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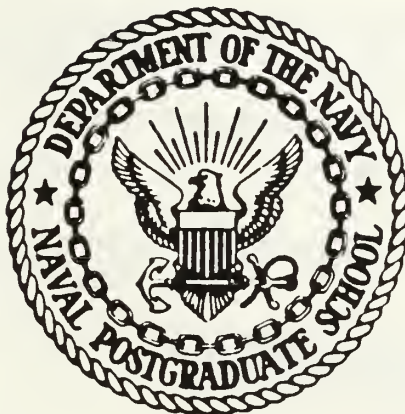


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NAVAL POSTGRADUATE SCHOOL

Monterey, California



THESIS

FACTORS AFFECTING THE RECRUITMENT AND
RETENTION OF LINGUISTS IN THE U.S. ARMY

by

James R. Lucas Jr.

September 1987

Thesis Advisor: Stephen L. Mehay

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Factors Affecting the Recruitment and Retention
of Linguists in the U. S. Army

by

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Major, United States Army
B.S., Henderson State University, 1975

Submitted in partial fulfillment of the
requirements for the degree of

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from the

NAVAL POSTGRADUATE SCHOOL
September 1987

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This study examined influences on the enlistment and reenlistment decisions for linguists in the US Army. Some of the potential factors considered were: previous language experience, ethnicity, age, gender, and education level of the respondent. Data were obtained from enlisted Army students enrolled in training at the Defense Language Institute (DLI) in Monterey, California during the period April-May 1987. The analysis attempted to determine the differences, if any, that existed between the linguists surveyed and appropriate control groups. Results indicate that the three most prominent reasons given for enlisting were: a chance to better one's self, to earn money for college, and to receive training in a skill. Results further indicate that monetary benefits such as the Army's new linguist specialty pay and increased reenlistment bonuses strongly influence the soldier's reenlistment decision. Significant differences were noted for many of the demographic and background variables when comparisons were made with the 1985 ARI New Recruit Survey and USAREC's 1986 report, The Measurement of Student Attitudes Toward Enlistment Incentives and Career Opportunities.

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I. INTRODUCTION

A. GENERAL

The success of today's All-Recruited Force depends on the ability of the individual services to meet their personnel requirements through recruiting and retention. In order to derive maximum effectiveness and combat power, each service must seek optimum personnel utilization, maintain a high level of personnel performance and morale, and maintain the necessary quantity and quality mix of personnel to meet national security objectives.

During the first twelve years of the All-Recruited Force (1974-1986), the United States Army has generally met its quantity quotas. The problem has been enlisting high-quality personnel needed to learn the technical skills required in the modern armed forces and to perform well in a variety of military scenarios.

The career management field (CMF) that consistently requires the highest percentage of high quality recruits is the Electronic Warfare and Cryptologic Operations field. This CMF includes two of the three principal military occupational specialties (MOS) that require an ability to speak a foreign language. These are Electronic Warfare and Signals Intelligence (EW/SIGINT) Voice Interceptor, 98G, and EW/SIGINT Analyst, 98C. The third MOS that requires a foreign language capability is that of Interrogator, or 97E, which belongs to the Military Intelligence CMF. Table 1 provides the US Army Recruiting Command's established goals for the percentage of high-quality accessions enlisting for an MOS requiring language training for the last three fiscal years.

This thesis will investigate factors that influence the enlistment and reenlistment decisions of United States Army linguists. Some of the potential factors being considered are previous language experience, age, gender, ethnicity, education level, and recruiting region where initial enlistment occurred. With more knowledge about what motivates these individuals to enlist and continue on active duty, resources used to reach potential recruits and to retain qualified linguists might be utilized in a more efficient and cost-effective manner.

TABLE 1
PERCENTAGE GOALS FOR HIGH-QUALITY ACCESSIONS
BY FISCAL YEAR AND MOS

FISCAL YEAR	MOS		
	97E	98C	98G
1985	85	94	94
1986	95	95	95
1987	95	98	95

Sources : US Army Recruiting Command
 Seabrook Reports
 a. 1 November 1985
 b. 18 November 1986
 c. 16 December 1986.

B. THE QUALITY ISSUE

The United States Army Recruiting Command (USAREC) primarily uses two criteria to determine the quality of a potential recruit. The first is the individual's performance on the Armed Services Vocational Aptitude Battery (ASVAB), and the second is the level of education attained. For the purposes of this study, the accepted definition of "quality" used within the Department of Defense (DOD) will be adopted. A high-quality recruit is one who is a high school diploma graduate and has a percentile score of 50 or higher on the Armed Forces Qualification Test (AFQT). In addition to the usual requirements that a new recruit be medically and morally qualified, applicants for linguist positions must undergo a background security investigation and be cleared for at least a secret level security clearance. Frequently, a top-secret security clearance with access to sensitive intelligence information is required.

The AFQT score is computed from four of the ten subtests which comprise the ASVAB. The four subtests used are word knowledge, paragraph comprehension, arithmetic reasoning, and numerical operations. The AFQT score is then used to determine the applicant's mental group category. All recruits are classified into AFQT categories to allow Congressional monitoring of mental-group composition of the

services in terms of maximum percentages of recruits who score in Category IV [Ref. 1: p. 4]. The mental group categories are constructed so that the national youth population would achieve the distribution shown in Table 2.

TABLE 2
PERCENTILE LIMITS FOR AFQT SCORES

Category	Percentile Limits
I	93-99
II	65-92
IIIA	50-64
IIIB	31-49
IV	10-30
V	1-9

Source: Department of Defense.

ASVAB scores are divided into five major categories. Category I and Category II individuals are considered above average in trainability; those in Category III, average; those in Category IV, below average; and those in Category V, significantly below average in trainability and not eligible to enlist under current policy [Ref. 2: p. 99]. Categories III and IV are further subdivided into IIIA and IIIB and IVA and IVB. The services obviously prefer to enlist individuals with high AFQT scores because they qualify for job training in a variety of occupational areas and can be trained more quickly and effectively.

Average scores on the Armed Services Vocational Aptitude Battery declined from 1977 to 1980. This trend reversed itself in 1981, and there has been a steady improvement in recruit quality, as measured by ASVAB performance. The improvement in quality recruits in the U.S. Army since 1981 is shown in Table 3.

Several studies have been performed which support the assertion that a quality recruit is likely to be one who possesses a high school diploma. High school diploma graduates have shown greater ability to complete the initial active duty obligation

TABLE 3
PERCENT OF NON-PRIOR-SERVICE ARMY ACCESSIONS

FISCAL YEAR	MENTAL CATEGORIES		
	I-III A	III B	IV
1980	25	18	57
1981	36	30	34
1982	47	31	22
1983	54	31	15
1984	56	31	13
1985	63	28	9
1986	63	33	4

Sources:

- a. USAREC Research and Studies Division, Nov 1986
- b. Army Times, Dec 8, 1986, p. 3
- c. Army Times, Oct 27, 1986, p. 3.

successfully than non-high school graduates. Enlistees who have not completed high school before accession are about twice as likely to receive Article 15 non-judicial punishment or a Court Martial as high school graduates. Additionally, non-graduates attrite before completing their initial term of service at about twice the rate of graduates. [Ref. 1: pp. 11-14] The successful trend of Army recruiters to enlist high school diploma graduates is shown in Table 4.

C. QUALITY VERSUS QUANTITY

Despite recent successes by Army recruiters, the total force quality has not yet caught up with the quality of the first term enlistees. Table 5 shows that in FY 1985 the mean AFQT score for the entire Army was lower than it was in FY 1975. Mean AFQT scores by grade are shown in Table 6. These statistics do not indicate as bright a picture as those that only provide information on new recruits.

Rapid increases in military technology have prompted several studies concerning the requirement for high-quality personnel in the Armed Services. The Army 21 Study, a research project to determine manpower requirements in defense, predicted that the demand for quality soldiers will continue to increase in the future. "...The future soldier

TABLE 4
 PERCENT OF NON-PRIOR-SERVICE ARMY ACCESSIONS
 HIGH SCHOOL DIPLOMA GRADUATES

FISCAL YEAR	PERCENT
1980	54.3
1983	87.6
1986	90.8

Source: Army Times, Dec. 8, 1986, p. 3.

TABLE 5
 MEAN AFQT SCORE OF ENLISTED MEMBERS

FY	ARMY
1975	53.0
1981	44.5
1982	46.8
1983	49.4
1984	51.3
1985*	51.4

* As of 31 Dec 1984, unrenormed scores, except for some E1-E3, which are renormed to the 1980 reference population.

Source: Toomepuu, September 1986.

must be able to make rapid, independent decisions and be better educated, with an expert level of technological understanding" [Ref. 3: p. 2]. A soldier must not only be a fighter but must score high on the ASVAB to be combat effective. Studies conducted by the Human Resources Research Organization (HUMRRO) identified 11 characteristics that distinguished "fighters" from "non-fighters" in combat; the first on the list was intelligence. [Ref. 4: pp. 11-13].

TABLE 6
MEAN AFQT SCORE OF ENLISTED MEMBERS, FY 1985,
BY RANK

RANK	ARMY
E1	52.4
E2	55.6
E3	56.6
E4	49.7
E5	45.7
E6	51.4
E7	54.9
E8	53.7
E9	52.9

Source: Toomepuu, September 1986.

Recent studies on the effects of technological growth on Department of Defense (DOD) manpower requirements cites data that indicate an increase in the percentage of technical jobs in the military from 12 percent in 1953 to more than 27 percent in 1985 [Ref. 3: p. 2]. These technological advances in evidence across all military occupational specialties throughout the four services clearly indicate the need to not only attract quality young people, but equally, to retain the highly trained and experienced personnel who are currently serving on active duty and in the reserves.

D. BACKGROUND

Due to the increased technical requirements of all military occupational specialties, the recruitment of high quality young people to fill enlisted linguist positions and the retention of enlistees who have acquired both general and technical language skills and technical intelligence skills will continue to be a major challenge for the Army over the next decade. It is well known that the number of young people in the primary target age group has been steadily decreasing. Additionally, the majority of young people of high mental aptitude display negative propensity to serve in the military, opting instead to pursue college educations. [Refs. 5,6,7: pp. 1,3,65] Thus, in

order to meet its high quality enlisted manpower needs for the late 1980s and beyond, the Army will have to compete more effectively with educational institutions for the services of the so called "college-bound" population and increase the reenlistment rates for linguist specialties.

In order to compete more effectively with colleges and universities, greater emphasis must be placed on developing, improving, and implementing competitive strategies for reaching the college-bound youth population. Since the college-bound population represents a distinct segment of the recruiting market with different goals and expectations than are found in other segments of the market, marketing strategies must be tailored towards these perceived needs.

One such strategy that has been relatively successful for the United States Army Recruiting Command (USAREC) is market segmentation. Market segmentation consists of using different marketing programs for distinct segments of the target population. This approach assumes that the market for a particular product is composed of segments of customers with different needs, and desires. Typically, using this strategy, the market is divided into homogeneous groups of individuals based on demographic, socioeconomic or psychological characteristics. This division of individuals into homogeneous clusters is often accomplished by collecting data on a representative sample of the target population and then applying some methods of analysis to this data. The distinguishing characteristics of each market segment are then examined and a marketing approach is designed to meet the specific needs and interests of each group.

In an attempt to identify common factors which affect the recruitment and retention of language qualified personnel and enlistees undergoing language training, which can be influenced by manpower planners, the Army enlisted population at the Defense Language Institute (DLI) was chosen as the target group for this study.

E. PURPOSE AND OBJECTIVES

The purpose of this study is to examine the attitudes of a representative sample of enlisted Army linguists with respect to an array of possible recruiting and retention incentives.

The general objectives of the study are to:

- Identify a list of recruiting and retention incentives.
- Develop a survey instrument that would measure the relative degree of desirability of the various incentives as perceived by Army linguists.

- Examine subsets of respondents to determine the influence on attitudes of such factors as age, sex, education level, race, ethnicity and region of the country at the time of initial enlistment.
- Compare the perceptions of enlisted Army linguists with those of non-linguists who have enlisted or are considering enlisting in the Army.

This study will identify demographic and situational variables that influence the enlistment and reenlistment decisions of U.S. Army linguists which can be influenced by the United States Army Recruiting Command, the Intelligence community, and Military Intelligence Commanders in formulating new recruiting and retention strategies.

F. ORGANIZATION OF THE STUDY

The study was conducted in two phases. Phase I, a preparatory effort for Phase II, included the identification of relevant recruiting and retention incentives, the development and design of a survey instrument, the testing and evaluation of an initial polling format, and a revision of the survey instrument. Phase II was concerned with the actual polling of the enlisted Army linguists at the Defense Language Institute campus in Monterey, California. Eight hundred seventy-four respondents were surveyed during the period April-May 1987.

Chapter II discusses the development of the data collection instrument. First, the background research interviews are discussed. Second, the choice of the sampling population is justified. Next, the development of the questions and the construction of the questionnaire are discussed. This is followed by an explanation of the survey approval process and the test of the survey instrument. Finally, the support agencies are discussed.

Chapter III provides details concerning the administration of the survey, computer support and data preparation. Next, a complete account of the demographic and background variables is provided in tabular form. Lastly, a short description of the analysis plan is given.

Chapter IV presents the statistical analysis of the enlistment and reenlistment decisions, respectively. The candidate variables are discussed and subsequently reduced to a final set of explanatory variables. The results are then compared with control groups and significant differences noted.

Chapter V summarizes the conclusions drawn from the results, citing factors which were shown to significantly affect the enlistment and reenlistment decisions of

Army linguists. Finally, recommendations for possible future research efforts conclude the thesis.

II. DATA COLLECTION

A. GENERAL

Initial research on the topic of enlistment and reenlistment decisions for linguists in the United States Army revealed several related studies addressing similar subject matter. Zimmerman and Zimmerman, in their study, "Recruitment Of College-Bound Youth Through Use Of The ACT Assessment File", examined two treatment groups which consisted of individuals who had studied a foreign language for three or more years. The purpose of their research was to determine the feasibility of using the ACT assessment file to determine which high school seniors and recent graduates were interested in foreign language training at the Defense Language Institute (DLI) [Ref. 8: p. 9]. Kaplan's "Measurement Of Student Attitudes Toward Possible Recruiting Incentives And Career Opportunities" provides information about the motivations of potential recruits of high school and college age prior to a service commitment [Ref. 6: p. 1]. The Army Research Institute's "1985 Survey Of New Recruits" provides similar information on enlistees at the beginning of their service commitment [Ref. 9: p. 10]. However, none of these studies completely examined the enlistment and reenlistment decisions of the Army's linguist population. Existing data bases did not provide the information necessary for meeting the objectives of this thesis. It was decided that the best method to ensure data accuracy and proper data application was to develop a specific questionnaire for enlistment and reenlistment decision criteria data collection.

B. BACKGROUND INTERVIEWS

Prior to designing the survey questions, interviews were conducted with current and former Army linguists, numerous representatives of the United States Army Recruiting Command (USAREC), and other government agencies in order to develop a more complete understanding of the subject and to determine the most effective method of acquiring the necessary information.

Personal interviews with former and current linguists provided much insight and revealed six major areas of dissatisfaction. The complaint listed the most often was that enlistees are allowed no choice in determining what language they will study at the Defense Language Institute (DLI). By promulgating this policy, the United States

Army is conceivably failing to take advantage of the previous language experience of new recruits. Additionally, the language training program at DLI received much criticism. Several comments were received indicating that a more balanced mix of the four basic areas of communication (speaking, listening, reading and writing) should be stressed to ensure proficiency upon graduation.

Assignments in general and initial assignments specifically should require utilization of the language as the top priority at a geographic location near the target country. Although linguists recognized that tactical intelligence units within the continental United States must be manned to perform contingency missions, the lack of "real-world training" or "live missions" was a major complaint voiced by those linguists who had been assigned to tactical units. The other prominent complaint about tactical intelligence units was the inadequacy of language maintenance programs or insufficient time allotted for language maintenance and refresher programs due to daily commitments such as details, common skill training and equipment maintenance. Lastly, the perceived lack of consistent and rational personnel management decisions regarding career assignments was listed as a major factor contributing to poor morale and reduced retention rates.

Although valuable in determining the perceived attitudes among current Army linguists, these interviews echoed the findings of the Defense Audit Service in their "Report On The Review Of The Use Of Intelligence Personnel". The report indicated that Department of Defense managers and manpower specialists have, for at least 15 years, been aware of the need to more effectively and efficiently use linguists. The report noted that the misuse of intelligence personnel existed in all Services to a certain degree, but the problem was the most prevalent in the Army [Ref. 10: p. 2]. It further stated,

"The misuse of people trained in intelligence skills has adversely affected the proficiency of the enlisted member, lowered morale and retention rates, and reduced the individual and unit preparedness of our armed forces." [Ref. 10: p. 3]

Talks with personnel from the Recruiting Operations Directorate, United States Army Recruiting Command (USAREC) and reviews of recent advertising and recruiting literature indicate that although the Army is generally meeting or exceeding quality and quantity goals across the entire enlisted population, a problem persists with enlisting and retaining linguists. The US Army Recruiting Command's non-prior service programmed requirements, actual enlistments and percentage fill for linguists for fiscal years 1985 and 1986 are shown in Table 7.

TABLE 7
 NON-PRIOR SERVICE ARMY ACCESSIONS
 FOR INTELLIGENCE SPECIALTIES REQUIRING LANGUAGE
 SKILLS

FISCAL YEAR	MOS	PROGRAMMED REQUIREMENTS	ACTUAL ENLISTMENTS	PERCENT FILL
1985 ^a	97E	267	303	113.5
	98C	434	419	96.5
	98G	1090	1079	98.9
1986 ^b	97E	125	134	107.2
	98C	309	265	85.8
	98G	1382	1092	79.0

Sources: USAREC Seabrook Reports
 a. 1 November 1985
 b. 18 November 1986.

Discussions with personnel from the Office of the Registrar at the Defense Language Institute (DLI), which is responsible for all foreign language training for the armed services, indicated that Army students accounted for approximately 63 percent of the total enlisted student population from 1984 through 1986. Of these 7233 linguists, 6517 or 90.1 percent were receiving training for one of the three principal military occupational specialties requiring language skills [Refs. 11,12,13: pp. 1-4, 1-4, 1-6]. These are Electronic Warfare and Signals Intelligence (EW/SIGINT) Voice Interceptor, 98G, EW/SIGINT Analysts, 98C, and Interrogators, 97E. Table 8 shows programmed quotas, actual students, and graduates by fiscal year and MOS. Although the most recent documented DLI attrition study was conducted in 1984, the Scheduling Section of the Registrar's Office believes the basic trends and percentages remain similar [Ref. 11: p. 23]. Summary statistics based on total Army enlisted enrollment figures are shown in Table 9.

