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THESIS

U.S. NAVY'S DELAYED ENTRY PROGRAM:
Effects of its Length on DEP Loss and First Term Attrition

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The United States Navy Recruiting Command (NAVCRUITCOM) manages the Navy's most important procurement process, the acquisition of personnel to man all Navy activities. In this process, NAVCRUITCOM policies allow potential recruits to delay their accession date for up to 365 days from the time the recruiting contract is signed through the Delayed Entry Program (DEP). One of the major disadvantages of the DEP is that an individual may decide not to enlist, becoming a "DEP Loss". This study investigates the relationship between the time an individual spends in DEP and the risk of becoming a DEP loss or leaving the service during the first two years of enlistment; log-linear regression models are discussed and recommendations are made using conditional probabilities. It was found that, on the average, DEP attrition is directly proportional to the length of DEP, while first term attrition decreases with DEP length for DEP time of eight months or less. The time an individual spends in the DEP has a larger effect on attrition during the DEP itself than it does on attrition after the contract accesses. It was also found that Non-High School Graduate males have the highest attrition proportions after completing DEP than any other group.

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U.S. Navy's Delayed Entry Program:
Effects of its Length on DEP Loss and First Term Attrition

by

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ABSTRACT

The United States Navy Recruiting Command (NAVCRUITCOM) manages the Navy's most important procurement process, the acquisition of personnel to man all Navy activities. In this process, NAVCRUITCOM policies allow potential recruits to delay their accession date for up to 365 days from the time the recruiting contract is signed, through the Delayed Entry Program (DEP). One of the major disadvantages of the DEP is that an individual may decide not to enlist, becoming a "DEP Loss".

This study investigates the relationship between the time an individual spends in DEP and the risk of becoming a DEP loss or leaving the service during the first two years of enlistment; log-linear regression models are discussed and recommendations are made using conditional probabilities. It was found that, on the average, DEP attrition is directly proportional to DEP length, while first term attrition decreases with DEP length, for DEP of eight months or less. The time an individual spends in the DEP has a larger effect on attrition during the DEP itself than it does on attrition after the contract accesses. It was also found that Non-High School Graduate males have the highest attrition proportions after completing DEP than any other group.

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EXECUTIVE SUMMARY

In procuring personnel to man all Navy activities, Navy Recruiting Command policies allow potential recruits to delay their accession date, through the Delayed Entry Program (DEP), for up to 365 days from the time the recruiting contract is signed. One of the major disadvantages of the DEP is that an individual may decide not to enlist, becoming a "DEP Loss". The relation between early attrition, during the first two years of service, and the length of time a contract spends in DEP is examined in this study.

Log-linear regression models are discussed and recommendations are made using conditional probabilities to describe the relationship between the time an individual spends in DEP and the risk of becoming a DEP loss or leaving the service during the first two years of enlistment. Conditional probability computations provide a representation of the expected attrition proportions for both male and female contracts. Conditioning was applied to attrition during Boot Camp, given the contracts were not DEP Losses and to contracts that attrited after Boot Camp but during the first two years of service, given they were not Boot Camp attrites nor DEP attrites.

It was found that, on the average, DEP attrition is directly proportional to the length of DEP, while first term attrition decreases with DEP length, for DEP lengths of eight months or less. The time an individual spends in the DEP has a larger effect on attrition during the DEP itself than after the contract leaves for Boot Camp. It was also

found that Non-High School Graduate males have the highest attrition proportions, after completing DEP, than any other group.

A closer look at the time in DEP factor revealed that the decrease in In-Service attrition proportions with time spent in DEP occurs for all mental groups, male and female, up to DEP length of eight-months. After eight months in DEP, In-Service attrition increases above the highest proportion found during the first eight months. This proportion stays at a high level for DEP length of nine, ten and eleven months, then drops to a proportion close to what is experienced at the eight month mark.

To reduce the risks and associated cost of DEP Loss and First-Term Attrition a DEP management policy revision is recommended. This revision must stress the recruiting of individuals that meet the standards for the highest Mental Category. These individuals, compared to the other Mental Categories, demonstrated smaller attrition rates after completing their contracted DEP length.

A Delayed Entry Program of no more than eight months is also recommended as the "normal" policy, versus the current program of twelve month maximum length. Those contracts which survived DEP, for DEP lengths of eight months or less have a lower In-Service attrition rates than those whose DEP length exceeds eight months.

I. INTRODUCTION

The Navy Recruiting Command enlistment process begins with a recruiter setting up an interview with a *prospect* (17-21 year old individual). If the prospect decides to join the Navy, then the prospect becomes an *applicant*. The applicant is then processed, chooses a rate and signs a contract at a Military Entry Processing Station (MEPS). At this time the person is referred to as a *contract*. The person is said to have accessed into the Navy on the day they enter Basic Training (Boot Camp). The Navy authorizes applicants to delay their accession dates for up to 365 days from the time the recruiting contract is signed [Ref. 1]. If applicants choose to put off the shipping date beyond a month from the time of signing the service obligation contract, they enter the Delayed Entry Program (DEP). An individual may also be assigned to the DEP within a month of signing the enlistment contract if there are not enough seats available at Boot Camp or the requested follow-on school. The objective of this research is to determine if the time a contract spends in the Delayed Entry Program has a significant effect on DEP and In-Service Attrition.

A. THE DELAYED ENTRY PROGRAM AND ATTRITION

Potential recruits enter the Navy through DEP or by direct accession if a Boot Camp seat is readily available within a month of signing the contract (called *direct shippers*). Through the DEP, Navy recruiters can plan their accessions and better

coordinate both accessions and training. Recruiters can be more selective in choosing among potential recruits minimizing pressure to achieve a specified requirement by the end of the month. By maintaining an inventory of contracts in DEP, they can also project the number of accessions up to one year in advance. Through regularly scheduled meetings, recruiters maintain close contact with their DEP'ers to be certain that they maintain their physical and mental qualification for enlistment, and that they sustain their desire to enlist. Therefore DEP also functions as a filter for certain applicants who may not maintain the minimum requirements to enter the Navy. Recruiters do not have all the necessary tools to conduct a complete assessment of the applicant in just a few interviews.

DEP offers the potential recruit the opportunity to consider their choice and to prepare for the change to military life. It also allows a highly qualified applicant to look into the future and select the training area of greatest interest. Previous studies demonstrate that a large DEP pool of contracts may indeed promote recruiting [Ref. 2]. This is due to promotion incentives extended to DEP'ers for contributing referrals.

On the other hand, the advantage for the enlistee to reconsider this career choice can turn into a disadvantage for the recruiter who is counting on this contract. If the potential recruit decides not to enlist, he becomes a DEP loss. DEP loss occurs for a variety of reasons such as serious physical injury, just a change of mind about military life or interest in another service.

B. THE FIRST TWO YEARS OF SERVICE.

For those contracts accessed into the Navy, there is also a potential of attrition during and after Boot Camp. Many recruits face military life during this period and realize that it is not for them. Others attrite for academic reasons or because they do not meet physical requirements. After Boot Camp, and during the first two years of service, recruits either join the fleet or continue their training. This period also offers potential for attrition, which can be very expensive for the Navy due to the high cost of training.

Graphically, the process followed by an applicant is as pictured in Figure 1.

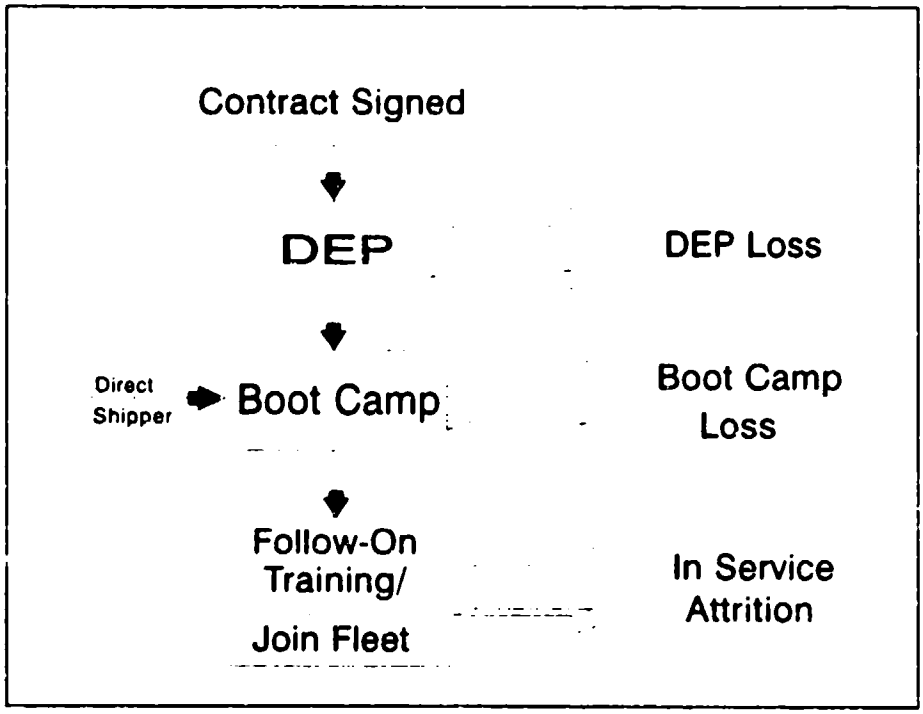


Figure 1 Navy Applicant Attrition Path

In-Service attrition or first term attrition, as described on Figure 1, pertains only to those losses that occur after a recruit graduates from Boot Camp and before the end

of the first two years of service. During these years recruits receive most of their initial training.

C. THESIS ORGANIZATION

The first section includes a description of the data provided by the Commander Naval Recruiting Command (CNRC) Headquarters as well as some preliminary exploratory analysis. More final analysis is given in Chapter III, and conclusion and recommendations are given in the final chapter.

II. DESCRIPTION OF DATA

A total of 298,920 contract records were provided to CNRC by the Naval Personnel Records Data Center (NPRDC) in San Diego, California, for this study. Table I summarizes the data after eliminating the records with AFQT scores of 24 points

Table I DATA BASE BREAKDOWN (DEP CONTRACTS FY 1988-1990)

Factor	Level	**Total Number of Records**
Gender	Female	37197
	Male	250974
Mental Category	A	152235
	B	20744
	Cu	90319
	Cl	24771
	D	102
Time in DEP (months)	8 or less	201601
	8 to 10	55147
	More than 10	31423
Attrition Type	DEP	45460
	Boot Camp	20084
	Under 1 Yr.	18715
	One–Two Yrs.	21006
	Over Two Yrs.	182906

or less, and the records with unknown Education label leaving a total of 288,171 records. The data base includes only non-prior service contracts and only DEP contracts for fiscal years 1988 to 1990.

Table II shows a description of the factors used in the analysis of the data.

Table II FACTORS ANALYZED

Factor	Description	Levels
Gender		Female or Male
Education	High School Education at the time of contract.	1. HSDG (High School Diploma Graduate) 2. HSSR (High School Senior) 3. GED (High School Equivalency Diploma) 4. NONG (High School Non Graduate)
AFQT Score	Score achieved on the Armed Forces Qualification Test.	Ranges from 0 to 99.
Time In DEP	Actual time spent in the Delayed Entry Program.	Ranges from 1 to 12+ months.
Attrition Type	When Attrition occurs.	1. DEP Loss 2. Boot Camp Loss 3. After Boot Camp and within One Year of Service. 4. After One Year of Service but no more than Two Years of Service. 5. No attrition in Two Years of Service or less.

The Education and AFQT scores factors are combined into just one variable called Mental Category, corresponding to the NAVCRUITCOM classification given in Figure 2.

