasons, and tile setters (6312)
Fishers, hunters, and trappers		554	Supervisors, carpenters and related workers (6313)
497	Captains and other officers, fishing vessels (pt 8241)	555	Supervisors, electricians and power transmission installers (6314)
498	Fishers (583)	556	Supervisors; painters, paperhangers, and plasterers (6315)
499	Hunters and trappers (584)	557	Supervisors; plumbers, pipefitters, and steamfitters (6316)
PRECISION PRODUCTION, CRAFT, AND REPAIR OCCUPATIONS		558	Supervisors, n.e.c. (6311, 6318)
Mechanics and repairers		Construction trades, except supervisors	
503	Supervisors, mechanics and repairers (60)	563	Brickmasons and stonemasons (pt 6412, pt 6413)
Mechanics and repairers, except supervisors		564	Brickmason and stonemason apprentices (pt 6412, pt 6413)
Vehicle and mobile equipment mechanics and repairers		565	Tile setters, hard and soft (6414, pt 6462)
X (505)	Automobile mechanics (pt 6111)	566	Carpet installers (pt 6462)
506	Automobile mechanic apprentices (pt 6111)	Y (567)	Carpenters (pt 6422)
507	Bus, truck, and stationary engine mechanics (6112)	569	Carpenter apprentices (pt 6422)
508	Aircraft engine mechanics (6113)	573	Drywall installers (6424)
509	Small engine repairers (6114)	575	Electricians (pt 6432)
514	Automobile body and related repairers (6115)	576	Electrician apprentices (pt 6432)
515	Aircraft mechanics, exc. engine (6116)	577	Electrical power installers and repairers (6433)
516	Heavy equipment mechanics (6117)	579	Painters, construction and maintenance (6442)
517	Farm equipment mechanics (6118)	583	Paperhangers (6443)
518	Industrial machinery repairers (613)	584	Plasterers (6444)
519	Machinery maintenance occupations (614)	585	Plumbers, pipefitters, and steamfitters (pt 645)
Electrical and electronic equipment repairers		587	Plumber, pipefitter, and steamfitter apprentices (pt 645)
523	Electronic repairers, communications and industrial equipment (6151, 6153, 6155)	588	Concrete and terrazzo finishers (6463)
525	Data processing equipment repairers (6154)	589	Glaziers (6464)
526	Household appliance and power tool repairers (6156)	593	Insulation workers (6465)
527	Telephone line installers and repairers (6157)	594	Paving, surfacing, and tamping equipment operators (6466)
529	Telephone installers and repairers (6158)	595	Roofers (6468)
533	Miscellaneous electrical and electronic equipment repairers (6152, 6159)	596	Sheetmetal duct installers (6472)
534	Heating, air conditioning, and refrigeration mechanics (616)	597	Structural metal workers (6473)
		598	Drillers, earth (6474)