The final agency contacted was the Army Research Institute for the Behavioral and Social Sciences (ARI). Their 1985 Survey of Army Recruits provided excellent

TABLE 8
DEFENSE LANGUAGE INSTITUTE'S ENROLLMENT STATISTICS

FISCAL YEAR	MOS	PROGRAMMED QUOTAS	ACTUAL STUDENTS	GRADUATES
1984 ^a	98C,98G	1361	1180	1030
	97E	807	687	333
1985 ^b	98C,98G	1469	1655	1139
	97E	881	789	603
1986 ^c	98C,98G	1765	1839	1478
	97E	688	667	605

Sources:

- a. DLI Annual Statistical Report, 1984
- b. DLI Annual Statistical Report, 1985
- c. DLI Annual Statistical Report, 1986.

TABLE 9
1984 DLI ATTRITION STUDY

	ACADEMIC	ADMINISTRATIVE	COMBINED
NUMBER	712	201	913
PERCENT	19.6	5.5	25.1

Source: DLI Annual Statistical Report, 1984.

research material for the development of data collection questions and a large control group with which to compare results.

C. SAMPLE SELECTION

The first step in developing the questionnaire was to determine what information was required. Information concerning attitudes, opinions, and the importance of

recruiting and reenlistment retention incentives was necessary to complete the study. The persons best qualified to answer specific questions regarding common attitudes and opinions among language qualified personnel are the linguists themselves.

The sample selected for survey was all Army linguists enrolled in language training at the Defense Language Institute (DLI) in Monterey, California during the period April-May 1987. This group was composed of both recent enlistees undergoing basic language training and careerists undergoing refresher, intermediate, and advanced language training. Surveying both the recent recruits and the careerists provided two "treatments" for the study. The combined viewpoints of both groups gave a more complete data base for analysis. Furthermore, comparing results from each group showed whether there was a substantial difference of opinion between prospective linguists and those who have served in one or more assignments.

D. QUESTION DEVELOPMENT AND SURVEY CONSTRUCTION

Survey questions had to insure that proper, adequate and useful information was obtained for analysis. Questions were developed mainly from background interviews and an extensive literature review.

The first set of survey questions attempted to gain insight into the survey population itself. Demographic questions included: age, pay grade, sex, marital status, civilian education level, race, ethnic background and size of the city and region of the country where respondents lived at the time of their initial enlistment. Additional questions regarding previous language experience, how this experience was acquired and the most common languages spoken provided valuable insight concerning the sample population.

The majority of the remaining questions dealt with enlistment incentives such as educational benefits, retirement benefits, length of service commitments, the principal reason for enlisting, and reasons for choosing a military occupational specialty requiring language training. Questions were constructed so that comparisons with selected control groups could easily be made. Finally, a set of questions regarding possible reenlistment retention incentives, assignment experience, proper utilization, language maintenance programs and plans following this enlistment conclude the survey.

All survey questions were designed to obtain the necessary information while seeking to minimize time requirements placed on survey respondents. Each question supported the proposed analysis plan. Appendix A contains a copy of the survey questionnaire.

E. SURVEY APPROVAL

Generally, all surveys which address Army issues and personnel are required to receive approval and a survey control number from the Survey Branch of the U.S. Army Soldier Support Center (National Capital Region) prior to administration. However, Army Regulation 600-46 provides permissible exceptions to this policy. Commanders are authorized to approve for administration or actually conduct surveys within their command without the approval from the Soldier Support Center [Ref. 14: p. 1]. However, professional courtesy required that a copy of the questionnaire be submitted to the Attitude and Opinion Branch, Soldier Support Center, for information purposes. This was done in November 1986. Following telephonic communication with the Defense Language Institute (DLI), a request for approval of the survey plan and a copy of the survey were submitted to LTC Gildersleeve, Commander U.S. Army Troop Command, DLI in December 1986. Final approval was granted in January 1987.

F. TEST OF SURVEY

Prior to final approval, the data collection instrument was tested. LTC Milkowski, Commander, 107th Military Intelligence Battalion, 107th Infantry Division (Light), Fort Ord, California generously provided valuable training time normally devoted for language maintenance programs and approximately 35 linguists for the test.

The responses from the test cases were motivating. Comments provided by the linguists were interesting and helpful. Only minor wording changes were made, since the survey questions appeared to be understood by all participants.

The test data was compiled and found to be appropriate for the planned analysis. There appeared to be representation across the range of numeric values. Overall, the survey would obtain the required data while imposing an acceptable time requirement on the linguists being surveyed.

G. SURVEY SUPPORT

Publication of the surveys required the support of several offices. Mrs. Dee Gullquist, Advertising Research and Analysis Division, U.S. Army Recruiting Command (USAREC), provided invaluable assistance in editing and designing the survey instrument. The USAREC printing shop printed the surveys used in the test of the survey instrument. Following grammatical changes, the Naval Postgraduate School print shop printed and collated the revised surveys and answer sheets.

III. DESCRIPTION OF DATA AND METHODOLOGY

A. RESEARCH OBJECTIVES

The objectives of this research are to examine a sample of the population of linguists to determine influences on attitudes, opinions and motivators at the time of initial enlistment and to compare these findings with appropriate control groups in an attempt to identify statistically significant differences between linguists and non-linguists. Additionally, the study investigates the relationship between six proposed reenlistment retention incentives and various reasons for dissatisfaction among the survey respondents.

B. THE LINGUIST SURVEY

1. Administration

The data to be used for this study on enlistment and reenlistment retention incentives are from the Linguist Survey administered during April-May 1987 at the Defense Language Institute in Monterey, California. During this period, the survey was administered seven times to a total of 874 linguists. Eight hundred fifty-two valid questionnaire responses were then used to create the data set.

2. Computer Support

Computational hardware resources used for the analysis included an IBM 3033 System 370 mainframe computer. The choice of software was based on current assets of the Naval Postgraduate School, as well as the power required of the statistical instrument. All analyses were performed using the SAS, version V, statistical package. [Ref. 15]

C. DATA PREPARATION

The data variables developed from the survey responses fall into three categories:

- background and demographic variables,
- enlistment criteria variables, and
- reenlistment criteria variables.

Based on this intuitive division of response variables, a SAS formatted input file was created and the variables were divided into appropriately formatted records. Each data point was manually entered into the SAS file and then verified to insure the quality of

the data entry. Several surveys included individual, unanswered questions, thus creating missing data values. SAS identifies these missing values by use of a "." . Unless otherwise specified, missing values were not included in any statistical computations.

1. Demographic and Background Variables

Data from the Linguist Survey were selected for analysis based on research models found in current literature and on guidance from the U.S. Army Recruiting Command [Refs. 16,17: pp. 6,65]. Candidate demographic variables include: (1) rank and age, (2) civilian education level and mental category codes, (3) race and gender, (4) marital status, (5) recruiting region and size of hometown at the time of initial enlistment. In addition, background and situation variables which provide a more complete representation of each participant were included for analysis. These include: (1) military occupational specialty, (2) previous language experience before enlistment, (3) time in service, (4) previous assignments to the Defense Language Institute, and (5) future plans. Table 10 gives a complete description of demographic and background characteristics of individuals in the sample.

2. Candidate Influence Variables

Questions which relate to factors thought to influence the enlistment and reenlistment decisions were identified for investigation. The survey questionnaire included several questions asking respondents to choose the most important reason for enlisting from a list of reasons that have been shown by previous research to significantly affect the enlistment decision. Participants were then asked to rank a list of twenty recruiting incentives. These incentives provide information on educational benefits, retirement benefits, military service attraction, direct and indirect compensation, and skill training offered to soldiers. The next group of questions seeks information regarding previous language assignments. Lastly, a set of questions concerning possible reenlistment retention incentives is presented and respondents are asked to rank the incentives according to the positive impact each would have on a unit's reenlistment rate.

D. METHODOLOGY

To obtain an understanding of the data set, an exploratory analysis was conducted. This initial investigation began with univariate descriptive procedures and then progressed to multivariate methods. Both graphical and non-graphical analysis of the means, variances, frequencies, distributions and correlations were included in this step.

TABLE 10
 DEMOGRAPHIC AND BACKGROUND CHARACTERISTICS
 OF RESPONDENTS TO THE 1987 LINGUIST SURVEY

(Unweighted N and Percentages)

TOTAL SAMPLE: (N = 852)

	NUMBER	PERCENT
RANK: (N = 852)		
E1-E3	443	52.00
E4-E6	384	45.07
E7-E9	25	2.93
AGE: (N = 839)		
17-21	322	37.79
22-25	246	28.87
26-29	154	18.08
30-34	80	9.39
35-39	29	3.40
Over 40	8	0.94
EDUCATION LEVEL: (N = 852)		
High School Graduate	273	32.04
Some College, No Degree	431	50.59
Bachelor or Master's Degree	148	17.37
MENTAL CATEGORY: (N = 413)		
Category I	150	36.32
Category II	240	58.11
Category IIIA	18	4.36
Category IIIB	5	1.21
RACE: (N = 852)		
Asian	6	0.70
Hispanic	27	3.17
Black	36	4.23
White	766	89.91
Other	17	1.99
MARITAL STATUS: (N = 852)		
Single, Never Married	500	58.69
Married	269	31.57
Separated	23	2.70
Divorced	55	6.46
Other	5	0.59
SEX: (N = 852)		
Male	631	74.06
Female	221	25.94

TABLE 10
 DEMOGRAPHIC AND BACKGROUND CHARACTERISTICS
 OF RESPONDENTS TO THE 1987 LINGUIST SURVEY (CONT'D.)

	NUMBER	PERCENT
RECRUITING REGION: (N = 852)		
Northeast	173	20.31
Southeast	147	17.25
Midwest	209	24.53
Southwest	112	13.15
West	211	24.77
SIZE OF CITY: (N = 849)		
Large City	141	16.57
Suburb of Large City	130	15.26
Medium-sized City	162	19.01
Suburb of Medium-sized City	59	6.92
Small City or Town	220	25.82
Rural Area	137	16.08
MOS: (N = 851)		
97E	94	11.03
98C	144	16.90
98G	534	62.68
Other	79	9.27
LANGUAGE EXPERIENCE: (N = 847)		
Yes	610	71.60
No	237	27.82
TIME IN SERVICE: (N = 850)		
0-4 Years	595	69.84
5-10 Years	218	25.59
11 or More Years	37	4.34
PRIOR ASSIGNMENT TO DLI: (N = 848)		
Yes	152	17.84
No	696	81.69
PRIOR ASSIGNMENT TO UNIT: (N = 852)		
Yes	167	19.60
No	685	80.40
FUTURE PLANS: (N = 849)		
Leave the Army for Work	160	18.78
Leave the Army for School	225	26.41
Remain in the Army	236	27.70
Undecided	228	26.76

Next both parametric and non-parametric analysis were conducted in order to test the hypothesis that rankings within demographic treatments were equal. Tests included determination of whether the respondent's rank, age, sex, race, education level, mental category, marital status, recruiting region and size of hometown had any significant influence on the respondent's decision to enlist.

More advanced statistical techniques were then conducted in an attempt to extract the most important enlistment incentives. For this data, a principal component analysis was planned to reduce the dimensionality of the problem as well as to determine the number and strength of the principle components actually present for selection.

Lastly, since many of the participant's selections provided only ordinal data, a technique which converts ordinal data to interval scaled data was applied. This technique provided a final collective ranking among all judges, for use on both enlistment and reenlistment retention incentives.

IV. ANALYSIS

A. RESEARCH SAMPLE

Prior to administration of the survey, personnel from the Office of the Registrar at the Defense Language Institute had estimated that between 1000-1200 Army students were enrolled in training at any given time. With a sample this large, it was thought that the participant's responses would generally be uniformly distributed across the ranges of the demographic and background variables. Following exploratory analysis of the data set, it was determined that due to insufficient numbers of respondents in some categories the data set would have to be restricted with respect to certain demographic variables.

Most of the survey respondents have less than ten years time in service: 70.00 percent have between 0-4 years time in service, and 25.65 percent have between 5-10 years time in service. The remaining 4.35 percent which have 11 or more years in service was considered too small to yield significant results and was eliminated during subsequent analysis using the variable "STATUS". The ranges of several additional variables which cognitively appear to be related to the variable "STATUS" were also reduced due to insufficient numbers of responses. These variables were: "RANK", "AGE", and "MARSTAT". Only 2.93 percent of the sample population indicated their rank was E7-E9. Similarly, the age groups 35-39 and over 40 comprised 3.46 percent and 0.94 percent of the sample, respectively. The variable "MARSTAT" represents the marital status of a survey respondent. Due to the small percentages of responses in the categories of separated, 2.70 percent; divorced, 6.46 percent; and other, 0.59 percent; subsequent analysis was performed for the variable "MARSTAT" using the remaining two categories of single, never married and married.

Of the sample population, 89.91 percent of the participants classified themselves as white. The distribution of the remaining respondents was: Asian, 0.70 percent; Hispanic, 3.17 percent; Black, 4.23 percent; and other, 1.99 percent. The predominant classification of respondents as white precluded any statistical analysis by the variable "RACE".

In addition to the usual background information obtained, survey participants were asked to provide their names and social security numbers. By obtaining this

information, the variable "MENTLCAT" which provides the respondent's mental category code or Armed Forces Qualification Test (AFQT) category classification was obtained from the Defense Manpower Data Center (DMDC) in Monterey, California. Of the 852 valid survey responses used to compile the data set, 413 individuals provided information sufficient to obtain a match with the DMDC data base. All 413 of the linguists are classified in categories I-III B. However, only 4.36 percent are in category III A, and 1.21 percent are in category III B. Therefore, subsequent analysis for the variable "MENTLCAT" was performed only for AFQT category I and II respondents.

The analysis was performed using the restricted data set which consists of the remaining 705 survey respondents.

B. ANALYSIS TECHNIQUES

1. Constructing Interval Scales From Ordinal Data

A frequent procedure for eliciting expert, or at least experienced, opinions from a distinct segment of the population is that of asking them to provide ordinal ratings of various instances of a specific property or effectiveness measure of a system. By combining this ordinal information furnished by the survey respondents with a model of their behavior, an interval scale for the rated instances may be obtained. This technique then provides a collective ranking of the instances by all respondents.

There are several ways to approach interval scale development from ordinal data. Models vary, depending upon the assumptions made. The assumptions used in the analysis of the Linguist Survey data follow.

- Respondents cannot directly express their feelings X_j about the scale value of instance j , but they are able to rank instances in accordance with their feelings.
- Over the population of respondents, X_j is a normally distributed random variable.
- All instances possess the same variance for X_j , $\sigma_j^2 = \sigma^2$.
- The correlation coefficient between any pair of instances is the same, $\rho_{ij} = \rho$.

From these assumptions the following deductions may be made. Let i and j be two instances. A participant's feeling about the amount of the property possessed by instance i is a normally distributed random variable X_i with mean S_i and variance σ^2 , and a participant's feeling about the amount of the property possessed by instance j is a normally distributed random variable X_j with mean S_j and variance σ^2 . Since the difference between two normally distributed random variables is itself a normally

distributed random variable, $(X_i - X_j)$ is normal with mean $S_i - S_j$ and variance $\sigma^2 + \sigma^2 - 2\rho\sigma^2 = 2\sigma^2(1-\rho)$ where ρ is the correlation coefficient. The probability that a respondent rates instance j as possessing more of the property than instance i may be expressed as $\Pr(X_j > X_i)$. [Ref. 18: p. 4] Operating on this inequality yields:

$$\begin{aligned} \Pr(X_j > X_i) &= \Pr(0 > X_i - X_j) \\ &= \Pr(-(S_i - S_j) > (X_i - X_j) - (S_i - S_j)) \\ &= \Pr\left(\frac{S_j - S_i}{\sqrt{(2\sigma^2(1-\rho))}} > \frac{(X_i - X_j) - (S_i - S_j)}{\sqrt{(2\sigma^2(1-\rho))}}\right) \end{aligned}$$

The right hand side of the final inequality above is a normally distributed random variable with a mean of zero and a variance of one. Thus the

$$\Pr(X_j > X_i) = \Pr\left(\frac{S_j - S_i}{\sqrt{(2\sigma^2(1-\rho))}} > z\right), \quad (\text{eqn 4.1})$$

where z is the standard normal deviate.

An estimate of the left-hand side of equation 4.1 may be obtained from the ranking information furnished by the respondents. The proportion of participants who rank instance j as possessing more of the valued property than instance i may be used as an estimate of $\Pr(X_j > X_i)$.

Now, let p_{ij} be the proportion of respondents who rate instance j as possessing more of the property to be scaled than instance i . Let z_{ij} be the value of the standard normal deviate (from the Normal Table) associated with p_{ij} , that is, z_{ij} is the value of z for which the leftward area under the normal $N(0,1)$ curve is p_{ij} .

Now, from equation 4.1, estimating equations of the form

$$z_{ij} = \frac{S_j - S_i}{\sqrt{(2\sigma^2(1-\rho))}} \quad (\text{eqn 4.2})$$

are formed with one of these equations occurring for each pair i,j . In equation 4.2, the left-hand z_{ij} values come from the participants' rankings, being the standard normal deviate associated with the proportion of respondents who ranked instance j as possessing more of the property than instance i . On the right-hand side of equation 4.2, $S_j - S_i$, is the difference in two of the scale values required.

Since scale values of S_i and S_j are sought on an interval scale whose unit and origin are unspecified, the freedom to specify unit and origin will greatly simplify the mathematical development. Reserving specification of the scale's origin until later, a simpler form of equation 4.2 is obtained by specifying a unit for the scale such that

$$\sqrt{(2\sigma^2(1-\rho))} = 1. \quad (\text{eqn 4.3})$$

The scaling problem now stands as follows. There are n instances to be scaled which implies that S_1, S_2, \dots, S_n scale values are to be determined. Therefore, an $n \times n$ array of z_{ij} values which came from the participants' rankings is obtained.

It is necessary to point out that for the z_{ij} array, if all respondents rank instance a as possessing more of the valued property than instance b , then $p_{ba} = 1.0$, $p_{ab} = 0$, and thus $z_{ba} = \infty$ and $z_{ab} = -\infty$. To avoid numerical bias by a small number of respondents, z_{ij} values corresponding to $p_{ij} > 0.98$ and $p_{ij} < 0.02$ are omitted from the z_{ij} array. Thus, if any, there will be an even number of "holes" in the z_{ij} array, symmetric about the diagonal. If there are no "holes" in the z_{ij} array, the column sums may be used as the scale values. [Ref. 18: pp. 7-11]

2. R x C Contingency Tables

The chi-square test for differences in probabilities was used to test the hypothesis that all of the probabilities in the same column are equal and in this way determine which enlistment and reenlistment criteria variables were statistically related to the demographic and background variables. Table 11 presents an example of a 2 x 2 crosstabulation for the demographic variables "RANK" by "MARSTAT". Interpretation of the information presented in Table 11 is as follows:

- 72.80 percent of all single respondents report being in the ranks of E1-E3, and 27.20 percent of the single respondents report being in the ranks of E4-E6. Similarly, 32.16 percent of the married respondents report being in the ranks of E1-E3, and 67.84 percent report being in the ranks of E4-E6. The population percentages of all responses categorize 59.72 percent of the survey respondents as E1-E3 and 40.28 percent as E4-E6.