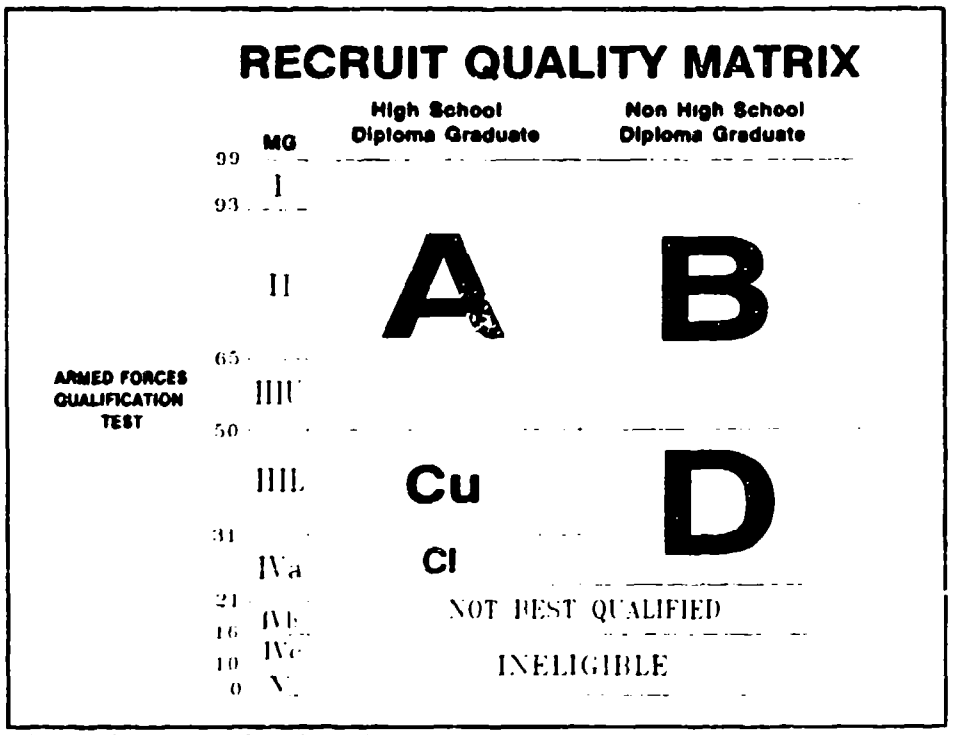


Figure 2 Recruit Quality Matrix

Only the top five levels corresponding to cells A to D of the matrix are considered. The left hand side of the matrix includes the education codes HSDG and HSSR. GED and NONG coded contracts are classified on the right hand side of the matrix. The lower case "u" and "l" in the "C" quadrant of the matrix correspond to Upper and Lower respectively. The MG column of the matrix defines Mental Group. This classification corresponds to NAVCRUITCOM established levels from the Armed Forces Qualification Test. The breakpoints for each category are as indicated on the figure. Since there are

very few females in the B-Cell and in the D-Cell classification, the female A and B cells are pooled together, as are the C and D cells.

A. DEP LOSS

Figure 3 shows that during fiscal years 1988 to 1990 DEP loss reached an average of 15.7 percent of the total number of contracts. According to Navy Recruiting Command (NAVCRUITCOM) figures, DEP loss has grown steadily during the last eight

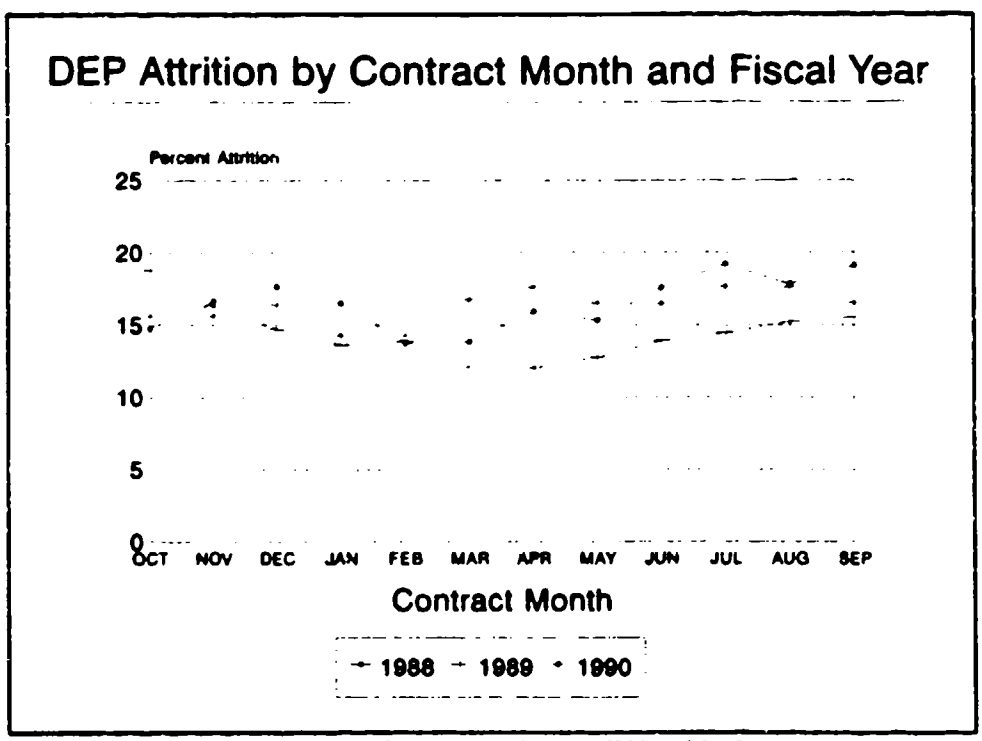


Figure 3 DEP Attrition by Contract Month, FY's 88–90

years. Monthly fluctuations in percent attrition are attributed to seasonal preferences of the prospects.

DEP attrition versus the gender of the prospects is given in Figure 4. For the years 1988 to 1990, DEP loss for females is 24 percent versus 14 percent for male prospects.

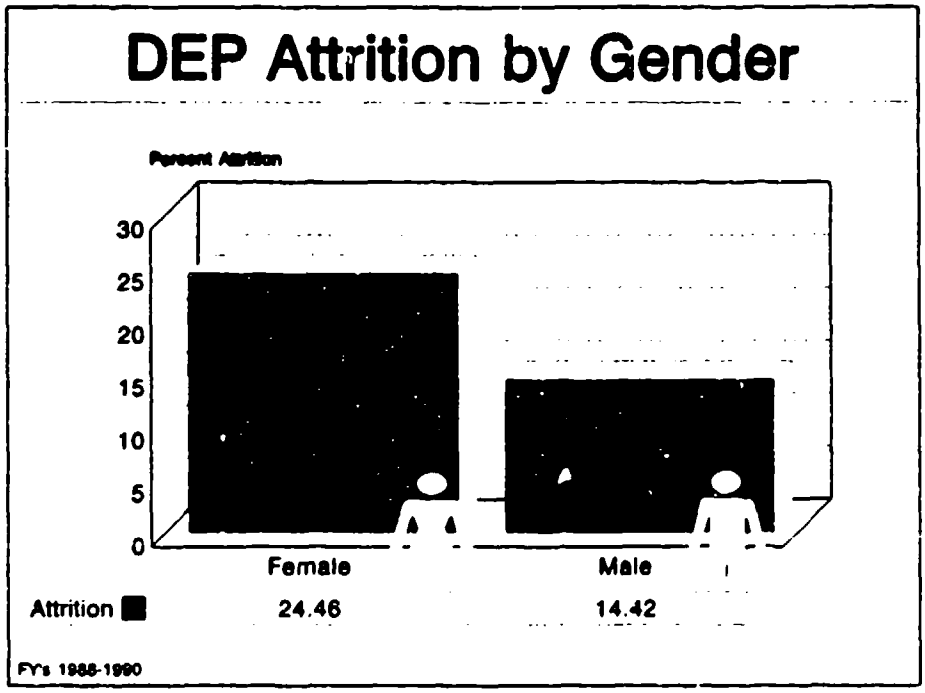


Figure 4 DEP Attrition by Gender

DEP attrition for various educational levels of the prospects at the time of signing the enlistment contract is given in Figure 5. HS Senior stands for High School students who are in their senior year and will graduate in twelve or less months. HS Graduates are contracts who hold a High School Diploma. GED contracts are those individuals who possess a High School graduation equivalency diploma, the remaining contracts are non graduates. According to NAVCRUITCOM, the differences observed here are typical of the last few years. High school seniors display a higher percentage of DEP loss than the

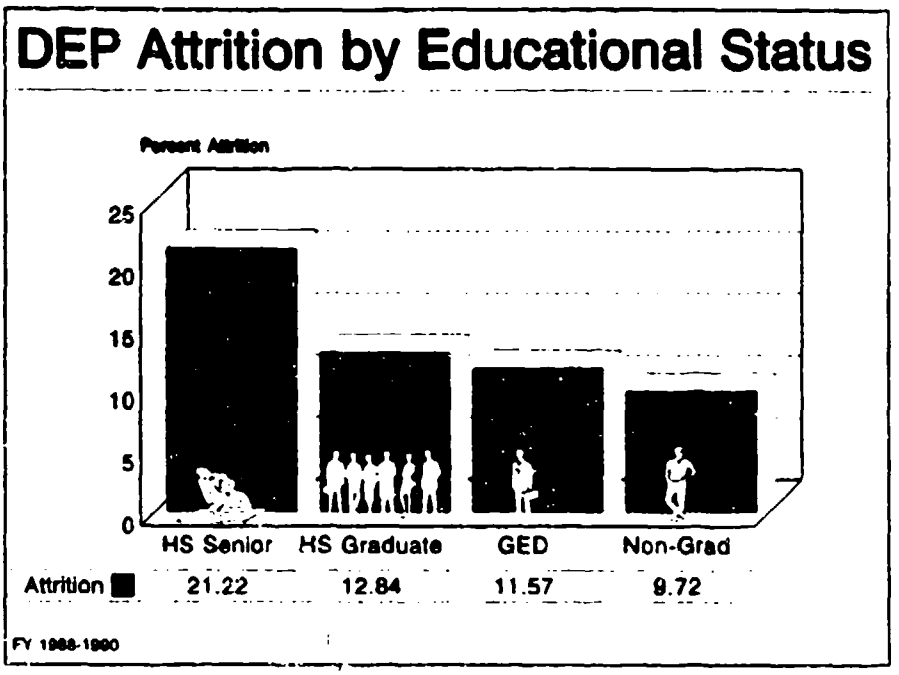


Figure 5 DEP Attrition by Educational Status

other groups. This could be due to a longer time in the DEP. High school seniors are typically recruited early during their senior year[1] or toward the last portion of their junior year. This provides them with around eight to twelve months before graduation, in DEP, until the contracted shipping date[2]. During this time many applicants reorient their interests and decide not to join and to take advantage of other opportunities.

As Figure 6 indicates there exists an almost perfect linear proportionality between the amount of time an applicant spends in the Delayed Entry Program and the risk of

[1] Normally during the first quarter of the academic year.

[2] Actual departure date to Basic Training.