Occupation code	Occupation category	Occupation code	Occupation category
PRECISION PRODUCTION, CRAFT, AND REPAIR OCCUPATIONS—Con.		PRECISION PRODUCTION, CRAFT, AND REPAIR OCCUPATIONS—Con.	
Construction trades—Con.		Precision production occupations—Con.	
Construction trades, except supervisors—Con.		Precision workers, assorted materials—Con.	
599	Construction trades, n.e.c. (6467, 6475, 6476, 6479)	684	Miscellaneous precision workers, n.e.c. (6869)
Extractive occupations		Precision food production occupations	
613	Supervisors, extractive occupations (632)	686	Butchers and meat cutters (6871)
614	Drillers, oil well (652)	687	Bakers (6872)
615	Explosives workers (653)	688	Food batchmakers (6873, 6879)
616	Mining machine operators (654)	689	Precision inspectors, testers, and related workers
617	Mining occupations, n.e.c. (656)	693	Inspectors, testers, and graders (6881, 828)
Precision production occupations		Adjusters and calibrators (6882)	
633	Supervisors, production occupations (67, 71)	694	Plant and system operators
Precision metal working occupations		695	Water and sewage treatment plant operators (691)
634	Tool and die makers (pt 6811)	696	Power plant operators (pt 693)
635	Tool and die maker apprentices (pt 6811)	699	Stationary engineers (pt 693, 7668)
636	Precision assemblers, metal (6812)	Miscellaneous plant and system operators (692, 694, 695, 696)	
637	Machinists (pt 6813)	OPERATORS, FABRICATORS, AND LABORERS	
639	Machinist apprentices (pt 6813)		
643	Boilermakers (6814)		
644	Precision grinders, fitters, and tool sharpeners (6816)		
645	Patternmakers and model makers, metal (6817)		
646	Lay-out workers (6821)		
647	Precious stones and metals workers (jewelers) (6822, 6866)		
649	Engravers, metal (6823)		
653	Sheet metal workers (pt 6824)		
654	Sheet metal worker apprentices (pt 6824)		
655	Miscellaneous precision metal workers (6829)		
Precision woodworking occupations		Machine Operators, Assemblers, and Inspectors	
656	Patternmakers and model makers, wood (6831)	Machine operators and tenders, except precision	
657	Cabinet makers and bench carpenters (6832)	Metalworking and plastic working machine operators	
658	Furniture and wood finishers (6835)	Lathe and turning machine set-up operators (7312)	
659	Miscellaneous precision woodworkers (6839)	Lathe and turning machine operators (7512)	
Precision textile, apparel, and furnishings machine workers		Milling and planing machine operators (7313, 7513)	
666	Dressmakers (pt 6852, pt 7752)	Punching and stamping press machine operators (7314, 7317, 7514, 7517)	
667	Tailors (pt 6852)	Rolling machine operators (7316, 7516)	
668	Upholsterers (6853)	Drilling and boring machine operators (7318, 7518)	
669	Shoe repairers (6854)	Grinding, abrading, buffing, and polishing machine operators (7322, 7324, 7522)	
673	Apparel and fabric patternmakers (6856)	Forging machine operators (7319, 7519)	
674	Miscellaneous precision apparel and fabric workers (6859, pt 7752)	Numerical control machine operators (7326)	
Precision workers, assorted materials		Miscellaneous metal, plastic, stone, and glass working machine operators (7329, 7529)	
675	Hand molders and shapers, except jewelers (6861)	Fabricating machine operators, n.e.c. (7339, 7539)	
676	Patternmakers, lay-out workers, and cutters (6862)	Metal and plastic processing machine operators	
677	Optical goods workers (6864, pt 7477, pt 7677)	Molding and casting machine operators (7315, 7342, 7515, 7542)	
678	Dental laboratory and medical appliance technicians (6865)	Metal plating machine operators (7343, 7543)	
679	Bookbinders (6844)	Heat treating equipment operators (7344, 7544)	
683	Electrical and electronic equipment assemblers (6867)	Miscellaneous metal and plastic processing machine operators (7349, 7549)	
		Woodworking machine operators	
		Wood lathe, routing, and planing machine operators (7431, 7432, 7631, 7632)	
		Sawing machine operators (7433, 7633)	
		Shaping and joining machine operators (7435, 7635)	