TABLE 11
TABLE OF RANK BY MARSTAT

N =	SINGLE 478	MARRIED 227	TOTAL 705
E1-E3	72.80	32.16	59.72
E4-E6	27.20	67.84	40.28
CHI-SQUARE 105.94 DF = 1 PROB = .0001			

- The chi-square statistic associated with the table is a measure of the tested relationship between marital status, "MARSTAT", and the rank of the respondent, "RANK". The chi-square value 105.94 with 1 degree of freedom yields the level of significance .0001. This is considered to be highly significant.
- The Pearson's chi-square statistic is reported for each table in the study. The chi-square statistic is a measure of the relationship between the enlistment or reenlistment criteria variable under examination and the crossing variable. In addition to the chi-square statistic, each contingency table also presents the associated degrees of freedom, DF, and the significance level or probability, abbreviated as PROB, that a significant relationship exists between the variable being examined and the crossing variable. As a guide, it is suggested that only relationships with chi-square probabilities of .05 or less be interpreted as statistically significant. The chi-square statistic then indicates which crossing variables have detectable differences in assignment probabilities within each column or treatment. The statistic does not say anything about the form of the relationship. If the significance level is less than .05 it implies that there is a reliable difference between the treatment groups; it does not imply that each group differs from every other group.

3. The Friedman Test

The Friedman test is a multisample extension of the sign test and may be used when analyzing several related samples. The problem of several related samples often arises in an experiment that is designed to detect differences in k possibly different treatments. The observations are arranged in blocks, which are groups of k experimental units similar to each other in some important respect. The k experimental units are assigned randomly to the k treatments, so that each treatment is administered once and only once within each block. In this way, the treatments may be

compared with each other without the unwanted block effects confusing the results of the experiment. The number of blocks is denoted by b . This experimental arrangement is called a randomized complete block design.

The procedures for utilization of the Friedman test are as follows:

- The data consists of b mutually independent k -variate random vectors $(X_{i1}, X_{i2}, \dots, X_{ik})$, called b blocks, $i = 1, 2, \dots, b$. The random variable X_{ij} is in block i and is associated with treatment j . The b blocks are arranged as follows

BLOCK	TREATMENT			
	1	2	...	k
1	X_{11}	X_{12}	...	X_{1k}
2	X_{21}	X_{22}	...	X_{2k}
...
b	X_{b1}	X_{b2}	...	X_{bk}

Let $R(X_{ij})$ be the rank, from 1 to k , assigned to X_{ij} within each block, or row, i . That is, for block i the random variables $X_{i1}, X_{i2}, \dots, X_{ik}$ are compared with each other, and the rank 1 is assigned to the smallest observed value, the rank two to the second smallest and so on to rank k , which is assigned to the largest observation in block i . Ranks are assigned for all of the b blocks. Average ranks are used in case of ties. Next, sum the ranks for each treatment to obtain R_j where:

$$R_j = \sum_{i=1}^b R(X_{ij}) \quad (\text{eqn 4.4})$$

for $j = 1, 2, \dots, k$.

- The following assumptions are required for the Friedman test.
 1. The b k -variate random vectors are mutually independent.
 2. Within each block, the observations may be ranked according to some criteria of interest.
- The hypothesis to be tested is:

H_0 : Each ranking of the random variables within a block is equally likely.

H_1 : At least one of the treatments tends to yield larger observed rank values than at least one other treatment.
- The test statistic is

$$T_2 = \frac{(b-1)(B_2 - bk(k+1)^2 / 4)}{A_2 - B_2}, \text{ where} \quad (\text{eqn 4.5})$$

$$A_2 = \sum_{i=1}^b \sum_{j=1}^k (R_{ij})^2, \text{ and} \quad (\text{eqn 4.6})$$

$$B_2 = 1/b \sum_{j=1}^k R_j^2. \quad (\text{eqn 4.7})$$

- The decision rule is to reject the null hypothesis at level α if T_2 exceeds the $1-\alpha$ quantile of the F distribution with $k_1 = k-1$ and $K_2 = (b-1)(k-1)$ degrees of freedom.
- If the null hypothesis is rejected, the following method may be used for comparing individual treatments. Treatments i and j are considered different if the following inequality is satisfied.

$$|R_j - R_i| > t_{1-\alpha/2} \sqrt{\left(\frac{2b(A_2 - B_2)}{(b-1)(k-1)} \right)}, \quad (\text{eqn 4.8})$$

where R_i , R_j , A_2 , and B_2 were previously computed and where $t_{1-\alpha/2}$ is the $1-\alpha/2$ quantile of the t distribution with $(b-1)(k-1)$ degrees of freedom. The value for α is the same one used above. [Ref. 19: pp. 299-303]

C. ENLISTMENT CRITERIA VARIABLES

1. Questions

Analysis of the following enlistment variables and comparisons with appropriate control groups detected significant differences between the population of linguists and the total Army population. Question identification, the name of the enlistment criteria variables, and a brief description follow. The survey questionnaire may be found in Appendix A.

- Question #12. The variable "LANGEXP" indicates whether a respondent possessed any foreign language capability before enlistment.
- Question #17.1. The variable "EDBENFIT" indicates reported participation in a contributory education plan such as the Veteran's Educational Assistance Program (VEAP) or the New GI Bill.

- Question #18. The variable "RET" indicates whether the retirement system in effect at the time of enlistment was a major reason for the enlistment decision.
- Question #19. The variable "IMREASON" provides the survey respondent's most important reason for his or her decision to enlist.
- Question #20. The variable "DLIOPT" indicates the respondent's most important reason for choosing an enlistment option requiring language training.
- Question #21. The variables "X1-X20" provide the survey respondent's ranking of twenty enlistment incentives and career opportunities.

2. Significant Differences

TABLE 12
SIGNIFICANCE LEVELS OF ENLISTMENT VARIABLES
BY DEMOGRAPHIC AND BACKGROUND VARIABLES.¹

	LANG EXP	ED BENFIT	RET	IM REASON	DLI OPT
RANK	.0023	.0001		.0001	.0002
AGE	.0410	.0001		(.0001)	(.0001)
EDLEVEL		.0001		(.0001)	
MENTL CAT		.0014			
SEX	.0093		.0001		
MARSTAT	.0157	.0001		.0002	
REGION		.0394			
SZCITY					
LANGEXP					
LANGSKLS	.0414			(.0097)	.0015
DLIEXP				(.0408)	.0052
MOS	.0015			(.0249)	.0001
STATUS	.0180	.0005		(.0003)	.0001
PLANS		.0001	.0001	(.0001)	.0001

¹Cochran (1952) states that if any of the expected cell counts, E_{ij} , are small, the approximation to the significance level α may be poor. Specifically, if any of the E_{ij} is less than 1.0, or if 20% of the E_{ij} are less than 5, then the significance level may be suspect. This seems to be overly conservative according to an article by Roscoe and Byars (1971). If the rows and columns are not too small, the E_{ij} s may be as small as 1.0 without endangering the validity of the test. [Ref. 19: p. 156] For significance levels in Table 12, calculations indicate the E_{ij} are large enough to interpret the findings as statistically significant, and the chi-square test for probabilities as valid.

a. Previous Language Experience, "LANGEXP", (Appendix B, Table B-1)

When asked if they possessed any foreign language capability before enlisting, 511 of 705 respondents or 72.48 percent answered in the affirmative. This is comparable to the Army Research Institute's (ARI) 1985 Survey of New Recruits which reported that 71.2 percent of the respondents in AFQT categories I and II had taken foreign language courses in high school. Although the ARI survey indicated no significant differences for single and married respondents, 75.59 percent of the single linguists and 67.11 percent of the married linguists surveyed indicated that they possessed previous language experience. There were statistically significant differences for both sample groups when examined by the variable "SEX". ARI reported that 47.5 percent of the males and 68.1 percent of the females had taken language courses in high school compared to 70.74 percent of the male linguists and 80.45 percent of the female linguists who indicated previous language experience.

More of the lower rank personnel, E1-E3, indicated that they possessed language experience than the higher rank personnel, E4-E6, 77.22 percent to 66.78 percent, respectively. Also, personnel with less time in service, represented by the variable "STATUS", tend to possess more language experience, with 75.09 percent of the respondents with four or less years time in service indicating language experience, compared to 65.63 percent of the respondents with between five and ten years time in service. Additionally, the younger the age of the survey participant, the higher the percentage who previously possessed language experience. The 1985 ARI survey reported the opposite trend.

The trend among the linguist sample towards the youthful and inexperienced possessing greater language experience was contradicted when the variable "LANGSKLS", which indicates whether an individual has previously worked as a linguist, was compared with the variable "LANGEXP". Of the personnel who had previously served as linguists, 81.13 percent indicated they possessed some language capability prior to enlisting compared to 71.58 percent of the personnel who had never worked as linguists.

The ARI survey reported no significant differences among the treatment groups when respondents possessing previous language experience were examined by recruiting region and the size of the recruit's hometown at initial enlistment. No differences were found for the linguists surveyed for the variable "REGION" or "SZCITY".

Lastly, respondents who indicated that they possessed some language experience before enlisting were queried to determine how the capability was acquired. Most of the survey respondents, 61.10 percent, indicated that they had studied a foreign language in high school. Of these, 90.92 percent listed French, Spanish, and German as the languages studied. The ARI survey reported that 51.6 percent of the US Army Reserve accessions had studied a foreign language in high school. Of this group, 91.27 percent indicated that they studied French, Spanish, and German. [Refs. 20,21: pp. 220-221, 220-221]

b. Participation in Contributory Education Programs, "EDBENFIT", (Appendix B, Table B-2)

Depending on the date that respondents signed their enlistment contracts, they were eligible for certain educational benefits. Only the group of respondents who were eligible for the Veteran's Educational Assistance Program (VEAP) and the New GI Bill were considered for further analysis. Both the VEAP and the New GI Bill are contributory educational programs, meaning that the recipient of the benefit must agree to invest part of his or her earnings in order to receive any future educational assistance. Recruits are asked to decide if they want to participate shortly after they enlist on active duty so that allotments can be taken out of their monthly pay.

Among the survey respondents, participation trends again appear to be related to youth and inexperience. As the rank, age, time in service, and education level of the respondent increases, the likelihood of participating in a contributory educational benefit plan decreases. When analyzed by education level, the ARI survey reported that high school graduates participated at a rate of 60.6 percent as compared to 51.0 percent for those respondents who had attended post-secondary schools. The trend was similar for the linguists surveyed, although percentages were much higher, 94.40 percent for high school graduates and 81.76 percent for respondents who have attended post-secondary schools. The surveys report significance levels of $\alpha = .0000$ and $\alpha = .0001$, respectively. The significance level for the variable "AGE" was $\alpha = .0001$ for both surveys. Again, percentages for participation were much higher for the linguists surveyed than for the new recruit population. This can possibly be attributed to the fact that all the linguists are in AFQT categories I and II. The percentages for AFQT category I and II participants were much closer for the two surveys, although the percentages for the linguists surveyed were still higher, 88.06 percent to 71.4 percent. Significant differences in participation were noted for AFQT

categories for both surveys, but in the linguist survey the participation rate for category II respondents was higher than that for category I respondents, 90.20 percent to 80.34 percent. No explanation is apparent for this phenomena which contradicts the findings reported in the ARI survey.

Significant differences were also detected for the variable "MARSTAT". Single respondents indicated that they participated at a rate of 89.96 percent as compared to a rate of 78.41 percent for married respondents. The ARI new recruit population was not analyzed for differences by marital status.

The ARI survey found no significant difference in participation when the new recruit population was examined by the respondent's recruiting region. Participation percentages varied between a low of 51.5 percent for the Southeast to a high of 58.9 percent for the Midwest. The linguist surveyed reported the following participation rates; Northeast, 84.62; Southeast, 84.68; Midwest, 88.27; Southwest, 77.89; and West, 90.96.

When participation was analyzed by the variable "PLANS", which indicates the linguist's future plans following this enlistment, a significance level of $\alpha = .0001$ was detected. Those individuals stating that they plan to leave the service to continue their studies in either college or a vocational/technical program reported a 95.77 percent participation rate. The remaining treatment groups and participation rates were: leave the Army to seek employment, 80.00 percent; remain in the Army, 81.82 percent; and undecided, 83.68 percent.

Lastly, the ARI survey reported that participation in contributory educational programs was significantly affected by the gender of the respondent. The significance level reported was $\alpha = .0440$. For the Linguist Survey, no statistically significant differences were found between the males and females surveyed. The percentage of females participating was 86.26, and the percentage of males participating was 86.19. [Refs. 22,23: pp. 66-67, 66-67]

c. Retirement System in Effect at Enlistment, "RET", (Appendix B, Table B-3)

The ARI survey and the Linguist Survey both indicate that male respondents are much more likely to say that military retirement benefits were very important to the enlistment decision. ARI reported that 31.3 percent of the males and 22.8 percent of the females indicated that retirement benefits were a major reason for their decision to join the service. Percentages for linguists surveyed indicate 21.37 percent of the males and only 8.29 percent of the females thought retirement benefits

were very important when they enlisted. These percentages for the linguist population, which are all classified in AFQT categories I and II, should also be compared with 27.8 percent for males and 18.5 percent for females in AFQT categories I and II for the ARI survey [Ref. 24: p. 135]. It is possible that females have lower percentages because they are more likely to be thinking of leaving the service and considering other potential careers, since generally there are more opportunities for men in the Army than there are for women.

When the variable "PLANS" and "RET" were compared, 33.33 percent of the respondents who indicated they are planning to remain in the Army stated that retirement benefits were a major reason for their enlistment decision. Of the remaining treatments, 11.11 percent of those indicating they would leave service to seek employment, 10.80 percent of those indicating they would leave the service to continue their education, and 17.89 percent of those undecided said that the retirement system was a major reason for their decision to join the service. [Refs. 22,23: pp. 150-151, 150-151]

d. Most Important Reason for Enlisting, "IMREASON", (Appendix B, Table B-4)

Each respondent was asked to indicate the single most important reason for enlisting. Using the technique previously described for constructing interval scales from ordinal data, the information was tabulated and placed in a frequency array. The f_{ij} array is

f_{ij}	a	b	c	d	e	f	g	h	i	j	k
a	---	95	38	75	10	14	130	109	12	140	17
b	65	---	38	75	10	14	130	109	12	140	17
c	65	95	---	75	10	14	130	109	12	140	17
d	65	95	38	---	10	14	130	109	12	140	17
e	65	95	38	75	---	14	130	109	12	140	17
f	65	95	38	75	10	---	130	109	12	140	17
g	65	95	38	75	10	14	----	109	12	140	17
h	65	95	38	75	10	14	130	----	12	140	17
i	65	95	38	75	10	14	130	109	---	140	17
j	65	95	38	75	10	14	130	109	12	----	17
k	65	95	38	75	10	14	130	109	12	140	---

where the expression $f_{ab} = 111$ represents the total number of times that the respondents indicated that establishing one's independence, b, was ranked above unemployed or lack of adequate job prospects, a.

Since no values in the p_{ij} array are outside the established limits, less than .02 or greater than .98, comparisons may be made between all pairs of instances, and the z_{ij} array will have no "holes".

Since there are no empty cells in the z_{ij} array, the column sums are used as the scale values for the enlistment reasons. The column sums are

j	a	b	c	d	e	f	g	h	i	j	k
$\sum z_{ij}$	2.626	5.087	-0.818	3.585	-9.228	-7.546	7.105	6.019	-5.574	7.098	-4.459
n_{ij}	11	11	11	11	11	11	11	11	11	11	11

The scale values were linearly transformed so that all scale values would be non-negative, the maximum scale value would be ten (10), and the minimum scale value would be one (1). Performing this transformation, we obtain these new scale values for the respective enlistment reasons:

Scale _a	=	7.534
Scale _b	=	8.885
Scale _c	=	5.636
Scale _d	=	8.061
Scale _e	=	1.000
Scale _f	=	1.927
Scale _g	=	10.000
Scale _h	=	9.400
Scale _i	=	3.012
Scale _j	=	9.994
Scale _k	=	3.360

The three highest rated reasons for the enlistment decision for both the ARI survey and the Linguist Survey were:

- a chance to better myself,
- to earn money for a college education, and
- to receive training in a skill.

When crosstabulations were performed using the demographic and background variables for the linguist sample population, significant differences were noted for nine of the fourteen variables. Two contradictions were found between the ARI and Linguist Surveys. These are for the variables "SEX" and "REGION". The ARI survey reported differences between the most important reasons for males and females at a significance level $\alpha = .0000$. There was not a significant difference for the male and female respondents who completed the Linguist Survey as evidenced by the significance level $\alpha = .0844$.

Although the ARI survey indicated differences were significant between recruiting regions at $\alpha = .001$, this was not the case for linguists surveyed. The ARI survey reported that the top three reasons remained the same for all five Army Recruiting Battalions, only the order of preference changed. For the linguists surveyed, the additional reason, "to establish my own independence", was listed among the top three reasons in several recruiting regions. [Refs. 22,23: pp. 164-165, 164-165]

e. Most Important Reason for Enlisting as a Linguist, "DLIOPT", (Appendix B, Table B-5)

Survey respondents were asked to choose the single most important reason for deciding to enlist as a linguist. Again the technique for converting ordinal data into interval scaled data was employed using the tabulated information. The f_{ij} array is

f_{ij}	a	b	c	d	e	f
a	---	27	276	82	193	81
b	45	---	276	82	193	81
c	45	27	---	82	193	81
d	45	27	276	---	193	81
e	45	27	276	82	---	81
f	45	27	276	82	193	---

Again, since there are no empty cells in the z_{ij} array, the column sums are used as the scale values. The column sums are

j	a	b	c	d	e	f
$\sum z_{ij}$	-1.686	-4.141	4.153	-0.209	2.871	-0.246
n_{ij}	6	6	6	6	6	6

The scale values were linearly transformed to:

Scale _a	=	3.663
Scale _b	=	1.000
Scale _c	=	10.000
Scale _d	=	5.265
Scale _e	=	8.612
Scale _f	=	5.226

This question was not a part of the ARI survey, so no comparisons are possible. However, significant differences were noted for seven of the fourteen demographic and background variables. Although the percentages differ among treatments within each variable, formal language training and skill training were ranked first and second for the variables "RANK", "AGE", "STATUS", and "PLANS". It appears that the younger respondents rate "BONUS" and "OTHER" as the third and fourth most important reasons, whereas the older respondents reverse the order of their reasons. The trend was very similar for the variable "DLIEXP" and "LANGSKLS". Again, the enlistment bonus appeared more appealing to the younger respondents and was ranked second for those who have never been previously assigned to DLI.

The greatest differences among treatment groups was found for the variable "MOS". All of the Military Intelligence military occupational specialties ranked "formal language training" and "skill training" as the first and second most important reasons. Non-intelligence specialties rated "other" and "formal language training" equally as the number one choice. The MOS for interrogators, 97E, listed the enlistment bonus as the least significant of all the reasons provided. This is probably due to the fact that the bonus for 97Es decreased from \$4000 in April, 1985 to \$2500 in December, 1985 to \$1500 in August, 1986 and was removed from the list of specialties authorized an enlistment bonus in November, 1986 [Ref. 25]. Over this same time period, the enlistment bonuses authorized for 98Cs and 98Gs varied between \$6000 and \$8000 [Ref. 26: p. 1].

f. Enlistment Incentives and Career Opportunities, "X1-X20" (Appendix B, Table B-6)

Twenty possible enlistment incentives and career opportunities were offered to the Linguist Survey respondents for examination. They were then asked to compare each incentive/opportunity with a given reference item and indicate how much more or less desirable the incentives/opportunities were when compared to the reference item. In this way, the respondents' opinions were used to construct an interval scaled ranking of all incentives and opportunities.