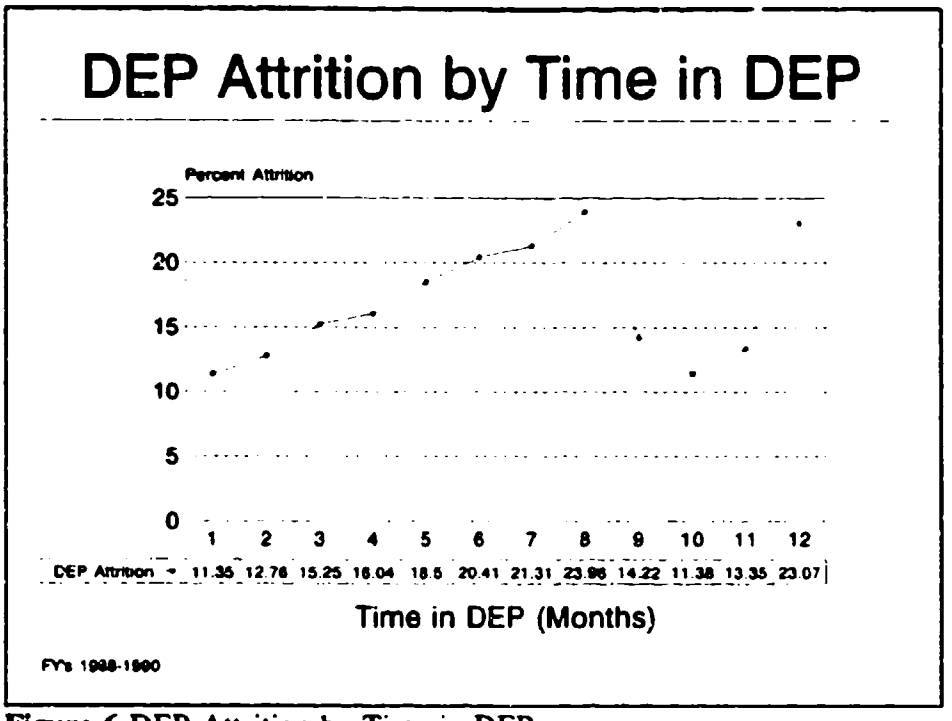


Figure 6 DEP Attrition by Time in DEP

becoming a DEP attrite, during the first eight months in DEP. High School Seniors occupy the majority of the contracts that are in DEP for eight to twelve months and are the apparent cause for the non-linear trend during those DEP lengths.

It is interesting to notice that the trend presented in Figure 6 is also followed by both genders, as shown in Figure 7. Here both sexes display similar linear proportions as the length of the program increases. Females, as discussed before, present a higher percentage attrition throughout. After the eight-month contract point a steady decline is experienced for two months before the losses increase again.

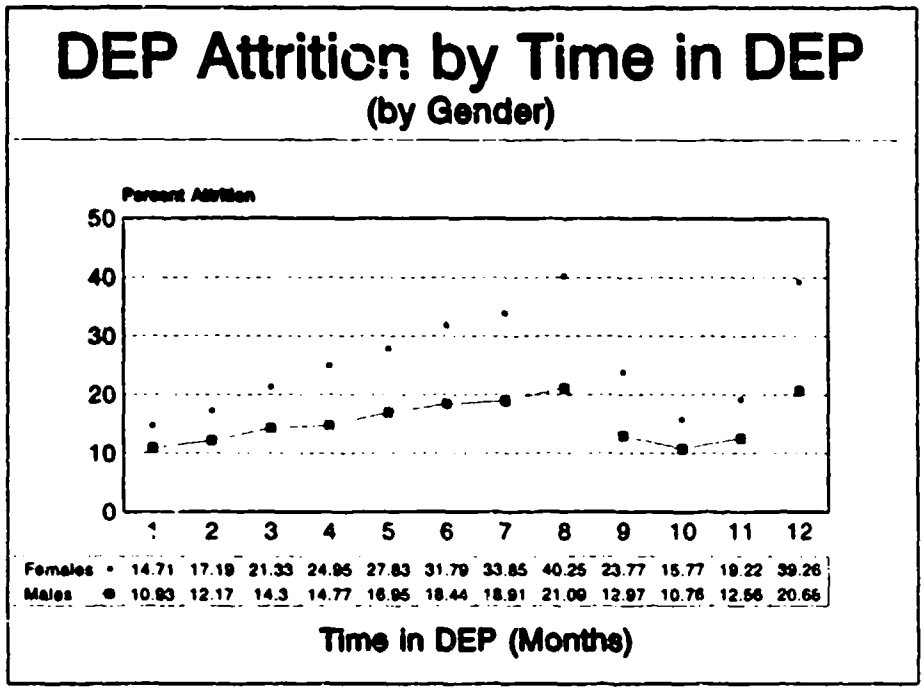


Figure 7 DEP Attrition by Time in DEP and Gender

B. IN-SERVICE ATTRITION

Attrition during Boot Camp presents another costly trait experienced by Navy recruiting during the last few years. Identifying the characteristics of the recruits who are predisposed to attrite during this period may help to reduce the elevated cost of this type of attrition.

Figure 8 presents an interesting inverse trend from DEP attrition. As the time in DEP increases, the proportion of contracts that become losses during Boot Camp, given they were not DEP losses, decreases steadily from the one month DEP to the eight month DEP and then increases for two months, then drops for the last two months.

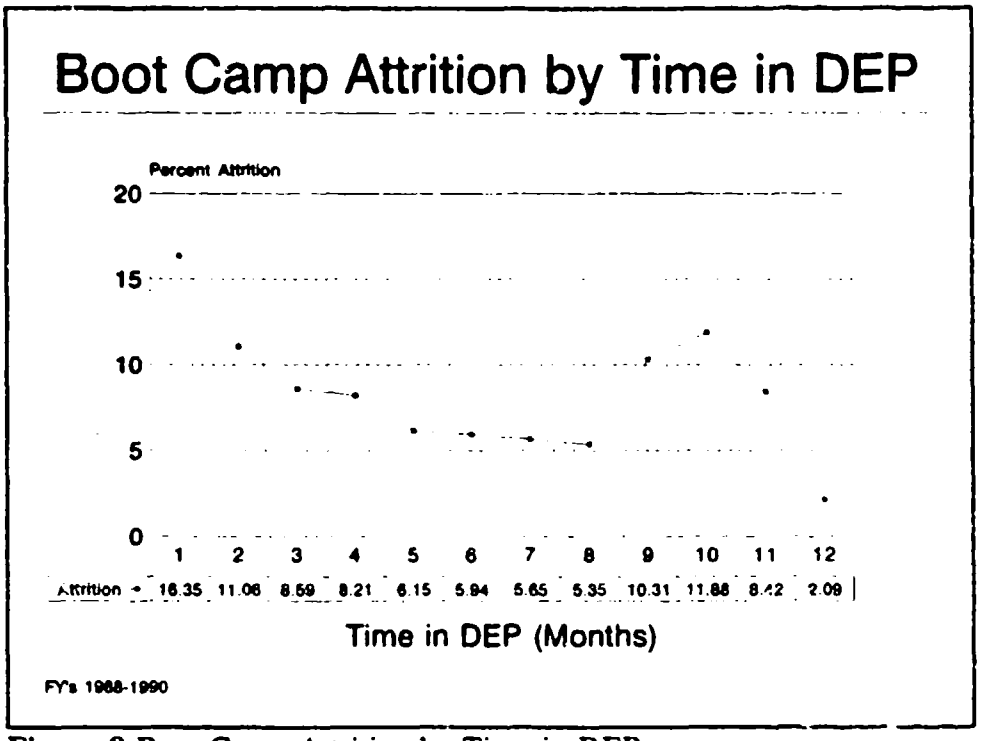


Figure 8 Boot Camp Attrition by Time in DEP

This inverse proportionality between DEP length and attrition during Boot Camp is also exhibited by DEP length versus attrition after Boot Camp and before two years of service. This relationship was discussed during early research conducted for the Army by Buddin in 1981 [Ref. 3] and again by Flyer and Elster in 1983 [Ref.4]. These studies showed that those accessing after a "significant" DEP period had lower in-service attrition than direct shippers.

Figure 9 portrays the relation between DEP length and the proportion of contracts which survived Boot Camp but attrited within two years of service. Note the difference in scale of the vertical axis from these figures.

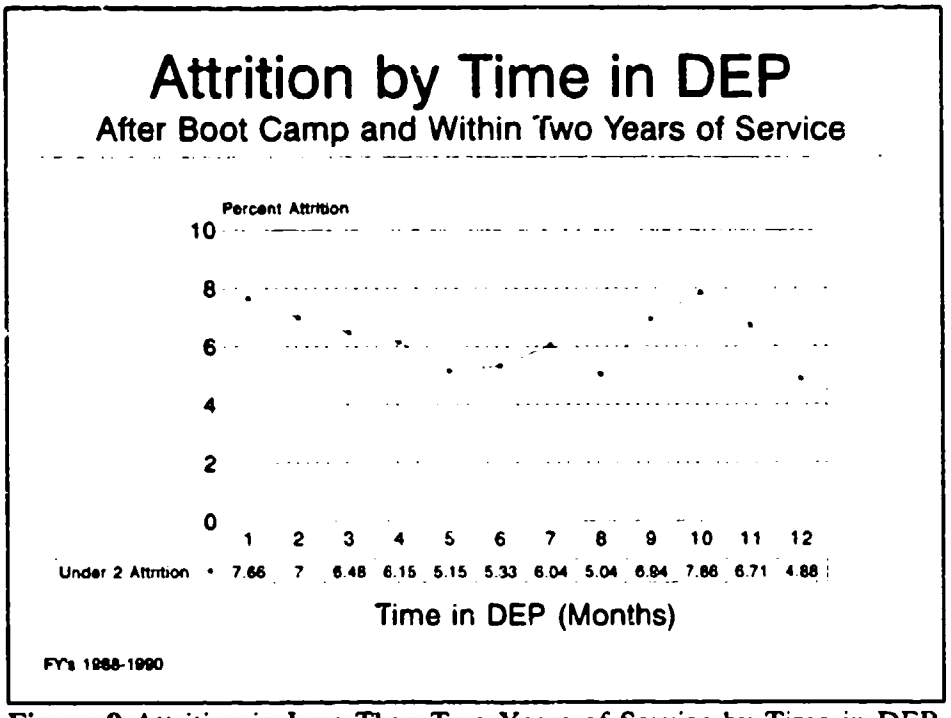


Figure 9 Attrition in Less Than Two Years of Service by Time in DEP

The behavior exhibited in Figures 8 and 9 is actually forced by Figure 6. If we take a particular DEP length, the sum of the proportions of the contracts that attrite during the three different periods examined, and the proportions of those contracts that did not attrite in two years or less, is equal to one. If the proportion of contracts that did not attrite in two years or less remains relatively constant for every DEP length, an increase in the DEP loss proportions would drive the remaining attrition types to decrease, since the sum of all proportions must equal one.

It is now evident that as time in DEP increases the potential of a contract to become a DEP Loss also increases but the potential to become a Boot Camp attrite or an In-Service attrite decreases, at least for the DEP lengths of eight months or less. There may exist a balance or tradeoff between the length of the Delayed Entry Program

and the risk of attrition during DEP or during the first two years of service of a new recruit which would allow reduced attrition costs.

III. DATA ANALYSIS

The data examined consists of counts. The counts are arranged into different categories according to individual factors included in the data set. The relation between early attrition and the time a contract spends in DEP can be modeled a number of ways.

A. LOG-LINEAR REGRESSION

Log-linear models mimic linear models for the analysis of variance. For example, observations categorized by three different factors (like Gender, Education and Time in DEP) are totally independent. If the expected counts, μ_{ijk}, for various combinations satisfy

$$\mu_{ijk} = P_i \times P_j \times P_k \times Total\ Count \qquad (1)$$

which is the product of the probability of belonging to categories i, j and k (P_i, P_j and P_k respectively) of the respective factors times the total counts observed, it follows that total independence of the three factors implies the logarithm of the expected count is the simple sum

$$\log \mu_{ijk} = \alpha + \beta_i^I + \beta_j^J + \beta_k^K \quad . \qquad (2)$$

In this equation the α's and ß's are the new parameters, the superscripts refer to the categories and the subscripts refer to the levels of the factor. If appropriate, this expression gives a very simple model for the data.