Occupation code	Occupation category	Occupation code	Occupation category
OPERATORS, FABRICATORS, AND LABORERS—Con.		OPERATORS, FABRICATORS, AND LABORERS—Con.	
Machine Operators, Assemblers, and Inspectors—Con.		Machine operators, Assemblers, and Inspectors—Con.	
Machine operators and tenders, except precision—Con.		Machine operators and tenders, except precision—Con.	
	Woodworking machine operators—Con.		Machine operators, assorted materials—Con.
729	Nailing and tacking machine operators (7636)	777	Miscellaneous machine operators, n.e.c. (pt 7479, 7665, 7679)
733	Miscellaneous woodworking machine operators (7434, 7439, 7634, 7639)	779	Machine operators, not specified
	Printing machine operators		Fabricators, assemblers, and hand working occupations
734	Printing machine operators (7443, 7643)	783	Welders and cutters (7332, 7532, 7714)
735	Photoengravers and lithographers (6842, 7444, 7644)	784	Solderers and brazers (7333, 7533, 7717)
736	Typesetters and compositors (6841, 7642)	785	Assemblers (772, 774)
737	Miscellaneous printing machine operators (6849, 7449, 7649)	786	Hand cutting and trimming occupations (7753)
	Textile, apparel, and furnishings machine operators	787	Hand molding, casting, and forming occupations (7754, 7755)
738	Winding and twisting machine operators (7451, 7651)	789	Hand painting, coating, and decorating occupations (7756)
739	Knitting, looping, taping, and weaving machine operators (7452, 7652)	793	Hand engraving and printing occupations (7757)
743	Textile cutting machine operators (7654)	794	Hand grinding and polishing occupations (7758)
744	Textile sewing machine operators (7655)	795	Miscellaneous hand working occupations (7759)
745	Shoe machine operators (7656)	796	Production inspectors, testers, samplers, and weighers
747	Pressing machine operators (7657)	797	Production inspectors, checkers, and examiners (782, 787)
748	Laundering and dry cleaning machine operators (6855, 7658)	798	Production testers (783)
749	Miscellaneous textile machine operators (7459, 7659)	799	Production samplers and weighers (784)
	Machine operators, assorted materials		Graders and sorters, except agricultural (785)
753	Cementing and gluing machine operators (7661)		Transportation and Material Moving Occupations
754	Packaging and filling machine operators (7462, 7662)	803	Motor vehicle operators
755	Extruding and forming machine operators (7463, 7663)	Z (804)	Supervisors, motor vehicle operators (8111)
756	Mixing and blending machine operators (7664)	805	Truck drivers, heavy (8212, 8213)
757	Separating, filtering, and clarifying machine operators (7476, 7666, 7676)	806	Truck drivers, light (8214)
758	Compressing and compacting machine operators (7467, 7667)	808	Driver-sales workers (8218)
759	Painting and paint spraying machine operators (7669)	809	Bus drivers (8215)
763	Roasting and baking machine operators, food (7472, 7672)	813	Taxicab drivers and chauffeurs (8216)
764	Washing, cleaning, and pickling machine operators (7673)	814	Parking lot attendants (874)
765	Folding machine operators (7474, 7674)		Motor transportation occupations, n.e.c. (8219)
766	Furnace, kiln, and oven operators, exc. food (7675)	823	Transportation occupations, except motor vehicles
768	Crushing and grinding machine operators (pt 7477, pt 7677)	824	Rail transportation occupations
769	Slicing and cutting machine operators (7478, 7678)	825	Railroad conductors and yardmasters (8113)
773	Motion picture projectionists (pt 7479)	826	Locomotive operating occupations (8232)
774	Photographic process machine operators (6863, 6868, 7671)	829	Railroad brake, signal, and switch operators (8233)
		833	Rail vehicle operators, n.e.c. (8239)
		834	Water transportation occupations
			Ship captains and mates, except fishing boats (pt 8241, 8242)
			Sailors and deckhands (8243)
			Marine engineers (8244)
			Bridge, lock, and lighthouse tenders (8245)
			Material moving equipment operators
			Supervisors, material moving equipment operators (812)
			Operating engineers (8312)

Occupation code	Occupation category	Occupation code	Occupation category
	OPERATORS, FABRICATORS, AND LABORERS—Con.		OPERATORS, FABRICATORS, AND LABORERS—Con.
	Transportation and Material Moving Occupations—Con.		Handlers, Equipment Cleaners, Helpers, and Laborers—Con.
	Material moving equipment operators—Con.	869	Construction laborers (871)
845	Longshore equipment operators (8313)	873	Production helpers (861, 862)
848	Hoist and winch operators (8314)		Freight, stock, and material handlers
849	Crane and tower operators (8315)	875	Garbage collectors (8722)
853	Excavating and loading machine operators (8316)	876	Stevedores (8723)
855	Grader, dozer, and scraper operators (8317)	877	Stock handlers and baggers (8724)
856	Industrial truck and tractor equipment operators (8318)	878	Machine feeders and offbearers (8725)
859	Miscellaneous material moving equipment operators (8319)	883	Freight, stock, and material handlers, n.e.c. (8726)
	Handlers, Equipment Cleaners, Helpers, and Laborers	885	Garage and service station related occupations (873)
863	Supervisors, handlers, equipment cleaners, and laborers, n.e.c. (85)	887	Vehicle washers and equipment cleaners (875)
864	Helpers, mechanics and repairers (863)	888	Hand packers and packagers (8761)
	Helpers, construction and extractive occupations	889	Laborers, except construction (8769)
865	Helpers, construction trades (8641-8645, 8648)		
866	Helpers, surveyor (8646)		
867	Helpers, extractive occupations (865)	999	OCCUPATION NOT REPORTED¹

¹ Code used when not-reported cases are not allocated

APPENDIX G

CODING SCHEMES USED TO CATEGORIZE RESPONSES TO OPEN-ENDED QUESTIONS

This appendix contains the coding schemes developed for the open-ended responses to the following survey items: 9E, 16A, 22, 23, 24A, 28, 31, and 34.