The incentives and opportunities included on the Linguist Survey were extracted from a list of 42 enlistment incentives and career opportunities found in a study performed for the US Army Recruiting Command. This report, performed by Robert Kaplan, focused on the attitudes and opinions of the post-secondary school population through the use of community/junior college and trade/technical school students as survey respondents. In this way, an attempt was made to determine recruiting incentives that would appeal to the older target population rather than the soon to be and recent high school graduates more often used in recruiting studies. [Ref. 6: p. 4] Due to the extensive list of incentives and the age proximity of the survey's respondents, Kaplan's study was used as the control group for this question in the Linguist Survey.

The relative rankings and desirability weights, which are ranked scale values, for both surveys are shown in Table 13. For ease of comparison, the relative desirability weights for the Linguist Survey have been linearly transformed to the same scale used in the USAREC study. The rankings and desirability weights reflect the perceptions and attitudes of the entire respondent pool toward the 20 selected enlistment incentives and career opportunities.

During survey construction, the enlistment incentives and career opportunities were assigned to generic groupings. These groupings and the included item identifications are as follows.

- Duty Location (p, s)
- Pay and Allowances, and Benefits (a, e, g, k)
- Job Training and Educational Benefits (j, l, m, q, r, t)
- Career Field (b, h)
- Military Service Attraction (c, d, f, i, n, o)

TABLE 13
RELATIVE DESIRABILITY OF POSSIBLE
INCENTIVES AND CAREER OPPORTUNITIES

Relative Rank	Relative Weight	Kaplan's Weight	Incentive/Opportunity
1	21.93	7.4	Training and work experience in a job skill that would be useful later in civilian life
2	21.23	13.7	The opportunity to take college courses during off-duty hours with the Army paying 75% of the tuition
3	20.66	4.7	Enlistment bonus for advanced career training and experience in chosen field
4	19.61	5.3	Funds to continue college based on length of enlistment
5	17.95	5.3	The opportunity to choose your career field
6	17.31	7.7	The opportunity for gaining leadership training and experience
7	17.12	5.4	Service to your country
8	17.06	8.9	Free medical and dental care for you and your family while in service
9	16.97	10.5	Guaranteed retirement benefits based on length of service
10	16.43	9.7	Guaranteed monthly salary plus housing and food allowances which increase with length of service
11	16.34	9.7	In service training programs designed to ensure acceptability of credits for civilian education and employment
12	15.40	15.4	Guaranteed choice of duty station
13	12.52	8.1	The opportunity to become a commissioned officer
14	10.58	13.8	Low interest loans while in service and after service for buying a home
15	10.24	2.7	Travel and live in different places
16	10.22	1.7	Personal challenge of being in the Army
17	8.73	7.5	Delayed repayment of student loans
18	8.61	7.9	Husband and wife enlistment, technical training and co-location programs
19	6.50	4.0	The opportunity to train and have a part-time job in the Army Reserve while remaining a civilian
20	1.00	1.0	Service in a combat-type unit

As a generic group, Career Field was selected by respondents as being the most desirable. However, training and work experience, item t, and the opportunity to take college courses during non-duty hours, item q, were ranked first and second individually. Overall, Job Training and Educational Benefits was the second most desirable group of incentives. Delayed repayment of student loans, item r, and the opportunity to train in the US Army Reserves were rated well below the average level of desirability.

Pay and Allowances, and Benefits was the next most desirable group of incentives. This group includes the almost universally understood benefits of military service such as guaranteed salary, item a, medical benefits, item s, and guaranteed retirement benefits, item k, which were ranked above the average desirability level and Veteran's Administration home loans which was rated considerably below the average desirability level.

Duty Location was rated as the fourth most desirable generic group. This was in direct contrast with Kaplan's study which reported that Duty Location was the most desirable group of incentives indicating a desire for stability among the respondents. The incentive, "guaranteed choice of duty station", was ranked #1 in Kaplan's study but was ranked #12 by the linguists surveyed.

Military Service Attraction, as a group, received the lowest overall rating for both surveys. However, service to your country, item f, and the opportunity for gaining leadership training and experience, item n, were both rated above the overall average level of desirability. The opportunity to become a commissioned officer, item o, was rated below average. [Ref. 6: pp. 7-10]

When dealing with multidimensional data, the number of measurements for each subject is sometimes so large that analysis becomes cumbersome. In some cases, multivariate procedures may be used to reduce the dimensionality of the problem. The motivation for reducing the dimensionality when analyzing multiresponse data is a balance between attainment of parsimony for understanding and interpretation and the retention of sufficient information for adequate analysis [Ref. 27: p. 421]. Two such data reduction techniques, principal components analysis, and variable clustering based on correlations, were used in an attempt to eliminate redundancies in the original set of variables and thereby, more concisely express the enlistment incentives and career opportunities which appeal to the linguist population.

Using principal components analysis, six composite variables accounted for 66.51 percent of the total variability in the original set of 20 enlistment incentives. The coefficients generated by the SAS statistical package are shown in Table 14.

TABLE 14
PRINCIPAL COMPONENTS ANALYSIS
LOADING COEFFICIENTS

	EIGENVECTORS					
	PRIN1	PRIN2	PRIN3	PRIN4	PRIN5	PRIN6
X1	0.262978	-.174765	-.126770	-.168285	-.179594	0.279683
X2	0.259779	-.167116	-.145666	-.027214	-.240647	0.095066
X3	0.211413	-.090117	0.016411	-.281352	-.448839	0.164273
X4	0.031900	-.018540	-.031239	0.031988	-.114518	0.522568
X5	0.111310	-.061936	0.443964	0.476200	-.090427	0.210456
X6	0.214463	0.428072	-.006593	0.023074	-.143183	0.008234
X7	0.286490	-.178278	-.360473	0.232474	0.137872	0.052908
X8	0.298163	-.184203	-.264476	0.244198	0.083474	-.126312
X9	0.193527	0.466052	-.147082	0.107506	-.043658	-.003184
X10	0.248708	-.122265	-.333935	0.176890	0.291498	-.072833
X11	0.284104	-.118641	0.078167	-.099205	-.018798	0.080357
X12	0.195313	-.096179	0.288346	-.282147	-.007936	0.024483
X13	0.124858	-.074587	0.113317	-.049795	-.220251	-.658608
X14	0.227086	0.456054	0.001525	0.016535	-.118617	-.008957
X15	0.217155	0.432698	0.022996	-.074585	0.177777	0.033424
X16	0.161961	-.066899	0.473887	0.436648	0.076032	0.054652
X17	0.312707	-.079422	0.172856	0.044326	-.038477	-.244196
X18	0.276287	-.031338	0.103361	-.122980	0.229289	-.061225
X19	0.113231	0.014026	0.178278	-.321725	0.630615	0.166493
X20	0.206460	-.109776	0.178169	-.312908	0.040244	-.090248

The first composite variable, designated as PRIN1, may be expressed mathematically in the form:

$$\text{PRIN1} = 0.262978X_1 + 0.259779X_2 + \dots + 0.206460X_{20} \quad (\text{eqn 4.9})$$

The coefficients, or loadings, represent the correlation of the composite variable PRIN1 with the original variables. Typically, the composite variables are interpreted on the basis of those variables having strong loading patterns. Examination of the six composite variables reveals no strong loadings and consequently no simple interpretation of the composite variables is apparent.

The variable clustering technique was then used to divide the enlistment incentive variables, "X1-X20", into non-overlapping clusters. Often, a given number of clusters will not explain as much variance as the same number of principal components, but the clusters are more easily interpreted [Ref. 15: p. 802]. The SAS VARCLUS procedure separated the set of original variables into five clusters. The proportion of the total variability explained by the new clusters was .5827, or 58.27 percent. By comparison, the first five principal components obtained by the SAS PRINCOMP procedure explained 61.38 percent of the total variance. The clusters formed by the VARCLUS procedure are shown in Table 15.

The cluster listing provides the variables in each cluster and two squared correlations for each variable in the cluster. The column labeled OWN CLUSTER gives the squared correlation of the variable with its own cluster component. This value should be higher than the squared correlations with any other cluster. The larger the squared correlations, the better. Clusters 2 and 4 appear to be well defined. The column labeled NEXT HIGHEST contains the next highest squared correlation of the variable with a cluster component other than its own. This value should be low if the clusters are well separated. This appears to be the case for all five clusters. The column headed $1-R^{**2}$ RATIO provides the ratio of one minus the OWN CLUSTER R^2 to one minus the NEXT HIGHEST R^2 . A small $1-R^{**2}$ RATIO indicates well defined, disjoint clustering. [Ref. 15: p. 808] For the enlistment incentives and career opportunities, the magnitudes of the $1-R^{**2}$ RATIOS for clusters 1, 3, and 5 indicate that the clusters are not well defined. Examination of the incentives placed in these clusters shows that clusters 1 and 5 are conglomerate clusters composed of various training, compensation, and benefit packages, while cluster 3 is composed solely of training opportunities. The inability of the VARCLUS procedure to produce disjoint clusters confounds any further explanation of the original set of variables by division into composite groupings.

The previously noted problems with both the principal components analysis and the variable clustering techniques indicate that the dimensionality of the original

TABLE 15
VARIABLE CLUSTERS

TOTAL VARIATION EXPLAINED = 11.65322
PROPORTION = 0.582661

CLUSTER	VARIABLE	R-SQUARED WITH		R**2 RATIO
		OWN CLUSTER	NEXT HIGHEST	
CLUSTER 1	X7	0.7486	0.3050	0.4074
	X8	0.7503	0.2645	0.3526
	X10	0.6722	0.1337	0.1989
	X18	0.3543	0.2445	0.6902
CLUSTER 2	X6	0.8320	0.0352	0.0423
	X9	0.9038	0.0337	0.0372
	X14	0.9372	0.0432	0.0461
	X15	0.8191	0.0517	0.0631
CLUSTER 3	X12	0.3920	0.1402	0.3576
	X13	0.2655	0.0359	0.1354
	X17	0.5783	0.2691	0.4654
	X19	0.1668	0.0243	0.1460
	X20	0.5179	0.1450	0.2800
CLUSTER 4	X5	0.7355	0.0290	0.0394
	X16	0.7355	0.0910	0.1237
CLUSTER 5	X1	0.6519	0.2292	0.3516
	X2	0.5589	0.2383	0.4264
	X3	0.4891	0.1222	0.2499
	X4	0.0110	0.0037	0.3329
	X11	0.5334	0.2266	0.4248

set of variables could not easily be reduced while maintaining at the same time an understandable interpretation of the variables.

D. REENLISTMENT CRITERIA VARIABLES

1. Questions

Analysis of the following questions and associated reenlistment variables was performed and significant differences were detected. Comparisons with control groups were not possible since similar studies of military occupational specialties for linguists could not be found. Question identification, the name of the reenlistment variable, and

a brief description of the variables follow. The complete survey questionnaire may be found in Appendix A.

- Question #22. The variable "TRND" indicates whether respondents thought they would be capable of performing assigned duties at their next assignment.
- Question #23. The variable "PLANS" indicates respondent's plans following this enlistment.
- Question #24. The variable "LANGSKLS" separates the survey respondents into two groups. Those reporting a previous assignment requiring language skills were used as the sample population for questions #24.1, #24.2, #24.3, and #24.4.
- Question #24.1. The variable "USEDPROP" indicates whether the respondent felt they were being properly utilized in their last assignment.
- Question #24.2. The variable "PCLGSKLS" reports the percentage of time devoted to improving language skills at the previous assignment.
- Question #24.3. The variable "PCTCSKLS" reports the percentage of time devoted to improving technical skills at the previous assignment.
- Question #24.4. The variable "PCCMSKLS" reports the percentage of time spent performing common soldier skill training, equipment maintenance, details, and other assigned duties.
- Question #25. The variables "ADQMIX", "LMAINT", "MTT", "BONUS", "PRODEV", and "SPECPAY" were used to examine the entire respondent pool with respect to a list of actual and proposed reenlistment retention incentives. The six incentives examined were:
 - A more adequate language training program at DLI with a better mix of —the four communication areas of speaking, listening, reading, and writing to ensure proficiency on graduation and first duty assignment
 - Establish and maintain a viable unit language maintenance program
 - Provide more opportunities for "real world" training through use of temporary duty (TDY) and mobile training teams (MTT)
 - Increase reenlistment bonus
 - Increase professional development opportunities to return to DLI and other schools for intermediate and advanced instruction
 - The Army's new specialty pay for linguists.

2. Significant Differences

Significance levels for crosstabulations of reenlistment criteria variables by demographic and background variables that were found to be statistically significant are shown in Table 16.

TABLE 16
SIGNIFICANCE LEVELS OF REENLISTMENT VARIABLES
BY DEMOGRAPHIC AND BACKGROUND VARIABLES

	TRND	PLANS	USED PROP
RANK	.0001	.0001	
AGE		.0001	
EDLEVEL		.0001	.0360
MENTLCAT			
SEX			
MARSTAT		.0001	
REGION			
SZCITY		.0034	
LANGEXP			
LANGSKLS			
DLIEXP			
MOS	.0190	.0449	.0096
STATUS		.0001	.0008
PLANS			.0110

a. Fully Trained, "TRND", (Appendix C, Table C-1)

—When respondents were asked if they felt they would be fully capable of performing their assigned duties at their next assignment, 74.15 percent of the personnel in grades E1-E3 answered affirmatively, while only 59.14 percent of the personnel in grades E4-E6 felt they would be fully trained. A possible explanation for this might be that soldiers in the higher ranks have previously served as linguists and have a better understanding of the requirements they will encounter at the next assignment. However, this explanation was not supported by analysis performed using the variable "LANGSKLS".

b. Plans Following This Enlistment, "PLANS", (Appendix C, Table C-2)

Among the survey respondents, future plans were significantly related to the group of demographic variables which are affected over time. These are: "RANK", "AGE", "EDLEVEL", "MARSTAT", and "STATUS". The reported significance level for all these variables was $\alpha = .0001$.

Major differences for the crosstabulation between the variable "RANK" and "PLANS" were indicated by the percentages of respondents leaving the service to continue their education: 38.10 percent for the grades E1-E3, compared to 18.73 percent for the grades E4-E6; and the numbers indicating they would remain in the service, 17.62 percent for E1-E3s, compared to 37.16 percent for E4-E6s. The same trend was noted when respondents' plans are examined by age groups. As the age of the respondent increases, the percentage opting to remain in the service increases, while the numbers indicating they will leave the service to attend school decreases. The percentage of respondents undecided about their future plans is nearly the same for the different treatments. For the variable "EDLEVEL", as the education level increases, the percentage leaving the service to continue their schooling decreases as expected, but the percentage leaving service to seek employment increases.

The same trend was noted when the respondents' plans were examined by their marital status. Of the single personnel surveyed, 36.69 percent indicate they wish to continue their education, while 16.81 percent of the married respondents intend to return to school following their enlistment. Married respondents intend to reenlist at a rate of 33.63 percent, compared to 18.66 percent for the single respondents. These findings appear obvious since married personnel generally have more commitments, both financial and personal, than the single individual and are less likely to feel able to give up the job security and benefits provided through continued service.

The amount of time in service, "STATUS", appears critical to the reenlistment decision. The percentage of respondents indicating that they will remain in the service more than doubles as personnel go from 0-4 years time in service to 5-10 years time in service, 18.48 percent compared to 40.00 percent. The percentage of respondents with 0-4 years in service who intend to leave the Army to continue their education is more than two and one-half times that of the respondents with 5-10 years in service, 35.30 percent compared to 13.75 percent. The percentages remain relatively close for the remaining treatments.

The significance noted between "SZCITY" and "PLANS" is rather transparent. Although over 50 percent of the respondents indicating that they will reenlist are from small towns or rural areas, there may be any number of reasons for this. Possibly, this could be attributed to the fact that these personnel view the Army as providing more opportunities than are available in or near their hometowns. This could not be confirmed without additional information.

c. Proper Utilization as a Linguist, "USEDPROP", (Appendix C, Table C-3)

Question #24 and the associated variable "LANGSKLS" were used to separate the sample into two distinct groups, those who had previously served at least one assignment as a linguist and those who had not. The sample size for personnel indicating they had previously worked as a linguist was 107 or 15.2% of the total sample.

Although the sample was greatly restricted for this question, the reader is reminded that the size of the sample remains larger than could be found in any single intelligence unit and that the backgrounds of the linguists are diverse. Therefore, the results are believed to provide valuable insights into the attitudes of this select group.

An area of concern during Inspector General (IG) inspections of Intelligence units is whether or not personnel who received an enlistment or reenlistment bonus for specific job skills are being utilized properly. The Defense Audit Agency's 1984 "Report on the Review of the Use of Intelligence Personnel" and the 1981 "Review of Manpower Management in Army Electronic Warfare Activities" reported that 26 percent and 25 percent of the personnel surveyed, respectively, felt they were being improperly used in their current assignments [Ref. 10: p. 4]. These studies were not specifically looking at the linguist population, but rather the entire intelligence community. For this study 42.27 percent of the linguists surveyed felt that they were not utilized properly in their last assignment.

The crosstabulation between "EDLEVEL" and "USEDPROP" indicated differences for all three categories of respondents. No trends were apparent, and the percentages that reported proper utilization varied from a low of 27.27 percent for those respondents possessing a college degree to a high of 65.71 percent for those respondents who had attended college but not yet completed degree requirements.

The military occupational specialty 97E, interrogator, reported the highest perceived misutilization rate, 80.00 percent. The SIGINT/EW specialties, 98C and 98G, felt they were being misused at a rate of 39.13 percent and 37.70 percent, respectively. Collectively, all of the remaining specialties felt they were being misused 44.44 percent of the time.

Respondents who have been in the service four or less years report a misutilization rate almost twice that of respondents who have between 5-10 years time in service, 69.44 percent compared to 35.53 percent, respectively. This can probably be explained by two facts. First, it is a fact of the service that most of the details and

additional duties are performed by personnel in the lower ranks who have less time in service. These additional duties are not often related to a soldier's MOS, and thus the perceived misutilization. Second, as rank and time in service increase, responsibilities and skills increase. Those personnel become the first line supervisors and are responsible for assigning personnel to details and additional duties, not performing these duties.

Although differences were noted for several of the demographic and background variables, the most significant finding was for the variable "PLANS". Of respondents indicating that they intended to remain in the service, 78.13 percent reported that they were properly utilized in their last assignment. The misutilization rates for the other treatments varied between 52.00 percent and 59.26 percent.

Army Regulation 611-1, "Military Occupational Classification Structure Development and Implementation", states that installation commanders should provide their linguist personnel a minimum of 10 hours of duty time each week for language maintenance. When asked how much time was devoted to improving language skills at their previous assignment, 67.89 percent of the respondents indicated that they spent less than 20 percent of their time improving their language skills. Twenty percent of a 50 hour work week would equate to 10 hours of language maintenance, and few units regularly schedule 50 hour work weeks. Only 8.33 percent indicated that over 50 percent of their training time was devoted to language maintenance programs.