The initial approach to modeling uses all the factors described in Table II (Gender, Education Level, AFQT Score, Time in DEP and Attrition Type). The Gender factor has two levels (Male and Female), Education has four levels (HSDG, HSSR, GED, NONG), and AFQT has five levels: I, II, IIIu, IIIl, and IV and below, which correspond to the mental group classification (left hand column) of the Recruit Quality Matrix (Figure 2). Time in DEP is divided by month as follows:

$$\text{Time in DEP} = \begin{cases} 1 & \text{for DEP} <= 1 \text{ mo.,} \\ i & \text{for } i\text{-}1 \text{ mo.} < \text{DEP} <= i \text{ mo.,} \quad i = \{2,3,\ldots,12\} \\ 12+ & \text{for DEP} > 12 \text{ mo.} \end{cases}$$

The 12+ level represents those contracts that spent more than twelve months in DEP typically due to contract renegotiation. The Attrition Type factor was divided in the five levels indicated in Table II (DEP Loss, Boot Camp Loss, Attrition after Boot Camp but within one year of Service, Attrition after one year but within two years of service, and No Attrition in two years of service or less). The final array of counts resulted in a 2 by 4 by 5 by 13 by 5 matrix, employing all five factors.

The data matrix consisted of 2,600 cells in which the counts of records, meeting the criteria for the characteristics in that cell, were placed. The resulting data frame was too large for the SUN workstations or the Hewlett Packard workstations to manage due to "dynamic memory" limitations. Thus the number of levels in the factors analyzed was reduced, while maintaining an adequate representation of these effects, to seek a simple model that the software could handle and which explained the observed counts.

Several combinations were attempted which reduced the size of the array into significantly smaller matrices, but the S-Plus package could not carry out the required

computations due to the dynamic memory limitation. The largest arrays possible to analyze with the log-linear model, which still contained as much information as possible about the factors under study, will now be discussed.

Following the findings discussed in Chapter II, where there was a visible contrast between the trends followed by the attrition types as DEP length increased, the Time in DEP factor was divided in three levels. The first level included those contracts which spent eight months or less in DEP. The second level consisted of contracts which completed more than eight but ten months or less in the program. Finally, the third level included those contracts which were part of the DEP for strictly more than ten months. The time spent in the DEP includes the number of months from the time an applicant signs the enlistment contract until the contract is fulfilled, by going to Boot Camp, or until the contract is terminated becoming a DEP Loss.

The normal length of Boot Camp is eight weeks (56 days). If a recruit decides to leave the Navy during this period it takes approximately eight to ten days to process out[3]. Records displaying time in service of 65 days or less were labelled for Boot Camp Attrition.

A contingency table was created in which the counts of the categories studied were placed. Due to the size of the data base, and the dynamic memory restrictions of the Hewlett Packard workstation, the analysis was done separately for males and females. Three-factor contingency tables were prepared as shown in Tables III and IV. The

[3] According to NAVCRUITCOM and Recruit Training Commands

Table III FEMALE CONTINGENCY TABLE

Females		DEP	Boot	Under 2	None
A & B Cells	DEP< =8 mo.	4870	1024	2233	9775
	8< =DEP<10	904	307	655	2551
	DEP>10	645	145	323	1445
C & D Cells	DEP< =8 mo.	2042	678	1293	4878
	8< =DEP<10	380	190	369	1216
	DEP>10	307	90	192	685

Table IV MALES CONTINGENCY TABLE

Males		DEP	Boot	Under 2	None
A & B Cells	DEP< =8	14645	6113	14005	67693
	8< =DEP<10	3401	2173	4586	19096
	DEP>10	2293	998	2216	10853
C & D Cells	DEP< =8 mo.	11832	5697	9427	45366
	8< =DEP<10	2358	1793	2927	12241
	DEP>10	1753	876	1495	7107

columns indicate the attrition type and rows indicate Mental Category and Time in DEP.

The model to be fitted is similar to a balanced, multiway, designed experiment. The entries in the tables, n_{ijk}, are the number of individuals at level i of factor I. level j of factor J and level k of factor K, for each of the two genders, where I is the Mental Category, J is the Time in DEP and K is the Type of Attrition.

For complete independence of the three factors, as discussed above, the main effects model has the form of equation (2) where

$$\log \mu_{ijk} = \alpha + \beta_i^I + \beta_j^J + \beta_k^K \quad . \tag{3}$$

It is possible that pairs of these factors interact with each other, or that there may be interaction between the three. This study began with the most general model, including all possible interactions, expressed again like the typical analysis of variance model

$$\log \mu_{ijk} = \alpha + \beta_i^I + \beta_j^J + \beta_k^K + \beta_{ij}^{IJ} + \beta_{ik}^{IK} + \beta_{jk}^{JK} + \beta_{ijk}^{IJK} \quad . \tag{4}$$

It was hoped that many of these interaction terms would be statistically insignificant, leading to a simple representation of the data.

1. Results

The model described with equation (4), which portrays the saturated model for a three-factor analysis, was fitted separately for female and male count tables (Table III and Table IV). These models are more complex than the simple main effects model described by equation (3). Since these are full, saturated models, perfect fits to the data are obtained. An attempt to fit these models with as few interactions as possible was carried out with no success. Nothing simpler than a fully saturated model fit the two data sets.

The models investigated were tested using the Log-likelihood ratio test, also known as the Goodman's statistic [Ref. 5: p. 212] defined as

$$G^2 = 2 \sum_{ijk} O_{ijk} \log\left(\frac{O_{ijk}}{E_{ijk}}\right) \qquad (5)$$

where O_{ijk} is the observed count in cell (i,j,k) and E_{ijk} is the expected count in cell (i,j,k). This statistic is compared with the chi-squared distribution in judging whether the model used seems consistent with the observed counts.

Since every model which deleted any interaction terms from equation (4) gave a high value for G^2, this approach requires inclusion of all two and three factor interaction terms. This in turn means that the explanation of the count in any cell depends on all the terms described by equation (4). This does not lead to a simple, clear interpretation of the cell counts. Appendix A contains tables derived from the summary outputs provided by S-Plus from fitting the saturated models for the two genders.

B. CONDITIONAL PROBABILITIES

Because nothing simpler than the fully saturated model appears to fit the data, empirical estimates of appropriate probabilities need to be used. Estimates of conditional probabilities such as the probability of DEP loss, given DEP length, provide useful, straightforward interpretations of these data. With this approach, the probability that a contract will become a DEP loss, can be estimated by dividing the total number of contracts that were DEP losses by the overall total number of contracts. The same

procedure can be carried out for all the types of attrition studied. These estimates provide unconditional loss proportions for each attrition type described as follows:

$$\hat{P}(Attrition_i) = \frac{Total\ Attrition_i\ Contracts}{Total\ Contracts} \qquad (6)$$

due to attrition of type i, i = 1, 2, 3, 4, indicates DEP Loss, Boot Camp Loss, Under 2 Years Attrition and No attrition respectively. These numbers estimate the probabilities of attrition for an individual, at the time this individual signs the enlistment contract.

From the unconditional probabilities estimated for each attrition type using equation (6), it is possible to estimate conditional probabilities. Let A and B be two events. By definition, the conditional probability of an event B occurring, given that event A has already occurred is

$$P(B \mid A) = \frac{P(A,\ B)}{P(A)} \qquad (7)$$

where the symbol "|" means "given", P(A, B) is the joint probability that both events A and B occur, while P(A) represents the marginal probability that event A occurs. Granted that we know event A has occurred (for example, an individual is not a DEP loss and is accessed), P(B | A) is more appropriate than P(B) in studying further behavior (for example, Boot Camp Loss).

Let event A be defined as a contract accession (no loss during DEP) and event B represent a loss during Boot Camp. Then the probability of a contract becoming a Boot Camp loss, given it was not a loss during DEP is:

$$P(B|A) = \frac{P(No\ DEP\ Loss,\ Boot\ Camp\ Loss)}{P(No\ DEP\ Loss)} \qquad (8)$$

where P(Boot Camp Loss, No DEP Loss) is the joint probability of a contract being a Boot Camp Loss and a DEP "survivor" or an actual accession. The probability of a contract being an accession is

$$P(A) = P(No\ DEP\ Loss) = 1 - P(DEP\ Loss) \quad . \qquad (9)$$

For example, to illustrate this discussion, suppose there were 100 male contracts in the A-Cell classification of the Recruit Quality Matrix (Figure 2) that spent two months in DEP, as represented by the dots in Figure 10. F. ~n these 100 contracts,

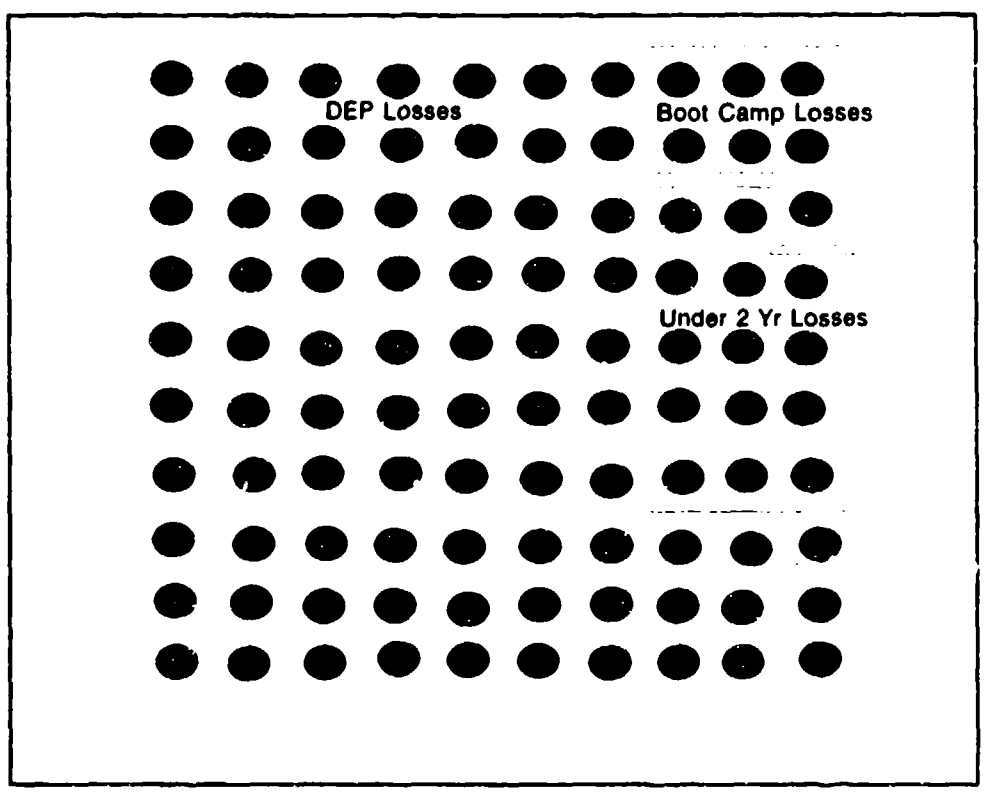


Figure 10 Conditional Probabilities Example

suppose that 14 became DEP losses, seven contracts were losses during Boot Camp and another 14 attrited after Boot Camp but within the first two years of service. Following equation (6) the estimated unconditional probabilities for each case would be 14/100 for DEP Attrition, 7/100 for Boot Camp losses and 14/100 for the losses occurring in two years or less after Boot Camp.