Responses were assigned the more refined subcategory codes (e.g., A1, D2) in the actual coding operations; however, these subcategories were collapsed into the overall major categories (e.g., E1 and E0 collapsed into E) for reporting purposes.

Question #9E Below is a list of benefits. First, circle the letter next to each benefit received, or are currently receiving since leaving the service.
Others:

A. Nothing/None

A1: Nothing/none

B. Don't Know/"No Comment"

B1: DK/"No comment"

C. Unusable Idea

C1: Unusable response

D. Medical-Related Benefits

D1: Disability pay

- Medical

- VA

D2: Medical/dental care

- Medical/dental

- CHAMPUS

D0: Other

E. Supplemental Household and Security Benefits

E1: Commissary/PX privileges

E0: Other

- VA home loan

- Life insurance

- Etc.

F. Miscellaneous Benefits

F1: VEAP/GI Bill/ACF/Retirement Pay

F0: Other

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #16A Whether you were satisfied or not, how valuable was your Army experience to you? Please explain why you feel this way.

A. Nothing/None

A1: Nothing/none

B. Don't Know/"No Comment"

B1: DK/"No comment"

C. Unusable Idea

C1: Unusable response

D. Job & Education Factors

D1: Degree of job fulfillment/recognition/freedom

- Did (many) fulfilling and valuable jobs/skills
- Useless/unfulfilling jobs or skills
- No credit for good job
- Could not get desired job
- Could not work (enough) in MOS

D2: Helpful/not helpful to civilian career

D3: Education

- Allowed to work while continuing education (in Army)
- Helped continuation of schooling after Army

D0: Other

E. Future Preparation/Goals Growth Factors

E1: Useful experiences to the future

- Experience/background useful to future (general)
- Good for job resume (not specific to obtaining civilian job)
- Got experience that helped later on (general)

E2: Helped attain (higher/other) goal

- Found God in Army
- Army served my purpose (general)
- Positive means to end

E0: Other

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #16A Whether you were satisfied or not, how valuable was your Army experience to you? Please explain why you feel this way.

F. Self Growth/Opportunities

- F1: Development of character/opportunity to excel
 - Independence/discipline/confidence/knowning self/maturity/etc.
 - Personal challenge
 - Knowledge
 - Advancement/achievement
 - Learning (general): life/politics/world affairs/etc.
- F2: Learning/Training of Skills
 - Good training (job or general training)
 - Learned many useful or valuable skills/jobs
 - Development of leadership skills
- F3: Physical development
- F4: Travel/adventure/escape
 - Escape from home/poverty/etc.
 - Got to see the world
- F5: Financial/job security
- F0: General experience and opportunities
 - Variety of experiences
 - Great opportunity
 - Got to do lots of different things
 - Etc.

G. Interpersonal Relationships

- G1: Relationships with others
 - Made friendships
 - Learned about/how to deal with different people (including other cultures)
 - Learned teamwork
 - Dislike of fellow soldiers
- G2: Family/partner relationships
- G0: Meeting other people

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #16A Whether you were satisfied or not, how valuable was your Army experience to you? Please explain why you feel this way.

H. General Negative Experiences

- H1: Unmet expectations
 - Not what expected
 - Dishonesty/incomplete information
- H2: Did not attain goals (general)
- H3: Involuntary discharges
 - Disciplinary
 - Medical
 - Pregnancy leading to discharge
- H0: Other
 - Did not gain anything
 - Waste of time

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #16A Whether you are satisfied or not, how valuable was your Army experience to you? Please explain why you feel this way.

I. Satisfiers/Dissatisfiers

- I1: Army treatment of individual (from Army in general)
- Poor/insensitive treatment of enlisted persons
 - Nonsensical rules and regulations
 - No respect for enlisteds (being treated as a number)
 - Unequal/unfair treatment (race/sex, individuals, locations)
 - Uncaring/no place to turn with problems
 - No control over own life
 - Not used to potential
 - Sexual harassment
 - Low motivation/poor discipline among troops
 - No esprit de corps/low morale
 - No enforcement of rules
 - Drugs rampant
 - Other
- I2: Lifestyle factors
- Good lifestyle/different way of life
 - Unrealistic/negative way of life (compared to civilian)
 - Assignment/unit/station difficulties
 - Too many moves
 - Time at/dislike of station
 - Wanted another unit/assignment
 - Poor living conditions
 - Poor off-duty conditions
 - Physical requirements unrealistic
 - Etc.
- I3: Leader performance/standards
- Positive or negative
- I4: Pay/benefits/promotion
- Poor promotion practices/criteria
 - Point system
 - Weed out poor soldiers
 - Could not get promoted
 - Poor pay/bonuses/benefits
 - Other
- I5: Patriotism & defense
- Patriotic fulfillment
 - Service to country
 - Pride in uniform/America
 - Prepare for war/defense
- I0: General satisfaction/dissatisfaction
- Like it a lot
 - Disliked it