When asked how much of their time was devoted to improving technical skills, 42.72 percent stated that they spent less than 20 percent of their time improving their technical skills. However, 39.45 percent of the respondents indicated that they spent more than 50 percent of their time performing common skills training, equipment maintenance, details, and other assigned duties.

Although the findings in this section of the report are somewhat subjective in that they reflect only the survey respondent's opinions, the results are believed to provide useful insights into the attitudes of the target population. It appears that the problem, or at least the perceived problem, of misuse of intelligence personnel persists.

d. Reenlistment Incentives for Linguists, "ADQMIX", "LMAINT", "MTT", "BONUS", "PRODEV", and "SPECPAY", (Appendix C, Table C-4

The purpose of this question was to examine the attitudes of the linguists with respect to a list of actual and proposed reenlistment retention incentives. The six incentives under examination were obtained through personal interviews with current and former Army linguists. These incentives were:

- A more adequate language training program at DLI with a better mix of the four communication areas of speaking, listening, reading, and writing to ensure proficiency on graduation and first duty assignment
- Establish and maintain a viable unit language maintenance program
- Provide more opportunities for "real world" training through use of temporary duty (TDY) and mobile training teams (MTT)
- Increase reenlistment bonus
- Increase professional development opportunities to return to DLI and other schools for intermediate and advanced instruction
- The Army's new specialty pay for linguists.

Respondents were asked to rank the six possible reenlistment retention incentives according to the impact each would have on a unit's positive retention rate. Respondents were asked to record their rankings from the highest to lowest. This information was then tabulated and placed in a frequency array. The f_{ij} array is

f_{ij}	ADQMIX	LMAINT	MTT	BONUS	PRODEV	SPECPAY
ADQMIX	----	360	397	413	416	418
LMAINT	303	----	401	415	428	439
MTT	266	262	----	375	356	374
BONUS	250	248	288	----	291	355
PRODEV	247	234	307	372	----	360
SPECPAY	244	224	288	308	303	----

Since there are no empty cells in the z_{ij} array, we can simply use the column sums as the scale values for the incentives. The column sums are

j	a	b	c	d	e	f
$\sum z_{ij}$	-1.339	-.418	.097	-.870	.530	1.103
n_{ij}	6	6	6	6	6	6

Performing a linear transformation on these previous scale values, we obtain:

S_{ADQMIX}	=	1.0000
S_{LMAINT}	=	1.2874
S_{MTT}	=	6.2938
S_{BONUS}	=	9.1420
S_{PRODEV}	=	5.9551
$S_{SPECPAY}$	=	10.0000

The analysis indicates that monetary benefits such as specialty pay and reenlistment bonuses most strongly influence the reenlistment decisions. Professional development and increased training opportunities also appeared to be important candidate influences. However, initial training received at DLI and subsequent language maintenance training programs at the unit level appeared to have little or no influence on the reenlistment decision.

All demographic and background variables were analyzed using the Friedman test. The following hypothesis was tested:

H_0 : Each ranking of the random variables within a block is equally likely.

H_1 : At least one of the treatments tends to yield larger observed values than at least one other treatment.

The null hypothesis was rejected for all variables, implying that some reenlistment retention incentives were preferred to others.

Following rejection of the null hypothesis, multiple comparisons were performed for each variable. For all variables, "SPECPAY" was the most preferred incentive. Complete results of the multiple comparison tests are provided in Appendix C, Table C-4.

The chi-square test for differences in probabilities was then used to check for significant differences for the treatments for each variable. Significant differences were noted for the variables "MARSTAT", $\alpha = .0335$, and "STATUS", $\alpha = .0396$. The order of preference for the variable "MARSTAT" was "SPECPAY", "BONUS", "PRODEV", "MTT", "LMAINT", and "ADQMIX". The order of preference for the variable "STATUS" was "SPECPAY", "BONUS", "MTT", "BONUS", "LMAINT", and "ADQMIX". The observed detected differences were only for the third and fourth ranked items.

The results of the Friedman test and the chi-square test for differences in probabilities further confirm the findings that monetary incentives appear to strongly influence the reenlistment decisions of the linguist population.

V. SUMMARY

The analysis performed and reported in this thesis has attempted to identify differences in influences on the enlistment decision of US Army linguists and non-linguists. Additionally, the study investigated the relationship between proposed reenlistment retention incentives and identifies various reasons for dissatisfaction among the linguist population. Data were analyzed by candidate demographic and background variables based on research models found in the current literature and guidance from the US Army Recruiting Command (USAREC). The following is a brief summary of the research findings. Implications of the findings are offered for further investigation.

A. ANALYSIS RESULTS FOR ENLISTMENT CRITERIA VARIABLES

The continuous debate on the viability of the All-Recruited Force has prompted much research on the enlistment motivations of the national youth population. The chance to better oneself, whether through higher education or acquired skill training, has dominated the reasons for voluntary enlistment. Results of analyses performed in this thesis indicate no significant differences in the top three enlistment incentives between linguists and non-linguists.

Results of this analysis suggest that educational benefits continue to influence high-quality youth to enlist. Of the linguists surveyed, 86.24 percent reported participating in contributory educational incentive programs. One possible disadvantage of educational incentives is that they encourage soldiers to leave the Army following their active duty obligations. Of the linguists serving their initial active duty obligation, 88.93 percent were participating in contributory education programs. Of this group, 35.30 percent indicated that they planned to leave the service to continue their education. It is possible that some of these linguists will change their minds about going to college or trade schools, or decide to take college courses on their off-duty time. Soldiers are encouraged to pursue further education to enhance their promotion opportunities, but often educational programs are not scheduled so that a soldier who has to go to the field routinely or work rotating shifts, as linguists often do, can benefit from them. More effort might be made to provide educational programs geared to the soldier's needs so that options to remain in the Army or leave to pursue educational goals are not mutually exclusive.

Enlistment bonuses, which are the US Army Recruiting Command's primary tool for the distribution of high-quality recruits among military occupational specialties, may be cost effective incentives for those who are not interested in further education, but who are willing to work in job specialties experiencing personnel shortages. Enlistment bonuses and cash bonuses for advanced career training were both ranked third among the reasons for choosing an enlistment option requiring language training, and the set of 20 enlistment incentives/opportunities, respectively.

Many studies of enlistment incentives indicate that soldiers in lower AFQT categories are more likely to say that skill training that would be useful later in civilian life was very important to them. Linguists surveyed ranked "training and work experience" as the number one enlistment incentive/opportunity. When asked their reasons for deciding to enlist as a linguist, respondents indicated that "receiving formal language training" and "skill training" were the two most important reasons.

Although the exact relationship between advertising and enlistment rates is not known, it is important that the US Army Recruiting Command continue to let the national youth population know what opportunities are available. Advertising which emphasizes skill training, service to the country, and career opportunities as a linguist in the Army might further motivate high-quality individuals who are not sure what to do after graduating from high school.

B. ANALYSIS OF REENLISTMENT CRITERIA VARIABLES

Results of the analysis performed indicate that the tenure variables, "RANK" and "STATUS", significantly affect reenlistment intentions of linguists. Additionally, the remaining variables that are affected over time, "AGE", "EDLEVEL", and "MARSTAT", also significantly impact on the reenlistment decisions of linguists.

Job satisfaction is generally regarded as one of the more important antecedents of the decision not to reenlist, showing a negative relationship with turnover. Of the linguists who indicated that they would reenlist, 78.13 percent report that they had been properly utilized in their previous assignments as linguists. Younger soldiers appeared to be less satisfied with their jobs, especially with intrinsic characteristics such as utilization, independence, and responsibility.

As stated earlier, educational incentives often seem to encourage soldiers to leave the service. The same trend was noted for the variable "EDLEVEL". As the education level of the respondent increased, the percentage indicating they would reenlist

decreased. The percentages indicate that linguists with higher civilian education levels are leaving the service to find acceptable civilian employment alternatives. Outside of the flexibility of civilian employers to offer higher wages, particularly to technically trained soldiers, civilian firms generally have improved benefit packages such as pension plans and fully funded medical and dental insurance plans. The fact that a tremendous amount of technical training has been acquired by linguists at no cost to competing civilian employers makes these personnel a most attractive target for competitive bidding by civilian firms.

Prior to administration of the survey, background interviews with current and former Army linguists were conducted, and several areas of dissatisfaction among the linguists were noted. A list of six reenlistment retention incentives was then prepared and survey respondents were asked to rank the incentives according to the impact each could have on a unit's reenlistment rate.

Analysis indicates that retention rates are sensitive to both present and future expected compensation. Monetary benefits such as the Army's new specialty pay for linguists and reenlistment bonuses most strongly influence the reenlistment decision. Professional development and increased training opportunities also appear to be important candidate influences. Although many linguists voiced complaints regarding poor language maintenance programs or inadequate training time devoted to language refresher programs during the background interviews, the survey respondents indicated that initial training received at DLI and subsequent language maintenance programs would have little or no effect on retention rates.

The Army must retain a certain percentage of the linguist population that has acquired both language skills and intelligence skills to have a pool from which to develop the non-commissioned officers who will provide supervision and advanced technical expertise for the future. Reenlistment incentives that influence high-quality soldiers who are not college-bound after completion of their first enlistment are critical so that the mid-level and senior enlisted ranks are composed of an adequate proportion of high-quality soldiers.

C. RECOMMENDATION FOR FUTURE RESEARCH

Inferences were made in this study concerning the relative importance of candidate influence variables on the enlistment decision. Significant differences were noted when the linguist survey respondents were compared to the non-affiliated sample used in Kaplan's study, "Measurement of Student Attitudes Toward Possible

Recruiting Incentives and Career Opportunities". However, few differences were noted when the linguists' opinions were compared to the results of ARI's 1985 Survey of recently affiliated personnel.

The decision to continue military service is more complex than a simple dichotomous yes or no decision. A more thorough examination of the reenlistment decision could be better accomplished through the use of a data base which provides actual affiliation decisions made by respondents, rather than likely military affiliation behavior based on respondents' stated intentions. Data collection at entrance and termination points for both active duty and reserve forces would be extremely useful in verifying findings from similar studies.

The Linguist Survey respondents indicated that they felt the new linguist specialty pay would prominently influence the reenlistment rates for linguists in the Army. In view of these findings, the DOD wide programs, for which the Congress approved \$7.3 million for FY 1987, should be closely monitored to determine attributable increases in reenlistments of linguists, if any, and expected cost savings under the programs.

APPENDIX A
LINGUIST SURVEY

1. Enter your full name on the answer sheet.
2. What is your pay grade?

a. E-1	d. E-4	g. E-7
b. E-2	e. E-5	h. E-8
c. E-3	f. E-6	i. E-9
3. Enter your age on the answer sheet.
4. Enter your social security number on the answer sheet.
5. What is your sex?

a. Male	b. Female
---------	-----------
6. What is your race?

a. Native American	d. Black
b. Asian	e. White
c. Hispanic	f. Other
7. What is your marital status?
 - a. Single, never married
 - b. Married
 - c. Separated
 - d. Divorced
 - e. Widowed
8. What is the highest level of civilian education completed?
 - a. GED
 - b. High School
 - c. Less than two years of college (no degree)
 - d. Associate's Degree
 - e. Between two and four years of college (no degree)
 - f. Bachelor's Degree
 - g. Master's Degree or Ph.D.
 - h. Other
9. What is your principal ethnic heritage?
(Choose only one answer)

a. French	f. Polish	k. Irish
b. German	g. Czech	l. Puerto Rican
c. Italian	h. Korean	m. American Indian
d. Spanish	i. Japanese	n. Mexican
e. Russian	j. Chinese	o. Other

10. In which region of the country did you live when you initially enlisted?
- NORTHEAST
Maine, New Hampshire, Vermont, Massachusetts, Connecticut, New York, Rhode Island, New Jersey, Delaware, Maryland, Pennsylvania
 - SOUTHEAST
Virginia, West Virginia, Kentucky, North Carolina, Georgia, Alabama, South Carolina, Tennessee, Florida, Puerto Rico
 - MIDWEST
Ohio, Michigan, Indiana, Illinois, Missouri, Nebraska, Wisconsin, Minnesota, North Dakota, South Dakota, Iowa
 - SOUTHWEST
Wyoming, Colorado, New Mexico, Texas, Arkansas, Louisiana, Kansas, Oklahoma, Louisiana, Mississippi
 - WEST
Montana, Idaho, Washington, Oregon, Utah, Alaska, Nevada, Arizona, California, Hawaii
11. Which of these best describes the place you were living when you initially enlisted?
- In a large city (over 250,000 people)
 - In a suburb of a large city
 - In a medium-sized city (50,000-250,000 people)
 - In a suburb of a medium-sized city
 - In a small town or city (under 50,000 people)
 - In a rural area
12. Did you possess any foreign language capability before your initial assignment to the Defense Language Institute (DLI)?
- Yes (Go to Question 11.1)
 - No (Go to Question 12)
- 12.1 How did you acquire this capability?
- Language was spoken in my home
 - Studied foreign language in high school
 - Studied foreign language in college
 - Lived in a foreign country
 - Other
- 12.2 What language or languages?
- | | | |
|------------|------------|-------------|
| a. French | e. Russian | i. Japanese |
| b. German | f. Polish | j. Chinese |
| c. Italian | g. Czech | k. Arabic |
| d. Spanish | h. Korean | l. Other |
- 12.3 Did you try and enlist for additional training in this language?
- Yes
 - No
- 12.4 Were you offered an opportunity to choose the language in which you were interested?
- Yes
 - No

13. Have you ever been assigned to the Defense Language Institute (DLI) as a student before?

- a. Yes b. No

14. Enter your Military Occupational Specialty (MOS) on the answer sheet.

15. Enter the language you are currently studying on the answer sheet.

16. Which category best describes your current status?

- a. Four or less years service
b. Five to ten years service
c. Eleven or more years service

17. When did you initially enlist in the service?

- a. On or before 31 Dec 1976 (Go to Question 18)
b. 1 Jan 1977 - 30 Sep 1982 (Go to Question 17.1)
c. 1 Oct 1982 - 30 Jun 1985 (Go to Question 17.1)
d. 1 Jul 1985 or later (Go to Question 17.1)

17.1 Depending on the date you initially enlisted, certain contributory educational benefits were offered as enlistment incentives. Indicate which educational incentive you selected, if any.

- a. Veteran's Educational Assistance Program (VEAP)
b. VEAP and the Army College Fund
c. New G.I. Bill
d. New G.I. Bill and the Army College Fund
e. None

18. Was the retirement system in effect at the time of your initial enlistment a major reason for your decision to join the service?

- a. Yes b. No

19. Which of the following reasons was your most important reason for enlisting? (Choose only one answer)

- | | |
|---|--|
| a. Unemployed or lack of adequate job prospects | f. To get away from a personal problem |
| b. To establish my own independence | g. A chance to better myself |
| c. A desire to travel | h. To receive training in a skill |
| d. Service to my country | i. To prove that I can make it |
| e. Earn more money | j. Earn money for a college education |
| | k. It's a family tradition to serve |

20. Which of the following was your most important reason for choosing an enlistment option that required attendance at DLI? (Choose only one answer)

- a. Adventure and travel
b. Earn more money for a college education
c. Formal language training
d. Enlistment bonus
e. Skill training that would be marketable after leaving service
f. Other

21. Compare the following list of possible incentive/opportunities with the reference item which is marked with a 10. Compare each separately with the reference only. Use any positive number to indicate how much more or less desirable you think each incentive or opportunity is when compared to the reference item. (If you think the incentive is twice as good as the reference item, then rate the incentive as 20. If you think the incentive is half as good, then rate as 5. Do NOT use 0 or negative numbers.

a. ___ Guaranteed monthly salary plus housing and food allowances which increase with length of service

b. ___ The opportunity to choose your career field

c. ___ Personal Challenge of being in the Army (mental and physical)

d. ___ Travel and live in different places

e. ___ Low interest loans while in service and after service for buying a home

f. ___ Service to your country

g. ___ Free medical and dental care for you and your family while in service

h. ___ Enlistment bonus for advanced career training and/or experience in chosen field

i. ___ Service in a combat type unit

j. ___ In service training programs designed to ensure acceptability of credits for civilian education and employment

k. ___ Guaranteed retirement benefits based on length of service

l. ___ The opportunity to train and have a part-time job in the Army Reserve while remaining a civilian

m. ___ Funds to continue college - based on length of enlistment

n. ___ Opportunities for gaining leadership training and experience

o. ___ The opportunity to become a commissioned officer

p. ___ Guaranteed choice of duty station

q. ___ The opportunity to take college courses during off-duty hours with the Army paying 75% of the tuition

r. ___ Delayed repayment of prior student loans

s. ___ Husband and wife enlistment, technical training and co-location program

t. ___ Training and work experience in a job skill that would be useful later in civilian life

22. Following your current training at DLI, do you think you will be fully trained to perform your assigned duties at the appropriate skill level, at your next duty station?

a. Yes

b. No

23. Following completion of your current enlistment, what plans do you have for the future?

a. Leave the Army to find civilian employment

b. Leave the Army to attend college

c. Leave the Army for civilian educational/vocational training

d. Leave the Army but remain in a reserve unit

e. Reenlist for the same MOS

f. Reenlist for a different MOS

g. Remain in the Army until retirement

h. I do not know

24. Will your follow-on assignment be your first assignment to a position requiring language skills?

a. Yes (Go to Question 24)

b. No (Go to Question 23.1)

24.1 At your last assignment requiring language skills, do you feel you were being utilized in your MOS?

a. Yes

b. No

24.2 What percentage of your time was devoted to improving language skills?

a. Less than 10%

c. 20-29%

e. 40-49%

b. 10-19%

d. 30-39%

f. Over 50%

24.3 What percentage of your time was devoted to improving technical skills?

a. Less than 10%

c. 20-29%

e. 40-49%

b. 10-19%

d. 30-39%

f. Over 50%

24.4 What percentage of your time was spent on common skills training, equipment maintenance, details, and other duties?

a. Less than 10%

c. 20-29%

e. 40-49%

b. 10-19%

d. 30-39%

f. Over 50%

25. Compare the following list of possible reenlistment retention incentives. Now, order these incentives from highest to lowest according to the positive impact you feel each would have on a unit's retention rate (1 is highest, 6 is lowest). Do not rate any two incentives the same!

a. ___ More adequate language training program at DLI with a better mix of the four communication areas of speaking, listening, reading, and writing to ensure proficiency upon graduation and first duty assignment

b. ___ Establish and maintain a viable unit language maintenance program

c. ___ Provide more opportunities for "real world" training through use of temporary duty (TDY) and mobile training teams (MTT)

d. ___ Increase reenlistment bonus

e. ___ Increase professional development opportunities to return to DLI and other schools for intermediate and advanced instruction

f. ___ Establishment and implementation of the Army's new specialty pay for linguists

APPENDIX B
CROSSTABULATIONS OF ENLISTMENT VARIABLES

TABLE B-1

12. Did you possess any foreign language capability before your initial assignment to the Defense Language Institute (DLI)?