To estimate the conditional probabilities for Boot Camp attrition, given no DEP Loss, it is necessary to use equation (8) in which no DEP Loss is defined as indicated by equation (9). The resulting equation is

$$\hat{P}(Boot\ Camp\ Loss \mid No\ DEP\ Loss) = \frac{\frac{7}{100}}{1-\frac{14}{100}} = \frac{\frac{7}{100}}{\frac{86}{100}} = \frac{7}{86} \qquad (10)$$

where the same result could have been obtained by eliminating the contracts that became DEP losses (14 contracts) and dividing the number of contracts that were Boot Camp Losses (a total of seven) by the number of contracts remaining (86 contracts).

Similarly, the probability of a contract being a loss during the first two years of service, given it was neither a Boot Camp Loss nor a DEP Loss is

$$\frac{P(Under\text{-}2\text{-}Yr\ Loss,\ No\ Boot\ Camp\ Loss,\ No\ DEP\ Loss)}{P(No\ Boot\ Camp\ Loss,\ No\ DEP\ Loss)} \qquad (11)$$

The estimate for P(Under-2-Yr Loss | No Boot Camp Loss, No DEP Loss) is

$$= \frac{14/100}{1-(14/100+7/100)} = \frac{14/100}{1-(21/100)} = \frac{14/100}{79/100} = \frac{14}{79} \qquad (12)$$

which could have been found by dividing the number of contracts that attrited after Boot Camp but within two years of service (a total of 14 contracts) by the number of contracts remaining in service after eliminating the DEP attrites and the Boot Camp attrites (a total of 79 contracts).

Contingency tables similar to Table V are constructed using Microsoft Excel (Version 4.0) for both males and females. The rows represent combinations of the

Table V CROSSTABULATION OF MALES A-CELLS

		ATTRITION TYPE				
Mental Category	**Time In DEP**	**DEP**	**Boot Camp**	**Under 2 Years**	**None**	**Totals**
A	1	1772	966	2156	10402	15296
A	2	1545	732	1711	9157	13145
A	3	1531	578	1402	7619	11130
A	4	1500	567	1275	7389	10731
A	5	1469	448	1053	6557	9527
A	6	1611	462	1031	6347	9451
A	7	1676	431	1015	6038	9160
A	8	2138	423	1037	7193	10791
A	9	1659	724	1525	8408	12316
A	10	1282	797	1698	8015	11792
A	11	1221	574	1280	6870	9945
A	12	721	146	335	2429	3631
A	12+	64	24	53	335	476

Mental Category and the Time in DEP factors. The columns exhibit the three types of attrition investigated. The Mental categories were divided in accordance with the Recruit Quality Matrix (Figure 2). Females in the "B" cell were pooled with females in the "A" cell due to the small number of contracts in the "B" cell category. The same was done with females in the "D" cell, which were pooled with "C" cell contracts. Males in the "D" cell were the only ones pooled with "Cl" cells, due to their small number as well. Time in DEP label is defined as described on page 17 where

$$\text{Time in DEP} = \begin{cases} 1 & \text{for DEP} <= 1 \text{ mo.,} \\ i & \text{for } i\text{-}1 \text{ mo.} < \text{DEP} <= i \text{ mo.,} \quad i = \{2,3,\ldots,12\} \\ 12+ & \text{for DEP} > 12 \text{ mo.} \end{cases}$$

The attrition types examined were DEP Loss, Boot Camp Loss, loss after Boot Camp but in two years or less, and no attrition in two years or less. These attrition levels were considered to be the ones with greatest significance for recruiting efforts.

To estimate the unconditional loss probability for each attrition type, the counts in each cell were divided by the row totals. Tables like Table VI were generated with these proportions. Table VI corresponds to the resulting table after applying the method to Table V. The values under the "Totals" column show the proportion of all male contracts, from the total population, that match the row characteristics. The Totals entry is calculated by dividing the row totals by the total number of records analyzed for each gender. Hence, they are also estimates of the unconditional probabilities of a contract belonging to the particular row classification by Mental Category and Time in DEP.

By eliminating the DEP Loss column from the count tables, we obtain the counts of those contracts which were not DEP losses. Dividing these counts by the new row

Table VI UNCONDITIONAL LOSS PROBABILITIES FOR A-CELL MALES

		ATTRITION TYPE				
Mental Category	**Time In DEP**	**DEP**	**Boot Camp**	**Under 2 Years**	**None**	**Totals**
A	1	0.1158	0.0632	0.1410	0.6800	0.0609
A	2	0.1175	0.0557	0.1302	0.6966	0.0523
A	3	0.1376	0.0519	0.1260	0.6845	0.0443
A	4	0.1397	0.0528	0.1188	0.6886	0.0428
A	5	0.1542	0.0470	0.1105	0.6883	0.0380
A	6	0.1705	0.0489	0.1091	0.6716	0.0377
A	7	0.1830	0.0471	0.1108	0.6592	0.0365
A	8	0.1981	0.0392	0.0961	0.6666	0.0430
A	9	0.1347	0.0588	0.1238	0.6827	0.0491
A	10	0.1087	0.0676	0.1440	0.6797	0.0470
A	11	0.1228	0.0577	0.1287	0.6908	0.0396
A	12	0.1986	0.0402	0.0923	0.6690	0.0145
A	12+	0.1345	0.0504	0.1113	0.7038	0.0019

totals we get the conditional attrition probabilities, given no DEP loss, for the remaining attrition types as shown in Table VII.

Comparing the conditional attrition results with the unconditional case (Table VI), it is noted that the numbers in Table VII are larger. This was expected since the denominator for the conditional probabilities formula is smaller than the denominator in the unconditional probabilities formula, while the numerator stays the same. The contrast between the unconditional and the conditional probabilities for A-Cell males Boot Camp

Table VII CONDITIONAL LOSS PROBABILITIES FOR A-CELL MALES

		ATTRITION		
Mental Category	**Time In DEP**	**Boot Camp**	**Under 2 Years**	**None**
A	1	0.0714	0.1594	0.7692
A	2	0.0631	0.1475	0.7894
A	3	0.0602	0.1461	0.7937
A	4	0.0614	0.1381	0.8005
A	5	0.0556	0.1307	0.8137
A	6	0.0589	0.1315	0.8096
A	7	0.0576	0.1356	0.8068
A	8	0.0489	0.1198	0.8313
A	9	0.0679	0.1431	0.7890
A	10	0.0758	0.1616	0.7626
A	11	0.0658	0.1467	0.7875
A	12	0.0502	0.1151	0.8347
A	12+	0.0583	0.1286	0.8131

attrition is represented graphically in Figure 11; note that the conditional probabilities are greater than the unconditional by approximately one percent across all times in DEP. Relying on unconditional probabilities alone, would have provided a smaller attrition probability estimate and inaccurate conclusions may have been reached concerning attrition.

The column elimination procedure is carried out once again eliminating the Boot Camp attrition column. The resulting table contains the conditional attrition probabilities

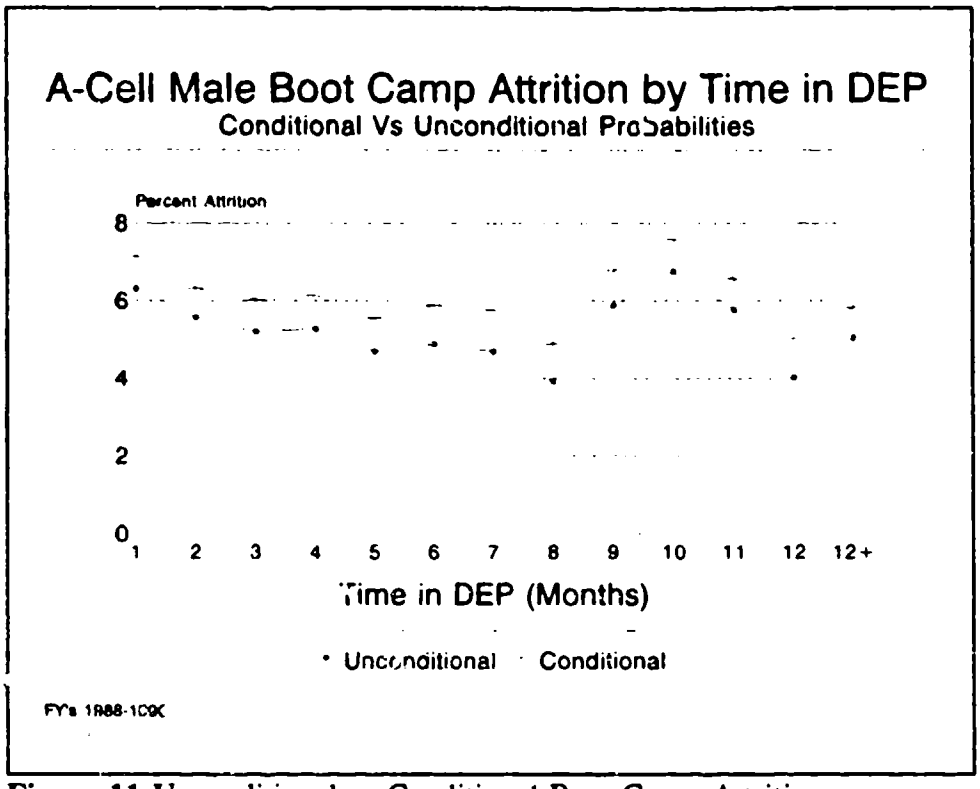


Figure 11 Unconditional vs Conditional Boot Camp Attrition

given no Boot Camp loss for the Under-Two-Years attrition and the no attrition columns. This represents the conditional attrition probabilities, within two years of service, for those individuals who successfully graduated from Boot Camp. Figure 12 presents a contrast between the unconditional and conditional probabilities for A-Cell males Under-2-year attrition; here, the conditional probabilities differ from unconditional probabilities by about two percent. The remaining tables generated are shown in Appendix B.

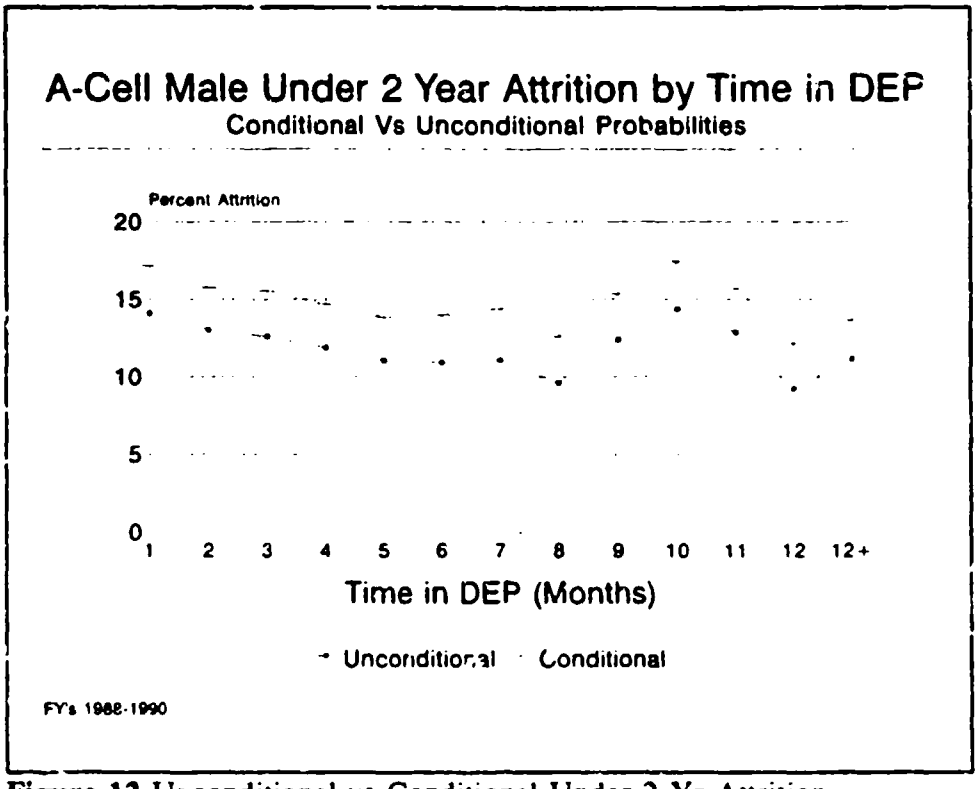


Figure 12 Unconditional vs Conditional Under-2-Yr Attrition

1. Results

From the proportions calculated as described above, it is possible to compare the tendencies of males and females, in the different Mental Categories, toward attrition. Figure 13 shows graphically a comparison of the A-Cell males versus the time they spent in DEP and the attrition proportions for each attrition type. Appendix C contains the graphical output for the remaining Mental Categories as well as the graphs for the females.