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #22 Now, tell us in your own words the most important reason that you separated from the Army

A. Nothing/None

A1: Nothing/none

B. Don't Know/"No Comment"

B1: DK/"No comment"

C. Unusable Idea

C1: Unusable response

D. Army Treatment of Individual (From Army in general)

D1: Poor treatment

- Too many military rules and regulations (harsh application of restrictive, nonsensical regulations)
- Too much unfair treatment (unequal treatment, racial/sexual discrimination)
- Not being treated with respect

D2: Sexual "harassment"

D0: Other

- Insensitivity (uncaring, no place to turn with problems, dishonesty, incomplete information, poor communications)
- Lack of freedom
- Low motivation/poor discipline among troops (no esprit de corps, no enforcement of rules, low morale, etc.)
- Etc.

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #22 Now, tell us in your own words the most important reason that you separated from the Army

E. Poor Adjustment to Military Lifestyle (Mismatch)

- E1: Assignment/unit/station difficulties
 - Too many PCS moves
 - Time at station/unit
 - Dislike of unit or location
- E2: Poor conditions unrelated to job
 - Not enough off-duty activities/recreation
 - Lack of freedom off-duty
 - Not enough leave
 - Wanted better living conditions
- E3: Personal inadequacies/problems
 - Poor coping
 - No motivation/no desire/too immature
 - Lonely/homesick
- E4: Involuntary discharge/separation
 - Barred from reenlistment
 - Medical discharge (including weight reasons)
 - Court-martial/dishonorable discharge
 - Had to leave
- E5: Medical and weight problems
- E0: Other
 - Demanding physical requirements (including weight/medical problems)
 - Dislike of uniform
 - Etc.

F. Army Working Conditions

- F1: Poor working conditions/Army jobs/MOS
 - Working hours were too long
 - No credit for doing a good job
 - Not enough chance to do interesting/challenging work
- F0: Other
 - Couldn't work in (desired) job/MOS
 - Chance to use my training in my job
 - Etc.

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #22 Now, tell us in your own words the most important reason that you separated from the Army.

G. Leadership

- G1: Poor/problematic leadership
- Officers didn't care about enlisted people
 - Poor NCO leadership
 - Didn't get along with NCO's

G0: Other

H. Pay/Benefits/Promotion

- H1: Pay & promotion problems
- Pay was too low
 - Failed to get promoted
- H0: Other
- Point system
 - Poor promotion procedures/criteria, weed out bad soldiers
 - Wanted (faster) promotion
 - Benefits/bonus/other pay problems
 - Etc.

I. Insufficient Training/Education in Army

- I1: Couldn't get desired education in Army
- College/HS degree/GED
- I2: Couldn't get desired skills in Army
- MOS, job training
- I0: Other

J. Interpersonal Relationships

- J1: Poor family adjustment/family problems
- Too much family separation (physical separation, time away each day)
 - Family problems at home
 - Pregnant/just had a baby
 - Family pressure to leave Army
 - Family support services inadequate
- J2: Poor relations with fellow soldiers
- Dislike of other soldiers
- J0: Other
- Problems with girl/boyfriend if stay in
 - Other family problems
 - Etc.

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #22 Now, tell us in your own words the most important reason that you separated from the Army.

K. Opportunities in Civilian Life

X1: Civilian life opportunities

- Could get a good civilian job
- Wanted to go to school/college
- Wanted to use service benefits

K0: Other

- Return to/try civilian life
- Pursuit of/more opportunities as civilian
- Etc.

L. Retirement

L1: Time to/wanted to retire

L0: Other

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #23 What one thing could the Army have done, if anything, that would have kept you from leaving the service?