- a. Yes
- b. No

TABLE OF RANK BY LANGEXP

	YES	NO	TOTAL		
N=	511	189	700		
E1-E3	63.01	50.26	59.57		
E4-E6	36.99	49.74	40.43		
	CHI-SQUARE	9.312		DF=	1
					PROB= .0023

TABLE OF AGE BY LANGEXP

	YES	NO	TOTAL		
N=	503	185	688		
17-20	47.71	37.30	44.91		
21-24	29.62	31.35	30.09		
25-29	17.69	22.70	19.04		
30-34	4.97	8.65	5.96		
	CHI-SQUARE	105.94		DF=	3
					PROB= .0001

TABLE OF EDLEVEL BY LANGEXP

	YES	NO	TOTAL		
N=	511	189	700		
HS	35.23	35.98	35.43		
COLLEGE	49.12	51.85	49.86		
BS/MS	15.66	12.17	14.71		
	CHI-SQUARE	1.368		DF=	2
					PROB= .5045

TABLE OF MENTLCAT BY LANGEXP

	YES	NO	TOTAL		
N=	241	90	331		
CAT I	34.85	36.67	35.35		
CAT II	65.15	63.33	64.65		
	CHI-SQUARE	0.094	DF= 1	PROB=	.7590

TABLE OF SEX BY LANGEXP

	YES	NO	TOTAL		
N=	511	189	700		
MALE	71.82	81.48	74.43		
FEMALE	28.18	18.52	25.57		
	CHI-SQUARE	6.767	DF= 1	PROB=	.0093

TABLE OF MARSTAT BY LANGEXP

	YES	NO	TOTAL		
N=	511	189	700		
SINGLE	70.45	60.85	67.86		
MARRIED	29.55	39.15	32.14		
	CHI-SQUARE	5.834	DF= 1	PROB=	.0157

TABLE OF REGION BY LANGEXP

	YES	NO	TOTAL		
N=	511	189	700		
NE	21.72	16.93	20.43		
SE	15.07	16.40	15.43		
MW	22.90	32.28	25.43		
SW	13.50	13.76	13.57		
W	26.81	20.63	25.14		
	CHI-SQUARE	8.5816	DF= 4	PROB=	.0725

TABLE OF SZCITY BY LANGEXP

	YES	NO	TOTAL
N=	508	189	697
LARGE	15.94	13.76	15.35
LGESUB	14.96	16.40	15.35
MEDIUM	19.49	20.11	19.66
MEDSUB	6.50	8.47	7.03
SMALL	29.72	21.69	27.55
RURAL	13.39	19.58	15.06

CHI-SQUARE 8.133 DF= 5 PROB= .1491

TABLE OF LANGEXP BY LANGEXP

	YES	NO	TOTAL
N=	511	189	700
YES	100.00	0.00	73.00
NO	0.00	100.00	27.00

TABLE OF LANGSKLS BY LANGEXP

	YES	NO	TOTAL
N=	504	186	690
YES	17.06	10.75	15.36
NO	82.94	89.25	84.64

CHI-SQUARE 4.161 DF= 1 PROB= .0414

TABLE OF DLIEXP BY LANGEXP

	YES	NO	TOTAL
N=	508	188	696
YES	13.78	10.11	12.79
NO	86.22	89.89	87.21

CHI-SQUARE 1.660 DF= 1 PROB= .1976

TABLE OF MOS BY LANGEXP

	YES	NO	TOTAL
N=	511	188	699
97E	11.74	7.45	10.59
98C	18.59	15.96	17.88
98G	64.19	62.77	63.81
OTHER	5.48	13.83	7.73

CHI-SQUARE 15.376 DF= 3 PROB= .0015

TABLE OF STATUS BY LANGEXP

	YES	NO	TOTAL
N=	509	189	698
0-4 YRS	79.37	70.90	77.08
5-10 YRS	20.63	29.10	22.92

CHI-SQUARE 5.599 DF= 1 PROB= .0180

TABLE OF PLANS BY LANGEXP

	YES	NO	TOTAL
N=	509	189	698
WORK	19.25	19.05	19.20
SCHOOL	32.42	24.34	30.23
ARMY-	21.41	28.57	23.35
UNDEC	26.92	28.04	27.22

CHI-SQUARE 6.065 DF= 3 PROB= .1085

TABLE B-2

17.1 Depending on the date you initially enlisted, certain contributory educational benefits were offered as enlistment incentives. Indicate which educational incentive you selected, if any.

- a. Veteran's Educational Assistance Program (VEAP)
- b. VEAP and the Army College Fund
- c. New G.I. Bill
- d. New G.I. Bill and the Army College Fund
- e. None

TABLE OF RANK BY EDBENFIT

	YES	NO	TOTAL
N=	608	97	705
E1-E3	62.99	39.18	59.72
E4-E6	37.01	60.82	40.28
CHI-SQUARE	19.324	DF = 1	PROB = .0001

TABLE OF AGE BY EDBENFIT

	YES	NO	TOTAL
N=	599	94	693
17-20	48.58	22.34	45.02
21-24	29.88	30.85	30.01
25-29	16.86	31.91	18.90
30-34	4.67	14.89	6.06
CHI-SQUARE	36.192	DF = 3	PROB = .0001

TABLE OF EDLEVEL BY EDBENFIT

	YES	NO	TOTAL
N=	608	97	705
HS	38.82	14.43	35.46
COLLEGE	50.33	46.39	49.79
BS/MS	10.86	39.18	14.75
CHI-SQUARE	59.766	DF = 2	PROB = .0001

TABLE OF MENTLCAT BY EDBENFIT

	YES	NO	TOTAL		
N=	295	40	335		
CAT I	31.86	57.50	34.93		
CAT II	68.14	42.50	65.07		
	CHI-SQUARE	10.185	DF= 1	PROB=	.0014

TABLE OF SEX BY EDBENFIT

	YES	NO	TOTAL		
N=	608	97	705		
MALE	74.34	74.23	74.33		
FEMALE	25.66	25.77	25.67		
	CHI-SQUARE	0.001	DF= 1	PROB=	.9807

TABLE OF MARSTAT BY EDBENFIT

	YES	NO	TOTAL		
N=	608	97	705		
SINGLE	70.72	49.48	67.80		
MARRIED	29.28	50.52	32.20		
	CHI-SQUARE	17.286	DF= 1	PROB=	.0001

TABLE OF REGION BY EDBENFIT

	YES	NO	TOTAL		
N=	608	97	705		
NE	19.90	22.68	20.28		
SE	15.46	17.53	15.74		
MW	25.99	21.65	25.39		
SW	12.17	21.65	13.48		
W	26.48	16.49	25.11		
	CHI-SQUARE	10.065	DF= 4	PROB=	.0394

TABLE OF SZCITY BY EDBENFIT

	YES	NO	TOTAL
N=	607	95	702
LARGE	15.16	15.79	15.24
LGESUB	15.32	14.74	15.24
MEDIUM	19.44	21.05	19.66
MEDSUB	7.58	4.21	7.12
SMALL	27.02	30.53	27.49
RURAL	15.49	13.68	15.24

CHI-SQUARE 1.999 DF= 5 PROB= .8492

TABLE OF LANGEXP BY EDBENFIT

	YES	NO	TOTAL
N=	604	96	700
YES	73.18	71.88	73.00
NO	26.82	28.13	27.00

CHI-SQUARE 0.071 DF= 1 PROB= .7892

TABLE OF LANGSKLS BY EDBENFIT

	YES	NO	TOTAL
N=	600	95	695
YES	84.50	85.26	84.60
NO	15.50	14.74	15.40

CHI-SQUARE 0.037 DF= 1 PROB= .8481

TABLE OF DLIEXP BY EDBENFIT

	YES	NO	TOTAL
N=	605	96	701
YES	12.40	15.63	12.84
NO	87.60	84.38	87.16

CHI-SQUARE 0.772 DF= 1 PROB= .3797

TABLE OF MOS BY EDBENFIT

	YES	NO	TOTAL
N=	607	97	704
97E	11.04	7.22	10.51
98C	18.12	19.59	18.32
98G	63.26	64.95	63.49
OTHER	7.58	8.25	7.67

CHI-SQUARE 1.346 DF= 3 PROB= .7182

TABLE OF STATUS BY EDBENFIT

	YES	NO	TOTAL
N=	608	95	703
0-4 YRS	79.28	63.16	77.10
5-10 YRS	20.72	36.84	22.90

CHI-SQUARE 12.089 DF= 1 PROB= .0005

TABLE OF PLANS BY EDBENFIT

	YES	NO	TOTAL
N=	606	97	703
WORK	17.82	27.84	19.20
SCHOOL	33.66	9.28	30.30
ARMY	22.28	30.93	23.47
UNDEC	26.24	31.96	27.03

CHI-SQUARE 24.454 DF= 3 PROB= .0001

TABLE B-3

18. Was the retirement system in effect at the time of your initial enlistment a major reason for your decision to join the service?

a. Yes b. No

TABLE OF RANK BY RET

	YES	NO	TOTAL
N=	127	578	705
E1-E3	58.27	60.03	59.72
E4-E6	41.73	39.97	40.28
CHI-SQUARE 0.135			DF= 1 PROB= .7132

TABLE OF AGE BY RET

	YES	NO	TOTAL
N=	125	568	693
17-20	43.20	45.42	45.02
21-24	28.80	30.28	30.01
25-29	22.40	18.13	18.90
30-34	5.60	6.16	6.06
CHI-SQUARE 1.227			DF= 3 PROB= .7465

TABLE OF EDLEVEL BY RET

	YES	NO	TOTAL
N=	127	578	705
HS	40.16	34.43	35.46
COLLEGE	49.61	49.83	49.79
BS/MS	10.24	15.74	14.75
CHI-SQUARE 3.106			DF= 2 PROB= .2116

TABLE OF MENTLCAT BY RET

	YES	NO	TOTAL			
N=	59	276	335			
CAT I	35.59	34.78	34.93			
CAT II	64.41	65.22	65.07			
	CHI-SQUARE	0.014		DF=	1	PROB= .9056

TABLE OF SEX BY RET

	YES	NO	TOTAL			
N=	127	578	705			
MALE	88.19	71.28	74.33			
FEMALE	11.81	28.72	25.67			
	CHI-SQUARE	15.600		DF=	1	PROB= .0001

TABLE OF MARSTAT BY RET

	YES	NO	TOTAL			
N=	127	578	705			
SINGLE	62.20	69.03	67.80			
MARRIED	37.80	30.97	32.20			
	CHI-SQUARE	2.223		DF=	1	PROB= .1360

TABLE OF REGION BY RET

	YES	NO	TOTAL			
N=	127	578	705			
NE	17.32	20.93	20.28			
SE	15.75	15.74	15.74			
MW	26.77	25.09	25.39			
SW	13.39	13.49	13.48			
W	26.77	24.74	25.11			
	CHI-SQUARE	0.958		DF=	4	PROB= .9161

TABLE OF SZCITY BY RET

	YES	NO	TOTAL
N=	125	577	702
LARGE	16.80	14.90	15.24
LGESUB	14.40	15.42	15.24
MEDIUM	16.00	20.45	19.66
MEDSUB	4.00	7.80	7.12
SMALL	32.80	26.34	27.49
RURAL	16.00	15.08	15.24

CHI-SQUARE 5.045 DF = 5 PROB = .4104

TABLE OF LANGEXP BY RET

	YES	NO	TOTAL
N=	127	573	700
YES	67.72	74.17	73.00
NO	32.28	25.83	27.00

CHI-SQUARE 2.197 DF = 1 PROB = .1382

TABLE OF LANGSKLS BY RET

	YES	NO	TOTAL
N=	122	573	695
YES	84.43	84.64	84.60
NO	15.57	15.36	15.40

CHI-SQUARE 0.004 DF = 1 PROB = .9521

TABLE OF DLIEXP BY RET

	YES	NO	TOTAL
N=	127	574	701
YES	12.60	12.89	12.84
NO	87.40	87.11	87.16

CHI-SQUARE 0.008 DF = 1 PROB = .9287

TABLE OF MOS BY RET

	YES	NO	TOTAL		
N=	127	577	704		
97E	6.30	11.44	10.51		
98C	14.96	19.06	18.32		
98G	66.93	62.74	63.49		
OTHER	11.81	6.76	7.67		
	CHI-SQUARE	7.323		DF= 3	PROB= .0623

TABLE OF STATUS BY RET

	YES	NO	TOTAL		
N=	126	577	703		
0-4 YRS	75.40	77.47	77.10		
5-10 YRS	24.60	22.53	22.90		
	CHI-SQUARE	0.252		DF= 1	PROB= .6159

TABLE OF PLANS BY RET

	YES	NO	TOTAL		
N=	127	576	703		
WORK	11.81	20.83	19.20		
SCHOOL	18.11	32.99	30.30		
ARMY	43.31	19.10	23.47		
UNDEC	26.77	27.08	27.03		
	CHI-SQUARE	38.000		DF= 3	PROB= .0001

TABLE B-4

19. Which of the following reasons was your most important reason for enlisting? (Choose only one answer)

- a. Unemployed or lack of adequate job prospects
- b. To establish my own independence
- c. A desire to travel
- d. Service to my country
- e. Earn more money
- f. To get away from a personal problem
- g. A chance to better myself
- h. To receive training in a skill
- i. To prove that I can make it
- j. Earn money for a college education
- k. It's a family tradition to serve

TABLE OF RANK BY IMREASON

	a	b	c	d	e	f		
N=	64	92	31	65	10	11		
E1-E3	40.63	61.96	29.03	44.62	70.00	63.64		
E4-E6	59.38	38.04	70.97	55.38	30.00	36.36		
	g	h	i	j	k	OTHER	TOTAL	
N=	127	111	13	149	12	20	705	
E1-E3	65.35	63.96	53.85	73.83	50.00	45.00	59.72	
E4-E6	34.65	36.04	46.15	26.17	50.00	55.00	40.28	
	CHI-SQUARE	45.992	DF=	11	PROB=	.0001		

TABLE OF AGE BY IMREASON

	a	b	c	d	e	f		
N=	62	92	31	65	10	11		
17-20	24.19	52.17	19.35	41.54	60.00	54.55		
21-24	40.32	27.17	22.58	26.15	10.00	45.45		
25-29	25.81	19.57	29.03	21.54	30.00	0.00		
30-34	9.68	1.09	29.03	10.77	0.00	0.00		
	g	h	i	j	k	OTHER	TOTAL	
N=	125	109	13	145	12	18	693	
17-20	48.80	35.78	38.46	61.38	33.33	33.33	45.02	
21-24	28.00	37.61	23.08	28.97	25.00	22.22	30.01	
25-29	16.80	20.18	38.46	8.28	41.67	33.33	18.90	
30-34	6.40	6.42	0.00	1.38	0.00	11.11	6.06	
CHI-SQUARE		96.820		DF=	33	PROB= .0001		

TABLE OF EDLEVEL BY IMREASON

	a	b	c	d	e	f		
N=	64	92	31	65	10	11		
HS	21.88	47.83	25.81	35.38	60.00	36.36		
COLLEGE	46.88	47.83	54.84	44.62	30.00	63.64		
BS/MS	31.25	4.35	19.35	20.00	10.00	0.00		
	g	h	i	j	k	OTHER	TOTAL	
N=	127	111	13	149	12	20	705	
HS	33.86	24.32	30.77	46.98	16.67	25.00	35.46	
COLLEGE	51.97	53.15	53.85	46.31	75.00	55.00	49.79	
BS/MS	14.17	22.52	15.38	6.71	8.33	20.00	14.75	
CHI-SQUARE		59.383		DF=	22	PROB= .0001		

TABLE OF MENTLCAT BY IMREASON

	a	b	c	d	e	f	
N=	28	48	17	33	2	2	
CAT I	46.43	31.25	29.41	24.24	0.00	50.00	
CAT II	53.57	68.75	70.59	75.76	100.00	50.00	
	g	h	i	j	k	OTHER	TOTAL
N=	70	47	5	72	4	7	335
CAT I	44.29	40.43	20.00	29.17	25.00	28.57	34.93
CAT II	55.71	59.57	80.00	70.83	75.00	71.43	65.07
CHI-SQUARE		10.236	DF=	11	PROB=	.5093	

TABLE OF SEX BY IMREASON

	a	b	c	d	e	f	
N=	64	92	31	65	10	11	
MALE	78.13	63.04	58.06	83.08	90.00	81.82	
FEMALE	21.88	36.96	41.94	16.92	10.00	18.18	
	g	h	i	j	k	OTHER	TOTAL
N=	127	111	13	149	12	20	705
MALE	77.95	76.58	76.92	73.15	83.33	65.00	74.33
FEMALE	22.05	23.42	23.08	26.85	16.67	35.00	25.67
CHI-SQUARE		17.882	DF=	11	PROB=	.0844	

TABLE OF MARSTAT BY IMREASON

	a	b	c	d	e	f	
N=	64	92	31	65	10	11	
SINGLE	56.25	69.57	48.39	58.46	50.00	90.91	
MARRIED	43.75	30.43	51.61	41.54	50.00	9.09	
	g	h	i	j	k	OTHER	TOTAL
N=	127	111	13	149	12	20	705
SINGLE	62.99	74.77	69.23	79.19	66.67	60.00	67.80
MARRIED	37.01	25.23	30.77	20.81	33.33	40.00	32.20
CHI-SQUARE		29.389	DF=	11	PROB=	.0020	

TABLE OF REGION BY IMREASON

	a	b	c	d	e	f	
N=	64	92	31	65	10	11	
NE	25.00	21.74	25.81	12.31	20.00	18.18	
SE	17.19	18.48	19.35	13.85	10.00	9.09	
MW	32.81	26.09	12.90	32.31	10.00	18.18	
SW	4.69	10.87	16.13	15.38	10.00	18.18	
W	20.31	22.83	25.81	26.15	50.00	36.36	
	g	h	i	j	k	OTHER	TOTAL
N=	127	111	13	149	12	20	705
NE	24.41	25.23	23.08	13.42	25.00	10.00	20.28
SE	15.75	14.41	23.08	13.42	25.00	20.00	15.74
MW	26.77	19.82	30.77	24.16	33.33	30.00	25.39
SW	18.11	12.61	7.69	12.75	8.33	30.00	13.48
W	14.96	27.93	15.38	36.24	8.33	10.00	25.11
CHI-SQUARE		53.5646		DF =	44	PROB = .1530	

TABLE OF SZCITY BY IMREASON

	a	b	c	d	e	f	
N=	64	91	31	65	10	11	
LARGE	12.50	5.49	29.03	20.00	10.00	45.45	
LGESUB	17.19	16.48	6.45	10.77	0.00	9.09	
MEDIUM	18.75	26.37	19.35	20.00	20.00	18.18	
MEDSUB	3.13	8.79	3.23	6.15	10.00	18.18	
SMALL	32.81	29.67	29.03	24.62	40.00	0.00	
RURAL	15.63	13.19	12.90	18.46	20.00	9.09	
	g	h	i	j	k	OTHER	TOTAL
N=	125	111	13	149	12	20	702
LARGE	17.60	16.22	7.69	15.44	0.00	10.00	15.24
LGESUB	16.80	13.51	38.46	14.77	16.67	30.00	15.24
MEDIUM	11.20	27.93	7.69	16.78	16.67	30.00	19.66
MEDSUB	6.40	8.11	15.38	7.38	8.33	5.00	7.12
SMALL	31.20	21.62	15.38	30.20	33.33	10.00	27.49
RURAL	16.80	12.61	15.38	15.44	25.00	15.00	15.24
CHI-SQUARE		65.440		DF =	55	PROB = .1583	