Observing these graphs it is noted that the Time-in-DEP factor has a greater effect on DEP losses than for any of the other types of attrition for all Mental Categories, with the exception of the B-Cell males as can be seen in Figure 14.

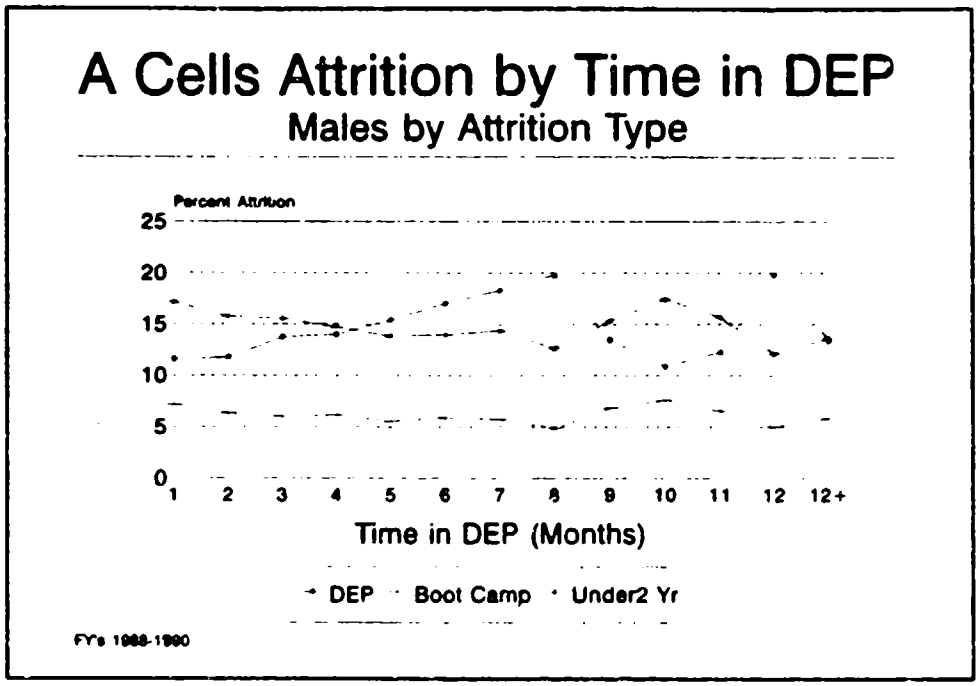


Figure 13 A-Cell Male Attrition by Time in DEP and Attrition Type

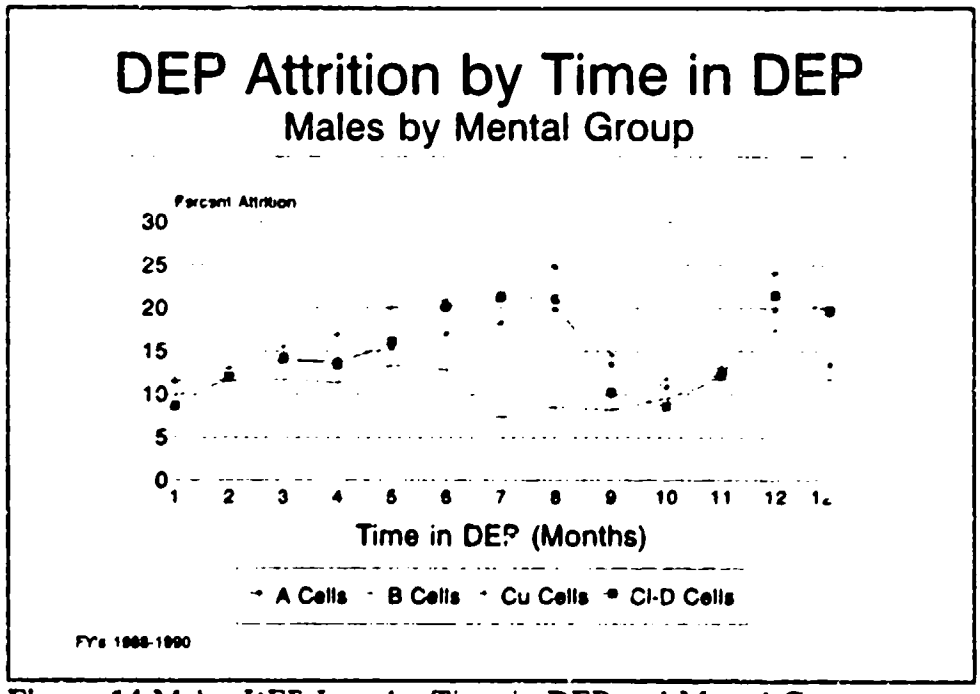


Figure 14 Males DEP Loss by Time in DEP and Mental Group

Figure 14 shows the changes in attrition for males, for the four mental groups, as time in DEP varies from 1 to 12+ months. The level of attrition (height) for each of the four curves is of primary interest. The variation in height for a given curve, as time in DEP changes, may also provide useful information. For example, male DEP attrition for A-Cells varies from a low of about 11 percent to a high of 20 percent; the Cu-Cell attritions range from a low of about 11 percent to a high of 25 percent.

For the Male Boot Camp attrition (Figure 15) the fluctuation is about three percent for all Mental Categories (if the 12+ DEP length is ignored). Also note that the B-Cell male attrition percentages are higher than the other types of attrition for nine of the 13 DEP lengths and is as high as the attrition of the CI-D Cells for contracts that spend three months in DEP.

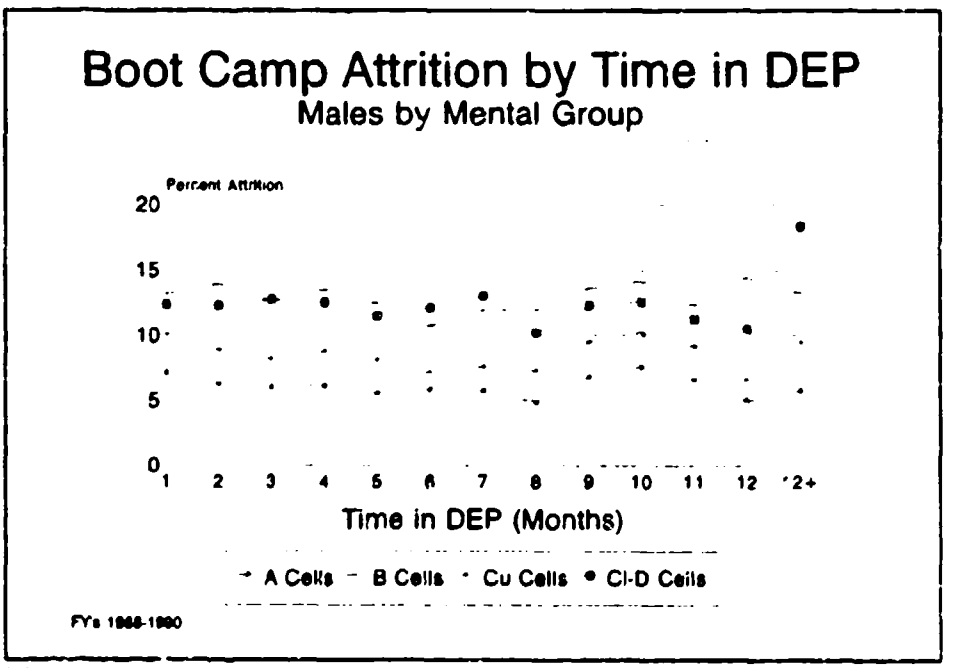


Figure 15 Males Boot Camp Loss By Time in DEP and Mental Group

The Male attrition during the first two years of service has ranges of approximately five percent for all Mental Categories. Note the high level of attrition of the B-Cells in Figure 16. This is an interesting observation, since the B-Cell males presented higher Boot Camp attrition proportions as well. This finding will be addressed in the conclusions.

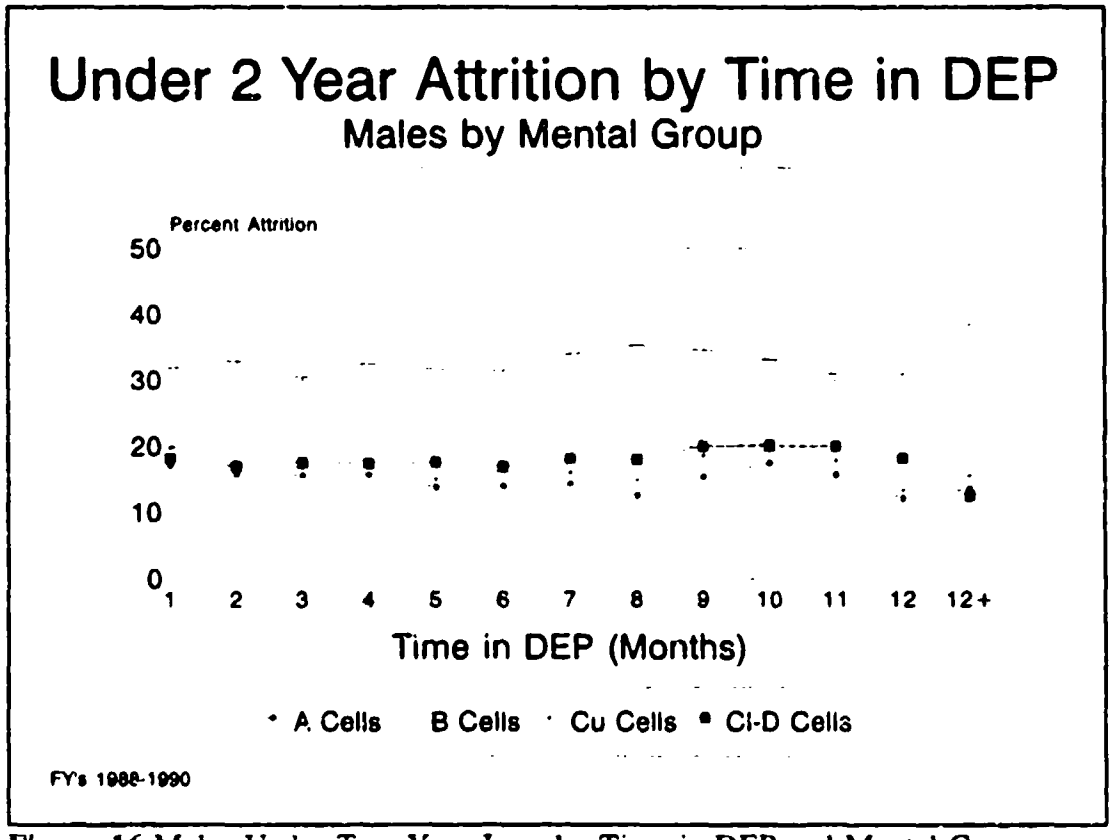


Figure 16 Males Under Two Year Loss by Time in DEP and Mental Group

For the females, the DEP loss proportion ranges, pictured in Figure 17, fluctuate from a low 11 percent to a high of 44 percent - a span of 33 percent - for the C & D Cell classification. This is the largest proportion span in the whole data set. The highest DEP attrition variation for males was 14 percent for the Cu-Cells.