A. Nothing/None/Nothing Kept Me From Leaving

A1: Nothing/none/nothing kept me from leaving

B. Don't Know/"No Comment"

B1: DK/"No comment"

C. Unusable Idea

C1: Unusable response

D. Better Army Treatment of Individual (From Army in general)

- D1: Stop poor/insensitive treatment of enlisted persons
- Reduce nonsensical rules and regulations
 - Not used to potential
 - No freedom
 - Haircuts, inspections, harassment, restrictions
 - More respect for enlisteds (don't treat them as numbers)
 - Equal/fair treatment (racial/sexual discrimination, individuals, locations)
 - Care more about individual/troops
 - Honest and complete information
 - Reduce red tape
- D2: Eliminate sexual "harassment"
- D3: Improve motivation among troops
- D4: Improve discipline among troops
- D0: Other

E. Improve Lifestyle Factors

- E1: Reduce assignment/unit/station difficulties
- Too many moves
 - Time at/dislike of station
 - Wanted another unit/assignment
- E2: Off-duty improvements
- More leave/free time
 - Better planning of free time
 - freedom off-duty
 - More/better recreation and activities
- E3: Change physical requirements
- Weight rules
- E4: Improve living quarters/housing situation
- E5: Improve family conditions
- E0: Other
- Change uniforms
 - Drug use/abuse
 - Etc.

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #23 What one thing could the Army have done, if anything, that would have kept you from leaving the service.

F. MOS/Job-Related Changes

- F1: Job fulfillment/recognition
- More (fulfilling) job/skills
 - Better working conditions/equipment
 - Credit for doing good job
 - Improve performance evaluation criteria
- F2: Job freedom/changes
- Change/work in desired MOS (enough)
 - Change MOS criteria
 - Do job the way you think it should be done
- F0: Other

G. Leadership Improvements

- G1: Improve officer performance/standards
- Competence/skills
 - Experience/preparation/training
 - Caring/counselling/communication
 - Promotion standards/procedures (promote worthy/
get rid of bad officers)
 - More power to officers
- G2: Improve NCO performance/standards
- Same as above
- G3: Improve leader (general) performance/standards
- Same as above (for "leaders" or combined
officers/NCO's)
- G0: Other
- Warrant officer (WO) improvements, etc.

H. Pay/Benefits/Promotion Changes

- H1: Changes in promotion criteria/procedures
- Point system
 - Weed out poor soldiers
 - Request to get promoted (or opportunity)
 - Easier for enlisted to become officer (West Point,
OCS)
- H2: Pay/benefits improvement
- More pay/bonuses
 - Improve pay system
 - Better benefits (in/after service)
- H0: Other

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #23 What one thing could the Army have done, if anything, that would have kept you from leaving the service?

I. Educational & Training Changes

- I1: Educational opportunities/assistance while in Army
 - Time/financial assistance
- I2: "Basic training" changes
 - More/easier/harder basic training
 - Able to recycle to newer class to have another chance to qualify
 - Better orientation to Army life
- I3: General Army training changes
 - More or less training/practical exercises/PT (physical training)
 - Better training procedures
 - More useful job training
- I0: Other

J. Reenlistment/Retention

- J1: Allow to reenlist/stay in
 - Barred from reenlistment
 - Never offered reenlistment
 - let me stay in
- J0: Other

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #24A Please describe the one thing that you were most dissatisfied with in your overall outprocessing/separation experience.

A. Nothing/None/Satisfied

A1: Nothing/none/satisfied

B. Don't Know/"No Comment"

B1: DK/"No comment"

C. Unusable Idea

C1: Unusable response

D. Army Treatment of Individual

D1: Poor/insensitive treatment of enlisted persons

- Poor/indifferent treatment by leaders
- Poor/indifferent treatment at outprocessing
- Not informed about civilian life
- Dishonesty
- Red tape
- Nonsensical rules and regulations, haircuts, lack of freedom, etc.

D2: Reduce "run-around"/centralization and guidance needed

- Every place to go was on a different installation
- Lack of guidance & counselling (e.g., "where to go next")

D3: Dissatisfaction with transportation

- Unreliable transportation to airport
- Wanted plane, not bus
- Unreliable transportation between points

D0: Other

E. Lifestyle Factors

E1: Poor living conditions

- Substandard housing
- No security for property
- Poor food
- Didn't get enough sleep

E0: Other

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #24A Please describe the one thing that you were most dissatisfied with in your overall outprocessing/separation experience.