TABLE OF LANGEXP BY IMREASON

	a	b	c	d	e	f		
N=	64	91	30	64	10	11		
YES	68.75	76.92	73.33	71.88	50.00	63.64		
NO	31.25	23.08	26.67	28.13	50.00	36.36		
	g	h	i	j	k	OTHER	TOTAL	
N=	126	111	13	148	12	20	700	
YES	74.60	77.48	53.85	72.97	83.33	60.00	73.00	
NO	25.40	22.52	46.15	27.03	16.67	40.00	27.00	
CHI-SQUARE		10.591	DF=	11	PROB=	.4781		

TABLE OF LANGSKLS BY IMREASON

	a	b	c	d	e	f		
N=	63	90	31	64	10	11		
YES	84.13	75.56	64.52	82.81	90.00	81.82		
NO	15.87	24.44	35.48	17.19	10.00	18.18		
	g	h	i	j	k	OTHER	TOTAL	
N=	127	108	11	148	12	20	695	
YES	88.19	85.19	100.00	91.22	75.00	85.00	84.60	
NO	11.81	14.81	0.00	8.78	25.00	15.00	15.40	
CHI-SQUARE		24.821	DF=	11	PROB=	.0097		

TABLE OF DLIEXP BY IMREASON

	a	b	c	d	e	f		
N=	63	92	30	65	10	11		
YES	19.05	20.65	23.33	12.31	0.00	18.18		
NO	80.95	79.35	76.67	87.69	100.00	81.82		
	g	h	i	j	k	OTHER	TOTAL	
N=	125	111	13	149	12	20	701	
YES	12.80	12.61	0.00	6.04	8.33	10.00	12.84	
NO	87.20	87.39	100.00	93.96	91.67	90.00	87.16	
CHI-SQUARE		23.195	DF=	11	PROB=	.0408		

TABLE OF MOS BY IMREASON

	a	b	c	d	e	f		
N=	63	92	31	65	10	11		
97E	9.52	3.26	12.90	10.77	0.00	18.18		
98C	25.40	20.65	29.03	23.08	0.00	9.09		
98G	58.73	69.57	51.61	55.38	90.00	54.55		
OTHER	6.35	6.52	6.45	10.77	10.00	18.18		
	g	h	i	j	k	OTHER	TOTAL	
N=	127	111	13	149	12	20	704	
97E	9.45	18.02	0.00	10.74	16.67	10.00	10.51	
98C	22.83	10.81	0.00	15.44	25.00	10.00	18.32	
98G	60.63	62.16	92.31	69.80	50.00	55.00	63.49	
OTHER	7.09	9.01	7.69	4.03	8.33	25.00	7.67	
CHI-SQUARE		54.741		DF=	33	PROB= .0249		

TABLE OF STATUS BY IMREASON

	a	b	c	d	e	f		
N=	64	91	31	65	10	11		
0-4 YRS	65.63	70.33	58.06	75.38	80.00	63.64		
5-10 YRS	34.38	29.67	41.94	24.62	20.00	36.36		
	g	h	i	j	k	OTHER	TOTAL	
N=	127	110	13	149	12	20	703	
0-4 YRS	82.68	79.09	61.54	89.26	58.33	70.00	77.10	
5-10 YRS	17.32	20.91	38.46	10.74	41.67	30.00	22.90	
CHI-SQUARE		34.495		DF=	11	PROB= .0003		

TABLE OF PLANS BY IMREASON

	a	b	c	d	e	f		
N=	64	91	31	65	10	11		
WORK	28.13	12.09	29.03	12.31	20.00	18.18		
SCHOOL	12.50	35.16	19.35	12.31	40.00	36.36		
ARMY	23.44	27.47	38.71	35.38	20.00	0.00		
UNDEC	35.94	25.27	12.90	40.00	20.00	45.45		
	g	h	i	j	k	OTHER	TOTAL	
N=	127	110	13	149	12	20	703	-
WORK	15.75	32.73	53.85	11.41	8.33	20.00	19.20	
SCHOOL	20.47	27.27	15.38	60.40	0.00	15.00	30.30	
ARMY	35.43	16.36	15.38	8.05	41.67	30.00	23.47	
UNDEC	28.35	23.64	15.38	20.13	50.00	35.00	27.03	
CHI-SQUARE			158.565	DF=	33	PROB=	.0001	

TABLE B-5

20. Which of the following was your most important reason for choosing an enlistment option that required attendance at DLI? (Choose only one answer)

- a. Adventure and travel
- b. Earn more money for a college education
- c. Formal language training
- d. Enlistment bonus
- e. Skill training that would be marketable after leaving service
- f. Other

TABLE OF RANK BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	40	28	275	83	198	74	698
E1-E3	50.00	96.43	59.64	57.83	63.64	45.95	60.03
E4-E6	50.00	3.57	40.36	42.17	36.36	54.05	39.97
	CHI-SQUARE		24.513	DF=	5	PROB= .0002	

TABLE OF AGE BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	40	26	271	78	197	74	686
17-20	47.50	88.46	38.75	53.85	47.72	37.84	45.34
21-24	10.00	7.69	33.95	20.51	32.49	35.14	29.74
25-29	25.00	3.85	20.66	19.23	16.24	20.27	18.80
30-34	17.50	0.00	6.64	6.41	3.55	6.76	6.12
	CHI-SQUARE		47.816	DF=	15	PROB= .0001	

TABLE OF EDLEVEL BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	40	28	275	83	198	74	698
HS	40.00	53.57	29.09	42.17	37.37	37.84	35.53
COLLEGE	47.50	39.29	53.82	44.58	45.45	55.41	49.57
BS/MS	12.50	7.14	17.09	13.25	17.17	6.76	14.90
	CHI-SQUARE		16.866	DF=	10	PROB= .0774	

TABLE OF MENTLCAT BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	26	12	130	34	95	35	332
CAT I	26.92	33.33	34.62	41.18	34.74	40.00	35.24
CAT II	73.08	66.67	65.38	58.82	65.26	60.00	64.76
CHI-SQUARE	1.712		DF=	5	PROB=	.8873	

TABLE OF SEX BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	40	28	275	83	198	74	698
MALE	65.00	82.14	70.18	78.31	78.28	77.03	74.36
FEMALE	35.00	17.86	29.82	21.69	21.72	22.97	25.64
CHI-SQUARE	7.799		DF=	5	PROB=	.1677	

TABLE OF MARSTAT BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	40	28	275	83	198	74	698
SINGLE	62.50	75.00	70.18	61.45	71.21	62.16	68.34
MARRIED	37.50	25.00	29.82	38.55	28.79	37.84	31.66
CHI-SQUARE	5.519		DF=	5	PROB=	.3643	

TABLE OF REGION BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	40	28	275	83	198	74	698
NE	15.00	14.29	18.18	24.10	21.21	22.97	19.91
SE	17.50	25.00	15.64	13.25	16.67	13.51	15.90
MW	15.00	28.57	25.09	27.71	24.75	29.73	25.36
SW	10.00	7.14	13.09	19.28	12.63	16.22	13.61
W	42.50	25.00	28.00	15.66	24.75	17.57	25.21
CHI-SQUARE	21.4996		DF=	20	PROB=	.3683	

TABLE OF SZCITY BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	39	28	273	83	198	74	695
LARGE	15.38	14.29	16.48	13.25	12.63	18.92	15.11
LGESUB	17.95	28.57	13.55	13.25	14.65	20.27	15.40
MEDIUM	20.51	10.71	21.98	22.89	20.71	9.46	19.86
MEDSUB	5.13	0.00	8.06	2.41	9.60	5.41	7.05
SMALL	33.33	39.29	24.91	28.92	27.78	27.03	27.48
RURAL	7.69	7.14	15.02	19.28	14.65	18.92	15.11
	CHI-SQUARE		27.882	DF=	25	PROB= .3133	

TABLE OF LANGEXP BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	40	26	273	83	197	74	693
YES	77.50	76.92	76.56	69.88	71.07	63.51	72.87
NO	22.50	23.08	23.44	30.12	28.93	36.49	27.13
	CHI-SQUARE		6.504	DF=	5	PROB= .2603	

TABLE OF LANGSKLS BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	38	28	272	81	197	72	688
YES	84.21	100.00	81.62	83.95	90.86	73.61	84.59
NO	15.79	0.00	18.38	16.05	9.14	26.39	15.41
	CHI-SQUARE		19.582	DF=	5	PROB= .0015	

TABLE OF DLIEXP BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	40	28	273	83	196	74	694
YES	20.00	0.00	16.12	16.87	6.63	14.86	12.97
NO	80.00	100.00	83.88	83.13	93.37	85.14	87.03
	CHI-SQUARE		16.648	DF=	5	PROB= .0052	

TABLE OF MOS BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	40	28	275	83	197	74	697
97E	2.50	10.71	9.45	1.20	16.75	13.51	10.62
98C	22.50	17.86	20.00	16.87	16.24	17.57	18.36
98G	70.00	71.43	64.36	80.72	60.41	45.95	63.85
OTHER	5.00	0.00	6.18	1.20	6.60	22.97	7.17
	CHI-SQUARE		58.796	DF=	15	PROB= .0001	

TABLE OF STATUS BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	40	28	273	83	198	74	696
0-4 YRS	72.50	100.00	75.82	75.90	82.32	67.57	77.59
5-10 YRS	27.50	0.00	24.18	24.10	17.68	32.43	22.41
	CHI-SQUARE		16.133	DF=	5	PROB= .0065	

TABLE OF PLANS BY DLIOPT

	a	b	c	d	e	OTHER	TOTAL
N=	39	28	275	83	197	74	696
WORK	17.95	3.57	19.64	14.46	25.89	13.51	19.40
SCHOOL	20.51	78.57	31.27	27.71	27.41	27.03	30.60
ARMY	38.46	7.14	21.82	27.71	18.78	32.43	23.13
UNDEC	23.08	10.71	27.27	30.12	27.92	27.03	26.87
	CHI-SQUARE		49.638	DF=	15	PROB= .0001	

TABLE B-6

21. Compare the following list of possible incentive/opportunities with the reference item which is marked with a 10. Compare each separately with the reference only. Use any positive number to indicate how much more or less desirable you think each incentive or opportunity is when compared to the reference item. (If you think the incentive is twice as good as the reference item, then rate the incentive as 20. If you think the incentive is half as good, then rate as 5. Do NOT use 0 or negative numbers.

- | | |
|---|--|
| a. ___ Guaranteed monthly salary plus housing and food allowances which increase with length of service | k. ___ Guaranteed retirement benefits based on length of service |
| b. ___ The opportunity to choose your career field | l. ___ The opportunity to train and have a part-time job in the Army Reserve while remaining a civilian |
| c. ___ Personal Challenge of being in the Army (mental and physical) | m. ___ Funds to continue college based on length of enlistment |
| d. ___ Travel and live in different places | n. ___ Opportunities for gaining leadership training and experience |
| e. ___ Low interest loans while in service and after service for buying a home | o. ___ The opportunity to become a commissioned officer |
| f. ___ Service to your country | p. ___ Guaranteed choice of duty station |
| g. ___ Free medical and dental care for you and your family while in service | q. ___ The opportunity to take college courses during off-duty hours with the Army paying 75% of the tuition |
| h. ___ Enlistment bonus for advanced career training and/or experience in chosen field | r. ___ Delayed repayment of prior student loans |
| i. ___ Service in a combat type unit | s. ___ Husband and wife enlistment, technical training and co-location program |
| j. ___ In service training programs designed to ensure acceptability of credits for civilian education and employment | t. ___ Training and work experience in a job skill that would be useful later in civilian life |

The frequency array, f_{ij} , for the enlistment incentives and career opportunities examined in question #21 is

f_{ij}	a	b	c	d	e	f	g	h	i	j
a	----	250	139	107	150	255	218	308	59	246
b	193	----	117	94	132	215	213	286	46	216
c	377	394	----	253	270	377	385	448	74	364
d	349	411	212	----	249	364	377	468	76	366
e	362	383	241	254	----	356	369	434	92	354
f	232	266	110	121	139	----	245	319	29	242
g	199	247	122	131	110	210	----	277	46	222
h	157	186	85	88	97	186	147	----	44	156
i	530	544	426	481	420	544	519	537	---	512
j	244	270	142	127	150	258	260	310	54	----
k	225	248	148	150	140	245	225	301	45	219
l	439	457	317	356	322	424	438	482	136	418
m	199	218	108	114	117	215	196	239	61	166
n	235	253	101	115	145	216	254	317	33	230
o	322	338	221	246	229	335	334	377	83	324
p	277	286	210	211	186	291	272	314	77	269
q	170	180	90	89	96	185	159	213	39	140
r	391	408	286	306	283	386	383	441	138	384
s	388	414	301	339	290	405	403	431	135	389
t	1416144	90	77	104	167	168	197	42	136	

f_{ij}	k	l	m	n	o	p	q	r	s	t
a	239	117	301	260	203	235	321	145	151	343
b	221	103	282	218	175	211	284	120	133	306
c	373	181	417	384	282	339	448	241	233	453
d	364	166	424	373	285	335	468	202	214	471
e	347	168	408	381	274	315	433	179	181	443
f	247	118	303	232	188	246	323	128	149	333
g	211	99	288	233	183	210	300	313	125	323
h	177	77	228	172	134	174	219	89	111	262
i	518	328	534	551	423	434	562	330	310	560
j	240	103	291	251	182	245	311	131	151	340
k	----	96	292	242	183	207	297	121	127	325
l	422	----	455	445	326	392	487	237	226	491
m	194	56	----	184	148	211	217	83	103	273
n	225	90	285	----	156	242	314	119	145	330
o	317	159	375	315	----	287	376	190	174	388
p	271	125	289	276	206	----	306	124	118	332
q	166	56	188	160	124	153	----	55	89	239
r	393	189	413	401	293	337	450	----	178	446
s	389	194	413	391	305	346	436	185	----	425
t	158	59	190	140	119	156	182	72	69	----

The column sums are

j	a	b	c	d	e	f	g	h	i	j
$\sum z_{ij}$	3.536	6.086	-6.860	-6.837	-6.270	4.689	4.598	10.619	-22.321	3.392
n_{ij}	20	20	20	20	20	20	20	20	20	20

j	k	l	m	n	o	p	q	r	s	t
$\sum z_{ij}$	4.445	-13.106	8.865	5.006	-3.012	1.810	11.584	-9.368	-9.564	12.708
n_{ij}	20	20	20	20	20	20	20	20	20	20

APPENDIX C
CROSSTABULATIONS OF REENLISTMENT VARIABLES

TABLE C-1

22. Following your current training at DLI, do you think you will be fully trained to perform your assigned duties at the appropriate skill level, at your next duty station?

a. Yes b. No

TABLE OF RANK BY TRND

	YES	NO	TOTAL		
N=	469	220	689		
E1-E3	64.82	48.18	59.51		
E4-E6	35.18	51.82	40.49		
	CHI-SQUARE	17.202	DF=	1	PROB= .0001

TABLE OF AGE BY TRND

	YES	NO	TOTAL		
N=	465	212	677		
17-20	48.17	37.74	44.90		
21-24	28.60	32.55	29.84		
25-29	17.85	22.17	19.20		
30-34	5.38	7.55	6.06		
	CHI-SQUARE	6.840	DF=	3	PROB= .0772

TABLE OF EDLEVEL BY TRND

	YES	NO	TOTAL		
N=	469	220	689		
HS	36.89	34.09	35.99		
COLLEGE	50.53	46.36	49.20		
BS/MS	12.58	19.55	14.80		
	CHI-SQUARE	5.762	DF=	2	PROB= .0561

TABLE OF MENTLCAT BY TRND

	YES	NO	TOTAL		
N=	240	91	331		
CAT I	32.50	41.76	35.05		
CAT II	67.50	58.24	64.95		
	CHI-SQUARE	2.447		DF= 1	PROB= .1150

TABLE OF SEX BY TRND

	YES	NO	TOTAL		
N=	469	220	689		
MALE	72.49	79.09	74.60		
FEMALE	27.51	20.91	25.40		
	CHI-SQUARE	3.439		DF= 1	PROB= .0637

TABLE OF MARSTAT BY TRND

	YES	NO	TOTAL		
N=	469	220	689		
SINGLE	68.44	65.45	67.49		
MARRIED	31.56	34.55	32.51		
	CHI-SQUARE	0.610		DF= 1	PROB= .4349

TABLE OF REGION BY TRND

	YES	NO	TOTAL		
N=	469	220	689		
NE	18.55	23.64	20.17		
SE	15.78	15.45	15.67		
MW	25.16	26.36	25.54		
SW	15.37	9.09	13.50		
W	24.95	25.45	25.11		
	CHI-SQUARE	6.6816		DF= 4	PROB= .1537

TABLE OF SZCITY BY TRND

	YES	NO	TOTAL
N=	466	220	686
LARGE	14.16	18.18	15.45
LGESUB	15.88	13.64	15.16
MEDIUM	18.03	21.82	19.24
MEDSUB	7.51	5.91	7.00
SMALL	29.18	25.45	27.99
RURAL	15.24	15.00	15.16

CHI-SQUARE 4.471 DF= 5 PROB= .4837

TABLE OF LANGEXP BY TRND

	YES	NO	TOTAL
N=	467	217	684
YES	72.16	75.12	73.10
NO	27.84	24.88	26.90

CHI-SQUARE 0.657 DF= 1 PROB= .4177

TABLE OF LANGSKLS BY TRND

	YES	NO	TOTAL
N=	461	219	680
YES	85.03	83.56	84.56
NO	14.97	16.44	15.44

CHI-SQUARE 0.246 DF= 1 PROB= .6169

TABLE OF DLIEXP BY TRND

	YES	NO	TOTAL
N=	467	219	686
YES	13.28	12.79	13.12
NO	86.72	87.21	86.88

CHI-SQUARE 0.032 DF= 1 PROB= .8591

TABLE OF MOS BY TRND

	YES	NO	TOTAL
N=	468	220	688
97E	8.76	13.64	10.32
98C	16.03	22.73	18.17
98G	67.09	56.82	63.81
OTHER	8.12	6.82	7.70

CHI-SQUARE 9.952 DF= 3 PROB= .0190

TABLE OF STATUS BY TRND

	YES	NO	TOTAL
N=	468	220	688
0-4 YRS	78.16	75.00	77.15
5-10 YRS	21.84	25.00	22.85

CHI-SQUARE 0.846 DF= 1 PROB= .3576

TABLE OF PLANS BY TRND

	YES	NO	TOTAL
N=	467	220	687
WORK	18.42	19.09	18.63
SCHOOL	29.98	32.27	30.71
ARMY_	25.70	19.55	23.73
UNDEC	25.91	29.09	26.93