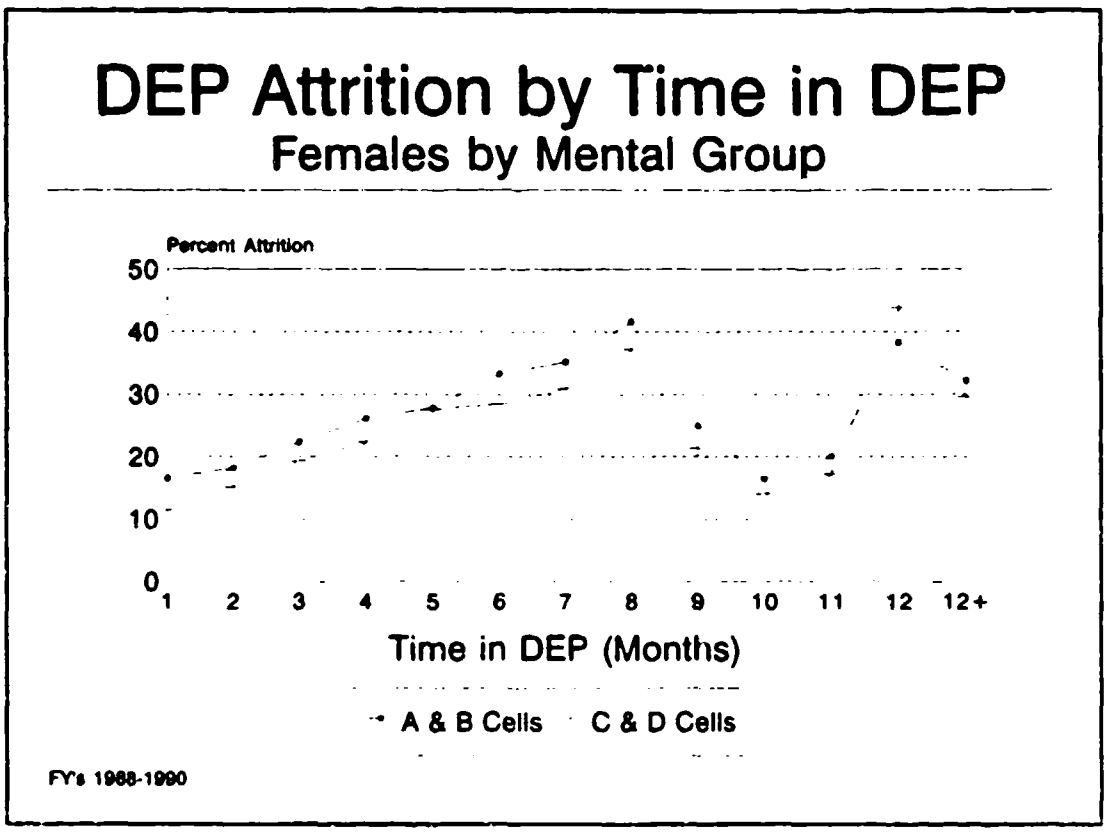


Figure 17 Females DEP Loss by Time in DEP and Mental Group

Female attrition during Boot Camp (Figure 18) for A & B-Cells ranges from a low of five percent to a high of nine percent. Females in the lower Mental Category present a range from a low eight percent to a high of 11 percent - only a three percent span. On the other hand, females that attrited after Boot Camp and within two years of service (Figure 19), show an attrition proportion range of about four percent, again ignoring the 12+ DEP length.

Several of these attrition proportions seem to have very little variation as Time in DEP increases. For example, examine the A & B Cells curve in Figure 19.

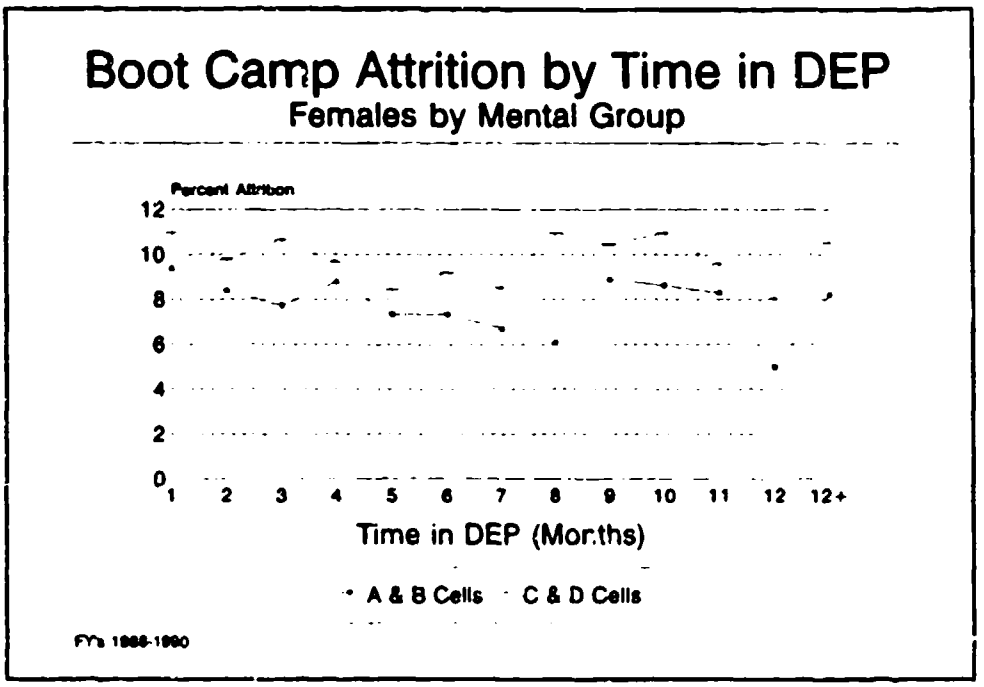


Figure 18 Females Boot Camp Loss by Time in DEP and Mental Group

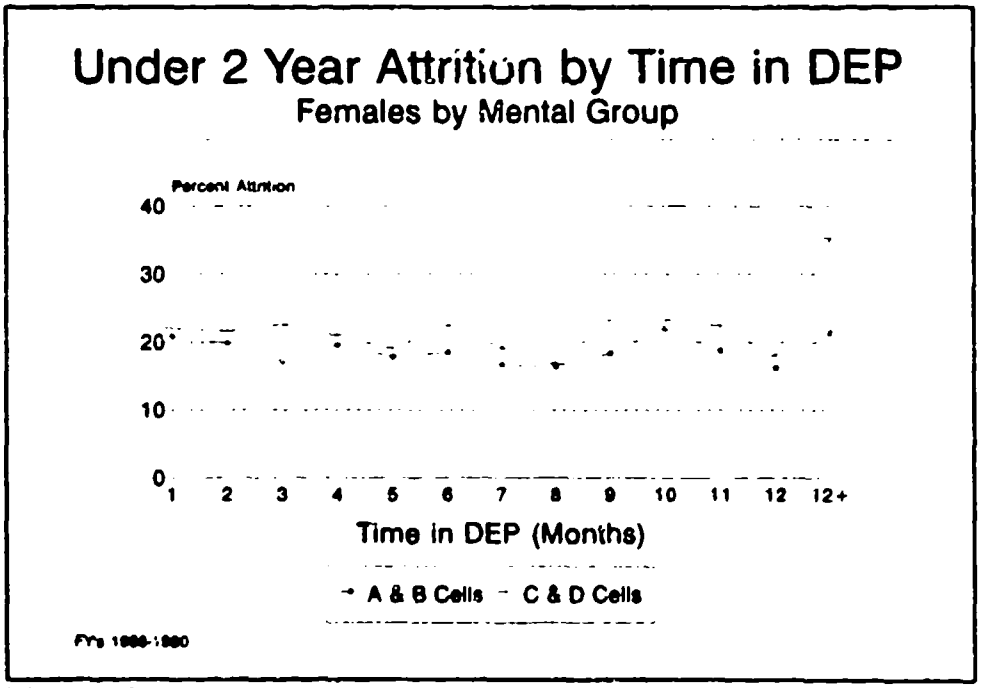


Figure 19 Females Under Two Year Loss by Time in DEP and Mental Group

It looks relatively "flat" indicating that Time in DEP has a small effect in the different proportions as it increases.

To formally verify that attrition level does not change with the Time in DEP factor (i.e., cases where the probability of attrition is (or is not) relatively constant versus Time in DEP), Pearson's Chi-Square test for independence was conducted on the count tables for each Mental Category and each Gender. The Chi-Square statistic is computed by the following formula:

$$\chi^2 = \sum_{ij} \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \qquad (13)$$

where O_{ij} is the observed count in cell (i,j) and E_{ij} is the expected count in cell (i,j), which is computed by the product of the row i proportion times column j proportion times the total number of contracts observed:

$$E_{ij} = \frac{(Row\ i\ total) \times (Column\ j\ total)}{(Grand\ Total)} \quad . \qquad (14)$$

To carry out the chi-square test, contingency tables were extracted from the tables in Appendix B. The tables tested were arranged in the same fashion as Table V using Mental Category and Time in DEP as the rows. The columns of the tables corresponded to the attrition type tested (DEP, Boot Camp or Under two Years) and no attrition.

Results of the Chi-Square test for independence, displayed in Table VIII, show that the fact that a contract falls in the Boot Camp attrition or the Under Two Year Attrition column is independent (with a p-value greater than 0.05) of the length of the

Delayed Entry Program for the lower Mental Categories (C-D Cells) in females. The same is true for B-Cells and the Cl-D Cells combination for males. This implies that the proportion of losses during these two periods (Boot Camp or within two years after Boot Camp) do not vary with Time in DEP; the variations observed for the different DEP lengths are consistent with sampling error. On the other hand Time in DEP does have an effect in DEP attrition for both males and females at all Mental Categories. Time in DEP also affects Boot Camp and In-Service Attrition for females in the upper mental groups, and in A-Cell and Cu-Cell Males.

Table VIII CHI-SQUARED TEST FOR INDEPENDENCE

Gender	Mental Category	Attrition Type	Chi-Squared	P-Value
Females	A-B	DEP	684.441	0.000
		Boot Camp	33.435	0.000
		Under 2 Yr	34.237	0.000
Females	C-D	DEP	411.411	0.000
		Boot Camp	10.752	0.550
		Under 2 Yr	19.122	0.086
Males	A	DEP	674.171	0.000
		Boot Camp	130.929	0.000
		Under 2 Yr	170.844	0.000
Males	B	DEP	50.726	0.000
		Boot Camp	12.174	0.423
		Under 2 Yr	12.759	0.387
Males	Cu	DEP	821.811	0.000
		Boot Camp	113.867	0.000
		Under 2 Yr	118.876	0.000
Males	Cl-D	DEP	363.610	0.000
		Boot Camp	9.634	0.648
		Under 2 Yr	18.873	0.092

IV. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

Given the distributions of the attrition proportions observed, many relevant conclusions may be reached. On the average, and across all mental categories, the time a potential recruit spends in the Delayed Entry Program affects the potentiality of this candidate becoming a loss during the DEP program more than after becoming an accession. Gender and Mental Category play an important role in the expected attrition behavior and both have their own trends. Variation in the In-Service attrition behavior, as time in DEP increases, lingers around a ten percent total fluctuation if the Male B-Cells are not considered.