F. Time-Related/Length of Time

- F1: Took too long
- Long outprocessing
- Waiting/long lines
F2: Not enough time
F0: Other

G. Administrative Problems

- G1: Paperwork issues
- Paperwork mistakes
- Paperwork hold-up
G2: Money-related
- Difficulty/failure getting final pay at ETS
- Not given enough money for travel
- Had to pay Army
G3: Disorganized/untrained personnel
- Unprofessional
- Unknowledgeable
- Not know job
G0: Other

H. Equipment Turn-In Process

- H1: Dissatisfaction with equipment turn-in process
- TA-50/CIF
- Field gear
- Clothing
H2: Army dissatisfied with equipment condition
H0: Other

I. Reenlistment Factors

- I1: Pressure to stay in military
- National Guard/Reserves
- Active duty
I2: Barred from reenlistment
I0: Other

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #28 Specifically, what would you tell a good friend about joining or not joining the Army?

A. Nothing/None

A1: Nothing/none

B. Don't Know/"No Comment"

B1: DK/"No comment"

C. Unusable Idea

C1: Unusable response

D. Positive Toward Joining

D1: Join

D2: Training/job/education opportunities

- Technical
- Leadership
- Fulfilling jobs
- Good career
- Job security
- Help with education

D3: Pay/benefits/bonuses/promotion

D4: personal growth experiences/opportunities

- Learning experience
- Builds self-esteem/maturity
- A challenge
- Physical development
- Travel/adventure
- Security/good way of life
- Get a start in life

D5: Opportunity to meet people/make friendships

D6: A way to serve country/prepare for war

D0: Good experience/opportunities/general benefits

- Good opportunity/experience
- Fun/rewarding
- General benefits

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #28 Specifically, what would you tell a good friend about joining or not joining the Army?

E. Negative Toward Joining

- E1: Don't join
- E2: Do something else
 - Join another component/branch of service (National Guard, Reserves, Navy, etc.)
 - Finish/get education first (college, HS, GED)
 - Get a civilian job (instead)
- E3: Poor/insensitive treatment of individual
 - Emotional abuse ("head games")
 - Nonsensical rules and regulations
 - No freedom or independence
 - Dishonesty/incomplete information
 - Unfair/unequal treatment (race/sex, individual)
- E4: Sexual harassment
- E5: Hard to have a family in Army
- E6: Assignment/unit/station difficulties
- E7: Poor working conditions
- E8: Poor/incompetent leadership
- E9: Negative situational reasons
 - Don't join if you have certain characteristics/negative situation
- E0: General negative comments

F. Neither Positive Nor Negative

- F1: Unspecific advice
 - It's up to him/her
 - Depends on person
 - It's your choice
 - There's good and bad
- F2: Think about it/consider it
 - Carefully consider it
 - Research it
 - Consider individual goals & later adjustment
- F3: Ensuring desires are met
 - Should get guarantee in writing (MOS, length of contract, assignment)
 - Get into a specific field
 - Should learn/know about MOS (be sure of MOS you get, some jobs limiting)
- F4: Requirements for adjusting to Army
 - Be flexible/willing to conform
 - Have to put up with B.S./be tolerant of rules
 - Good attitude/commitment/maturity required
 - Must like working with people
- F5: Positive situational reasons
 - Join if you aren't doing anything with your life
 - Good if you are single
- F0: Other
 - It's what you make of it

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #31 Think about ways Army service could be improved for future enlistees. What would you suggest the Army do to make the Army experience more positive or useful to them?

A. Nothing/None/Good the Way It Is

A1: Nothing/none/good the way it is

B. Don't Know/"No Comment"

B1: DK/"No comment"

C. Unusable Idea

C1: Unusable response

D. Improve Army Treatment of Individual (From Army in general)

D1: Stop poor/insensitive treatment of enlisted persons

- Reduce nonsensical rules and regulations
- Use to potential
- Give more freedom
- Haircuts, inspections, harassment, restrictions
- More respect for enlisteds (don't treat them as numbers)
- Equal/fair treatment (racial/sexual discrimination, individuals, locations)
- Care more about individual/troops
- Honest and complete information
- Reduce red tape

D2: Eliminate sexual "harassment"

D3: Women's issues

- Different treatment of women
- Separate men and women (general/barracks)
- Return to WAC (Women's Army Corps)
- Combat for women
- Easier/harder training for women

D4: Improve motivation among troops

- Challenge

D5: Improve discipline among troops

D0: Other

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #31 Think about ways Army service could be improved for future enlistees. What would you suggest the Army do to make the Army experience more positive or useful to them?