CHI-SQUARE 3.239 DF= 3 PROB= .3562

TABLE C-2

23. Following completion of your current enlistment, what plans do you have for the future?

- a. Leave the Army to find civilian employment
- b. Leave the Army to attend college
- c. Leave the Army for civilian educational/vocational training
- d. Leave the Army but remain in a reserve unit
- e. Reenlist for the same MOS
- f. Reenlist for a different MOS
- g. Remain in the Army until retirement
- h. I do not know

TABLE OF RANK BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	135	213	165	190	703
E1-E3	51.85	75.12	44.85	61.05	59.74
E4-E6	48.15	24.88	55.15	38.95	40.26
CHI-SQUARE	39.785		DF=	3	PROB= .0001

TABLE OF AGE BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	132	209	164	186	691
17-20	28.79	64.11	34.15	44.62	45.01
21-24	40.91	23.92	31.10	28.49	30.10
25-29	21.97	9.09	26.22	20.97	18.81
30-34	8.33	2.87	8.54	5.91	6.08
CHI-SQUARE	59.681		DF=	9	PROB= .0001

TABLE OF EDLEVEL BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	135	213	165	190	703
HS	19.26	46.48	32.12	37.37	35.42
COLLEGE	50.37	48.36	57.58	44.21	49.79
BS/MS	30.37	5.16	10.30	18.42	14.79
CHI-SQUARE	60.744		DF=	6	PROB= .0001

TABLE OF MENTLCAT BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	49	103	99	83	334
CAT I	44.90	35.92	29.29	34.94	35.03
CAT II	55.10	64.08	70.71	65.06	64.97
CHI-SQUARE	3.534		DF=	3	PROB= .3125

TABLE OF SEX BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	135	213	165	190	703
MALE	77.04	71.36	80.00	71.05	74.40
FEMALE	22.96	28.64	20.00	28.95	25.60
CHI-SQUARE	5.359		DF=	3	PROB= .1473

TABLE OF MARSTAT BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	135	213	165	190	703
SINGLE	65.93	82.16	53.94	65.26	67.85
MARRIED	34.07	17.84	46.06	34.74	32.15
CHI-SQUARE	35.444		DF=	3	PROB= .0001

TABLE OF REGION BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	135	213	165	190	703
NE	21.48	19.72	18.79	21.05	20.20
SE	17.78	14.08	16.97	15.26	15.79
MW	22.22	24.41	29.09	25.79	25.46
SW	15.56	12.21	13.33	13.68	13.51
W	22.96	29.58	21.82	24.21	25.04
CHI-SQUARE	6.1996		DF=	12	PROB= .9057

TABLE OF SZCITY BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	135	213	163	189	700
LARGE	17.04	13.15	9.82	20.63	15.14
LGESUB	18.52	16.90	14.72	11.64	15.29
MEDIUM	24.44	18.78	15.95	20.63	19.71
MEDSUB	6.67	7.98	5.52	7.94	7.14
SMALL	24.44	31.92	28.83	23.81	27.57
RURAL	8.89	11.27	25.15	15.34	15.14
CHI-SQUARE 33.960					DF = 15
					PROB = .0034

TABLE OF LANGEXP BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	134	211	163	190	698
YES	73.13	78.20	66.87	72.11	72.92
NO	26.87	21.80	33.13	27.89	27.08
CHI-SQUARE 6.065					DF = 3
					PROB = .1085

TABLE OF LANGSKLS BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	130	211	164	188	693
YES	83.85	88.15	80.49	85.11	84.70
NO	16.15	11.85	19.51	14.89	15.30
CHI-SQUARE 4.283					DF = 3
					PROB = .2325

TABLE OF DLIEXP BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	134	213	162	190	699
YES	14.18	8.92	16.67	12.63	12.73
NO	85.82	91.08	83.33	87.37	87.27
CHI-SQUARE 5.297					DF = 3
					PROB = .1513

TABLE OF MOS BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	135	213	164	190	702
97E	14.81	12.21	7.93	7.89	10.54
98C	17.04	15.02	23.17	18.95	18.38
98G	59.26	69.01	58.54	64.21	63.39
OTHER	8.89	3.76	10.37	8.95	7.69
CHI-SQUARE 17.256					DF= 9
					PROB= .0449

TABLE OF STATUS BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	134	213	164	190	701
0-4 YRS	75.37	89.67	60.98	78.42	77.18
5-10 YRS	24.63	10.33	39.02	21.58	22.82
CHI-SQUARE 43.729					DF= 3
					PROB= .0001

TABLE OF PLANS BY PLANS

	WORK	SCHOOL	ARMY	UNDEC	TOTAL
N=	135	213	165	190	703
WORK	100.00	0.00	0.00	0.00	19.20
SCHOOL	0.00	100.00	0.00	0.00	30.30
ARMY	0.00	0.00	100.00	0.00	23.47
UNDEC	0.00	0.00	0.00	100.00	27.03

TABLE C-3

24.1 At your last assignment requiring language skills, do you feel you were being utilized in your MOS?

a. Yes

b. No

TABLE OF RANK BY USEDPROP

	YES	NO	TOTAL		
N=	61	52	113		
E1-E3	9.84	19.23	14.16		
E4-E6	90.16	80.77	85.84		
CHI-SQUARE			2.038	DF = 1	PROB = .1534

TABLE OF AGE BY USEDPROP

	YES	NO	TOTAL		
N=	59	52	111		
17-20	10.17	17.31	13.51		
21-24	33.90	34.62	34.23		
25-29	38.98	36.54	37.84		
30-34	16.95	11.54	14.41		
CHI-SQUARE			1.651	DF = 3	PROB = .6478

TABLE OF EDLEVEL BY USEDPROP

	YES	NO	TOTAL		
N=	61	52	113		
HS	14.75	23.08	18.58		
COLLEGE	75.41	46.15	61.95		
BS/MS	9.84	30.77	19.47		
CHI-SQUARE			11.243	DF = 2	PROB = .0036

TABLE OF MENTLCAT BY USEDPROP

	YES	NO	TOTAL		
N=	34	23	57		
CAT I	32.35	47.83	38.60		
CAT II	67.75	52.17	61.40		
	CHI-SQUARE	1.386		DF = 1	PROB = .2391

TABLE OF SEX BY USEDPROP

	YES	NO	TOTAL		
N=	61	52	113		
MALE	67.21	78.85	72.57		
FEMALE	32.79	21.15	27.43		
	CHI-SQUARE	1.908		DF = 1	PROB = .1672

TABLE OF MARSTAT BY USEDPROP

	YES	NO	TOTAL		
N=	61	52	113		
SINGLE	37.70	42.31	39.82		
MARRIED	62.30	57.69	60.18		
	CHI-SQUARE	0.248		DF = 1	PROB = .6184

TABLE OF REGION BY USEDPROP

	YES	NO	TOTAL		
N=	61	52	113		
NE	26.23	21.15	23.89		
SE	13.11	21.15	16.81		
MW	22.95	25.00	23.89		
SW	14.75	11.54	13.27		
W	22.95	21.15	22.12		
	CHI-SQUARE	1.691		DF = 4	PROB = .7924

TABLE OF SZCITY BY USEDPROP

	YES	NO	TOTAL
N=	59	51	110
LARGE	15.25	13.73	14.55
LGESUB	15.25	13.73	14.55
MEDIUM	16.95	25.49	20.91
MEDSUB	8.47	1.96	5.45
SMALL	28.81	33.33	30.91
RURAL	15.25	11.76	13.64

CHI-SQUARE 3.595 DF = 5 PROB = .6090

TABLE OF LANGEXP BY USEDPROP

	YES	NO	TOTAL
N=	60	52	112
YES	78.33	82.69	80.36
NO	21.67	17.31	19.64

CHI-SQUARE 0.335 DF = 1 PROB = .5625

TABLE OF LANGSKLS BY USEDPROP

	YES	NO	TOTAL
N=	61	52	113
YES	8.20	21.15	14.16
NO	91.80	78.85	85.84

CHI-SQUARE 3.877 DF = 1 PROB = .0489

TABLE OF DLIEXP BY USEDPROP

	YES	NO	TOTAL
N=	59	52	111
YES	71.19	53.85	63.06
NO	28.81	46.15	36.94

CHI-SQUARE 3.568 DF = 1 PROB = .0589

TABLE OF MOS BY USEDPROP

	YES	NO	TOTAL		
N=	61	52	113		
97E	6.56	30.77	17.70		
98C	22.95	17.31	20.35		
98G	62.30	44.23	53.98		
OTHER	8.20	7.69	7.96		
	CHI-SQUARE	11.442	DF= 3	PROB=	.0096

TABLE OF STATUS BY USEDPROP

	YES	NO	TOTAL		
N=	60	52	112		
0-4 YRS	18.33	48.08	32.14		
5-10 YRS	81.67	51.92	67.86		
	CHI-SQUARE	11.299	DF= 1	PROB=	.0008

TABLE OF PLANS BY USEDPROP

	YES	NO	TOTAL		
N=	60	52	112		
WORK	20.00	30.77	25.00		
SCHOOL	18.33	30.77	24.11		
ARMY-	41.67	13.46	28.57		
UNDEC	20.00	25.00	22.32		
	CHI-SQUARE	11.148	DF= 3	PROB=	.0110

TABLE C-4

25. Compare the following list of possible reenlistment retention incentives. Now, order these incentives from highest to lowest according to the positive impact you feel each would have on a unit's retention rate Do not rate any two incentives the same! (1 is highest, 6 is lowest).

- a. ___ More adequate language training program at DLI with a better mix of the four communication areas of speaking, listening, reading, and writing to ensure proficiency upon graduation and first duty assignment
- b. ___ Establish and maintain a viable unit language maintenance program
- c. ___ Provide more opportunities for "real world" training through use of temporary duty (TDY) and mobile training teams (MTT)
- d. ___ Increase reenlistment bonus
- e. ___ Increase professional development opportunities to return to DLI and other schools for intermediate and advanced instruction
- f. ___ Establishment and implementation of the Army's new specialty pay for linguists

TABLE OF RANK BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	106	43	110	149	104	151	663
E1-E3	70.75	53.49	55.45	55.03	64.42	56.95	59.43
E4-E6	29.25	46.51	44.55	44.97	35.58	43.05	40.57
	CHI-SQUARE		9.640	DF=	5	PROB=	.0858

TABLE OF AGE BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	105	43	105	146	102	150	651
17-20	55.24	39.53	47.62	43.84	42.16	38.67	44.55
21-24	31.43	20.93	29.52	32.19	31.37	31.33	30.57
25-29	9.52	27.91	16.19	17.12	19.61	24.00	18.43
30-34	3.81	11.63	6.67	6.85	6.86	6.00	6.45
	CHI-SQUARE		18.690	DF=	15	PROB=	.2281

TABLE OF EDLEVEL BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	106	43	110	149	104	151	663
HS	38.68	37.21	38.18	38.26	29.81	28.48	34.69
COLLEGE	49.06	44.19	47.27	48.99	50.96	56.29	50.38
BS/MS	12.26	18.60	14.55	12.75	19.23	15.23	14.93
CHI-SQUARE	8.250		DF=	10	PROB=	.6044	

TABLE OF MENTLCAT BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	49	20	56	75	54	65	319
CAT I	30.61	25.00	26.79	41.33	48.15	33.85	35.74
CAT II	69.39	75.00	73.21	58.67	51.85	66.15	64.26
CHI-SQUARE	8.260		DF=	5	PROB=	.1422	

TABLE OF SEX BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	106	43	110	149	104	151	663
MALE	66.04	76.74	70.00	80.54	74.04	75.50	74.06
FEMALE	33.96	23.26	30.00	19.46	25.95	24.50	25.94
CHI-SQUARE	8.070		DF=	5	PROB=	.1522	

TABLE OF MARSTAT BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	106	43	110	149	104	151	663
SINGLE	80.19	60.47	65.45	64.43	72.12	62.91	67.72
MARRIED	19.81	39.53	34.55	35.57	27.88	37.09	32.28
CHI-SQUARE	12.090		DF=	5	PROB=	.0335	

TABLE OF REGION BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	106	43	110	104	149	151	663
NE	13.21	27.91	20.00	20.81	23.08	20.53	20.21
SE	17.92	9.30	17.27	18.12	11.54	15.23	15.69
MW	30.19	23.36	27.27	23.49	23.08	26.49	25.79
SW	9.43	16.28	10.91	13.43	22.12	12.58	13.73
W	29.25	23.26	24.55	24.16	20.19	25.17	24.59
CHI-SQUARE			18.840	DF=	20	PROB=	.5321

TABLE OF SZCITY BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	103	43	110	148	104	150	660
LARGE	14.29	11.63	20.00	16.22	16.35	11.33	15.15
LGESUB	11.43	27.91	10.91	19.59	12.50	13.33	14.85
MEDIUM	23.81	9.30	21.82	20.27	13.46	22.00	19.70
MEDSUB	9.52	6.98	5.45	6.08	12.50	4.67	7.27
SMALL	27.51	30.23	27.27	21.62	29.81	32.67	27.58
RURAL	15.24	13.95	14.55	16.22	15.38	16.00	15.45
CHI-SQUARE			30.320	DF=	25	PROB=	.2125

TABLE OF LANGEXP BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	103	42	110	149	104	150	658
YES	77.67	78.57	79.09	69.13	69.23	69.33	72.80
NO	22.33	21.43	20.91	30.87	30.77	30.67	27.20
CHI-SQUARE			6.730	DF=	5	PROB=	.2412

TABLE OF LANGSKLS BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	104	43	110	146	103	148	654
YES	91.35	79.07	81.82	83.56	91.26	81.08	84.86
NO	8.65	20.93	18.18	16.44	8.74	18.92	15.14
CHI-SQUARE			10.440	DF=	5	PROB=	.0635

TABLE OF DLIEXP BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	104	42	110	148	104	151	659
YES	7.69	11.90	17.27	14.86	12.50	13.91	13.35
NO	92.31	88.10	82.73	85.14	87.50	86.09	86.35
	CHI-SQUARE		4.810	DF=	5	PROB=	.4392

TABLE OF MOS BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	106	43	110	149	103	151	662
97E	10.38	6.98	14.55	10.07	12.62	7.95	10.57
98C	17.92	23.26	14.55	24.16	14.56	16.56	18.28
98G	65.09	65.12	62.73	59.06	66.02	66.23	63.75
OTHER	6.60	4.65	8.18	6.71	6.80	9.27	7.40
	CHI-SQUARE		11.160	DF=	15	PROB=	.7412

TABLE OF STATUS BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	106	43	110	148	104	150	661
0-4 YRS	87.74	69.77	78.18	77.03	75.96	70.67	76.85
5-10 YRS	12.26	30.23	21.82	22.97	24.04	29.33	23.15
	CHI-SQUARE		11.660	DF=	5	PROB=	.0396

TABLE OF PLANS BY RETENTION INCENTIVES

	A	L	M	B	P	S	TOTAL
N=	106	43	110	147	104	151	661
WORK	20.75	25.58	16.36	19.05	17.31	18.54	18.91
SCHOOL	33.02	27.91	35.45	29.93	25.96	28.48	30.26
ARMY	19.81	30.23	16.36	28.57	27.88	23.18	23.90
UNDEC	26.42	16.28	31.82	22.45	28.85	29.80	26.93
	CHI-SQUARE		14.500	DF=	15	PROB=	.4880

TABLE OF MULTIPLE COMPARISONS FOR:

RANK AND RETENTION INCENTIVES

SPECPAY > ADQMIX, LMAINT
BONUS > ADQMIX, LMAINT

AGE AND RETENTION INCENTIVES

SPECPAY > PRODEV, MTT, LMAINT, ADQMIX
BONUS > PRODEV, MTT, LMAINT, ADQMIX
PRODEV > LMAINT, ADQMIX
MTT > LMAINT, ADQMIX

EDLEVEL AND RETENTION INCENTIVES

SPECPAY > BONUS, MTT, PRODEV, LMAINT, ADQMIX
BONUS > PRODEV, LMAINT, ADQMIX
MTT > LMAINT, ADQMIX
PRODEV > LMAINT, ADQMIX

MENTLCAT BY RETENTION INCENTIVES

SPECPAY > MTT, LMAINT, ADQMIX
BONUS > LMAINT, ADQMIX
PRODEV > LMAINT, ADQMIX

SEX BY RETENTION INCENTIVES

SPECPAY > BONUS, MTT, LMAINT, ADQMIX
PRODEV > LMAINT, ADQMIX
BONUS > LMAINT, ADQMIX

MARSTAT BY RETENTION INCENTIVES

SPECPAY > MTT, LMAINT, ADQMIX
BONUS > LMAINT, ADQMIX
PRODEV > LMAINT, ADQMIX

REGION BY RETENTION INCENTIVES

SPECPAY	>	PRODEV, MTT, LMAINT, ADQMIX
BONUS	>	MTT, LMAINT, ADQMIX
PRODEV	>	LMAINT, ADQMIX
MTT	>	LMAINT, ADQMIX

SZCITY BY RETENTION INCENTIVES

SPECPAY	>	PRODEV, MTT, ADQMIX, LMAINT
BONUS	>	PRODEV, MTT, ADQMIX, LMAINT
PRODEV	>	ADQMIX, LMAINT
MTT	>	ADQMIX, LMAINT

LANGEXP BY RETENTION INCENTIVES

SPECPAY	>	PRODEV, MTT, LMAINT, ADQMIX
BONUS	>	PRODEV, MTT, LMAINT, ADQMIX
MTT	>	LMAINT, ADQMIX
PRODEV	>	LMAINT, ADQMIX

LANGSKLS BY RETENTION INCENTIVES

SPECPAY	>	MTT, PRODEV, LMAINT, ADQMIX
BONUS	>	LMAINT, ADQMIX
MTT	>	LMAINT, ADQMIX
PRODEV	>	LMAINT, ADQMIX

DLIEXP BY RETENTION INCENTIVES

SPECPAY	>	MTT, PRODEV, LMAINT, ADQMIX
BONUS	>	MTT, PRODEV, LMAINT, ADQMIX
MTT	>	LMAINT, ADQMIX
PRODEV	>	LMAINT, ADQMIX

MOS BY RETENTION INCENTIVES

SPECPAY	>	MTT, PRODEV, LMAINT, ADQMIX
BONUS	>	MTT, PRODEV, LMAINT, ADQMIX
MTT	>	LMAINT, ADQMIX
PRODEV	>	LMAINT, ADQMIX
LMAINT	>	ADQMIX

STATUS BY RETENTION INCENTIVES

SPECPAY	>	MTT, PRODEV, LMAINT, ADQMIX
BONUS	>	LMAINT, ADQMIX
MTT	>	LMAINT, ADQMIX
PRODEV	>	LMAINT, ADQMIX

PLANS BY RETENTION INCENTIVES

SPECPAY	>	PRODEV, MTT, LMAINT, ADQMIX
BONUS	>	PRODEV, MTT, LMAINT, ADQMIX
PRODEV	>	MTT, LMAINT, ADQMIX
MTT	>	LMAINT, ADQMIX

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