E. Improve Lifestyle Factors

- E1: Reduce assignment/unit/station difficulties
 - Too many moves
 - Time at/dislike of station
 - Wanted another unit/assignment
- E2: Off-duty improvements
 - More leave/free time
 - Better planning of free time
 - Freedom off-duty
 - More/better recreation and activities
- E3: Change physical requirements
 - Weight rules
- E4: Improve living quarters/housing situation
- E5: Improve family conditions
- E0: Other
 - Change uniforms
 - Drug use/abuse
 - Etc.

F. MOS/Job-Related Changes

- F1: Job fulfillment/recognition
 - More (fulfilling) job/skills
 - Jobs relevant to civilian work
 - Better working conditions/equipment
 - Credit for doing good job
 - Improve performance evaluation criteria
- F2: Job freedom/changes
 - Change/work in desired MOS (enough)
 - Change MOS criteria
 - Do job the way you think it should be done
- F0: Other

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #31 Think about ways Army service could be improved future enlistees. What would you suggest the Army do to make the Army experience more positive or useful to them?

G. Leadership Improvements

- G1: Improve officer performance/standards
 - Competence/skills
 - Experience/preparation/training
 - Caring/counselling/communication
 - Promotion standards/procedures (promote worthy/get rid of bad officers)
 - More power to officers
- G2: Improve NCO performance/standards
 - Same as above
- G3: Improve leader (general) performance/standards
 - Same as above (for "leaders" or combined officers/NCO's)
- G0: Other
 - Warrant officer (WO) improvements, etc.
 - Unclear leader changes

H. Pay/Benefits/Promotion Changes

- H1: Change in promotion criteria/procedures
 - Point system
 - Weed out poor soldiers
 - Request to get promoted (or opportunity)
 - Easier for enlisted to become officer (West Point, OCS)
- H2: Pay/benefits improvement
 - More pay/bonuses
 - Improve pay system
 - Better benefits (in/after service)
- H0: Other
 - Better information after service, etc.

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #31 Think about ways Army service could be improved for future enlistees. What would you suggest the Army do to make the Army experience more positive or useful to them?

I. Educational & Training Changes

- I1: Educational opportunities/assistance while in Army
 - time/financial assistance
 - "School" in general
- I2: "Basic training" changes
 - More/easier/harder basic training
 - Able to recycle to newer class to have another chance to qualify
 - Better orientation to Army life
- I3: General Army training changes
 - More or less training/practical exercises/PT (physical training)
 - Better training procedures
 - More useful job training
- I0: Other

J. Recruiting/Reenlistment Policy Changes

- J1: Change recruiting standards/procedures
 - Better recruiting standards
 - Honest and complete information
 - Return to draft
 - Equal rank at time of enlistment
 - Restriction of women/other groups
- J2: Improve recruiter performance
 - Better recruiters
 - Honest and open recruiters
- J3: Change reenlistment/recruitment policies
- J0: Other

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #34 What associations for former military personnel do you presently belong to? (Please print the names of these organizations below. If none, circle answer number 1.)

A. Nothing/None

A1: Nothing/none

B. Don't Know/"No Comment"

B1: DK/"No comment"

C. Unusable Idea

C1: Unusable response

D. Military - Active & Reserve

D1: Active Regular military service

D2: Reserves and National Guard

- Active Reserves (IRR/Individual Ready Reserves/
Reserve annual training)
- Inactive Reserves
- Unspecified Reserves (USAR/Reserves)

D0: Other

- ROTC

E. Veterans' Clubs/Associations

E1: "Disabled" veterans organizations

- Disabled American Veterans (DAV) Association
- Veterans of Foreign Disabled Armies

E2: Veterans/unit affiliations

- Veterans clubs
- Veterans of Foreign Wars (VFW)
- American Legion
- Veterans "associations"
- Non-Commissioned Officers Association
- Officers Associations
- POW-MIA's 2ARMD Association
- Association of the Army (AUSA)
- Unit affiliations
- HHC 76 Division Training
- 82D ABN DIV-MID-MI Chapter

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.

Question #34 What associations for former military personnel do you presently belong to? (Please print the names of these organizations below. If none, circle answer number 1.)

F. Financial Organizations

F1: Financial organizations

- Military credit unions
- Life insurance programs
- Group life insurance (SGLI/Veterans Group Life Insurance)
- General insurance programs (NCOA Insurance)

F0: Other

NOTE: Examples of responses assigned to a particular subcategory are denoted by a hyphen; these do not constitute an exhaustive list of all possible responses encountered during the coding operation.