As Time in DEP increases, the decrease in In-Service attrition proportions is consistent for all mental groups, male and female, up to the DEP length of eight-months. After eight months in DEP In-Service attrition increases above the highest proportion it had during the first eight months. These proportions stay at a high level for DEP length of nine, ten and eleven months before they drop to a proportion close to what is experienced at the eight month mark.

B-Cell males present the highest attrition risk, after joining the service, of all the groups. The attritions for this group drive the average attrition estimates to larger numbers than if they were not included. B-Cell males account for only eight and a quarter percent of the total population examined, but have a significant effect on the male

attrition results as noted in Table IX. This represents the smallest Mental Category after pooling the "C-lower" and "D" Cells. If B-Cells are eliminated, there is a small increase in DEP attrition (0.3547%) contrasted by reductions in Boot Camp attrition (0.4149%) and Under-Two-Year attrition (1.0319%). The overall attrition reduction is about one percent. Females in the lower Mental Category present a higher tendency toward attrition than the upper Mental Category. They also show the largest variation in attrition proportions, as Time in DEP increases, implying that Time in DEP has a big effect on attrition for this classification.

Table IX MALE ATTRITION WITH AND WITHOUT B-CELLS

	ATTRITION		
	DEP	**Boot Camp**	**Under 2 Yrs.**
With B-Cells	0.144684	0.070326	0.138086
Without B-Cells	0.148231	0.066177	0.127767
Difference	0.003547	-0.004149	-0.010319

B. RECOMMENDATIONS

To reduce the risks and associated cost of DEP Loss and First-Term Attrition a DEP management policy revision is recommended. Individuals recruited should meet the standards for the highest Mental Category ("A" cell of the Recruit Quality Matrix). These individuals, compared to the other Mental Categories, demonstrated less inclination

toward attrition after completing their contracted DEP length. Contracts in the lower Mental Categories, present a high risk of attrition during Boot Camp and between the first and second year of service. The recruiting of B-Cell males should be minimized. It is clear that they have the highest tendencies toward attrition once they become accessions, as seen in Figures 15 and 16.

It is evident that in the long run, if a contract "survives" DEP, it would have a decreasing inclination toward attrition. High School Seniors are the largest group that utilize DEP lengths of over eight months. Instead of contracting these individuals early during their senior year, they should be approached toward the middle of the school year to ensure that they have considered other options away from the military and still want to join. Once these seniors graduate, a shipping date close to graduation is highly recommended. This would prevent the influence that the summer months has proven to have in previous studies.

Following these recommendations would result in significant reduction of the overall attrition. Figure 20 represents the reduction in the overall DEP loss proportions, once the male B-Cells are not included, as DEP lengths are reduced from 11 to one months. The differences shown are computed by comparing the overall attrition percentages, for different DEP lengths (without B-Cell males), with the overall attrition percentage for the 12 month DEP including the B-Cell males. This figure shows that there is a maximum increase (negative decrease of 1.05%) for an eight-month DEP. This occurs due to the relatively low DEP loss probabilities of the B-Cell males.

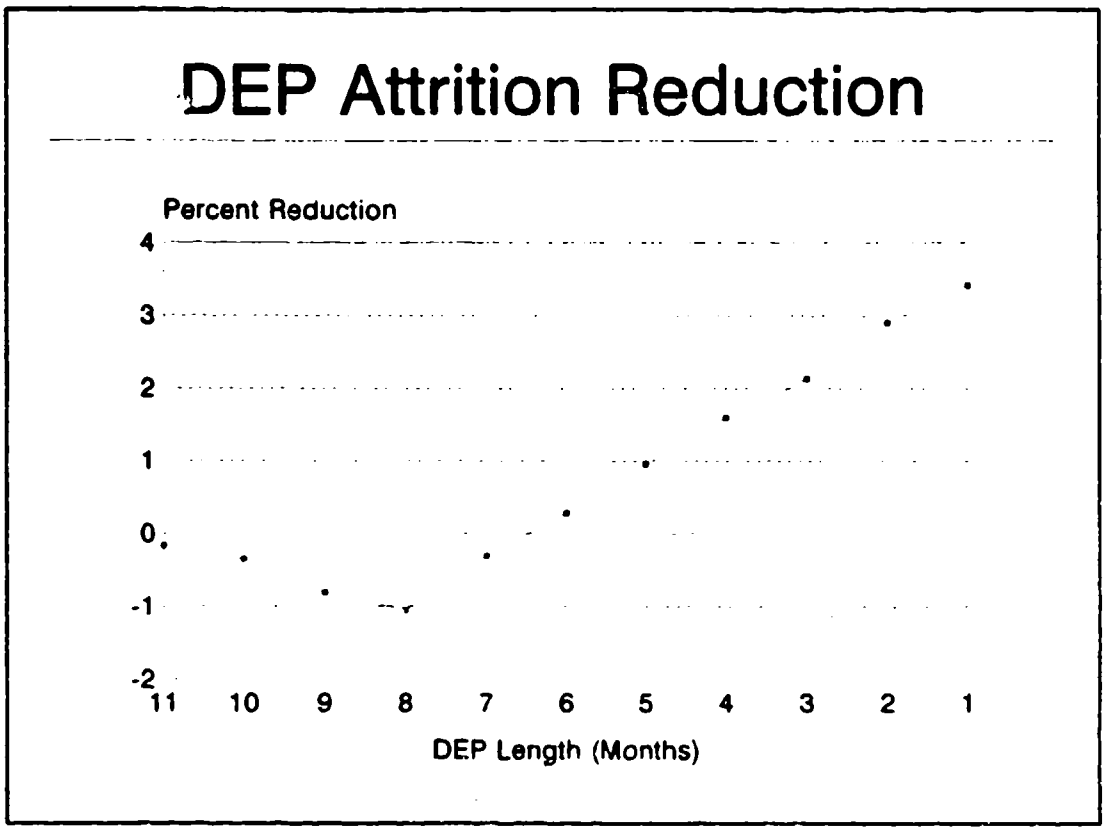


Figure 20 DEP Attrition Reduction Percentages

Boot Camp attrition decreases by over half of a percent (0.672%) for a DEP of eight months if male B-Cells are not included (Figure 21). Attrition would decrease by over one and a half percent (1.655%) for attrition within two years of service, after Boot Camp, as can be noted by the maximum attrition reduction point in Figure 22. This maximum reduction also occurs for a DEP length of eight months. If the attrition reductions for the Boot Camp attrition and the Under Two Year attrition labels are combined in one, we can observe a total In-service attrition reduction percentage of 2.327 percent as noted in Figure 23.

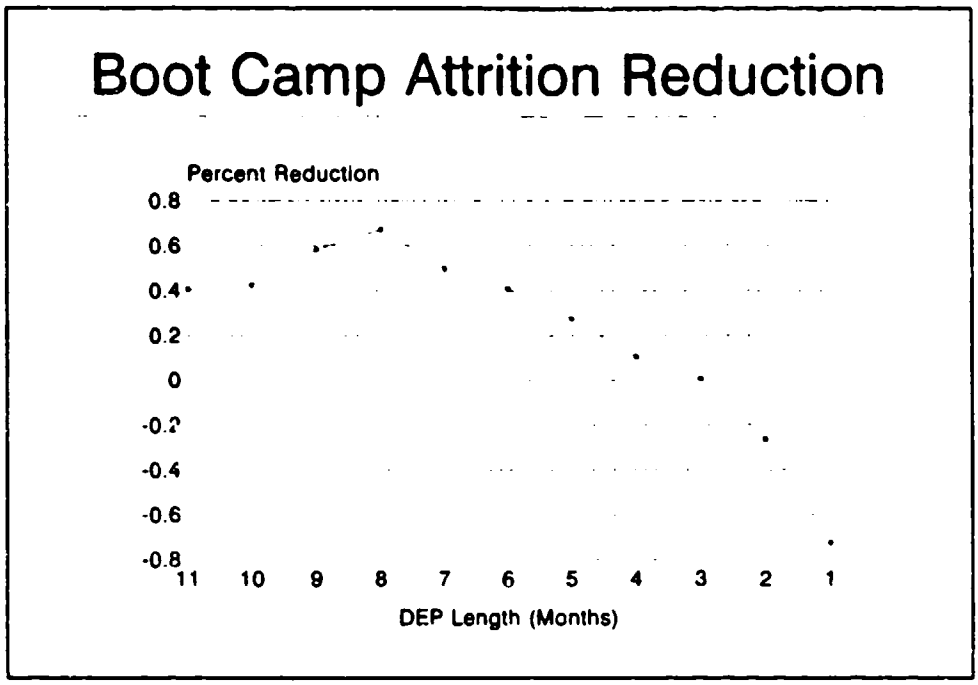


Figure 21 Boot Camp Attrition Reduction Percentages

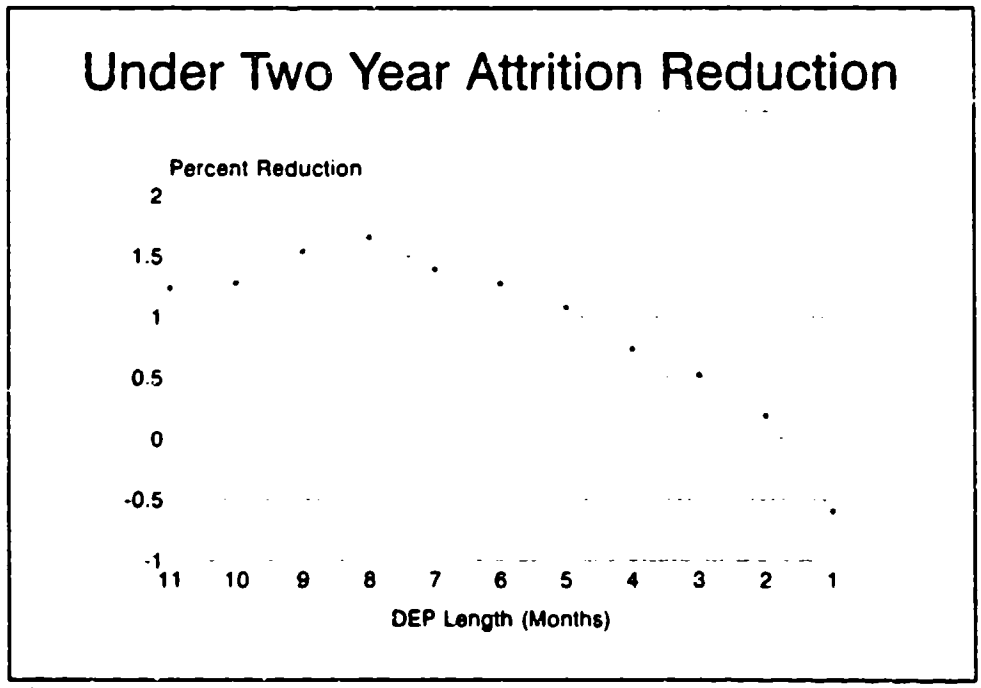


Figure 22 Under Two Yr Attrition Reduction Percentages

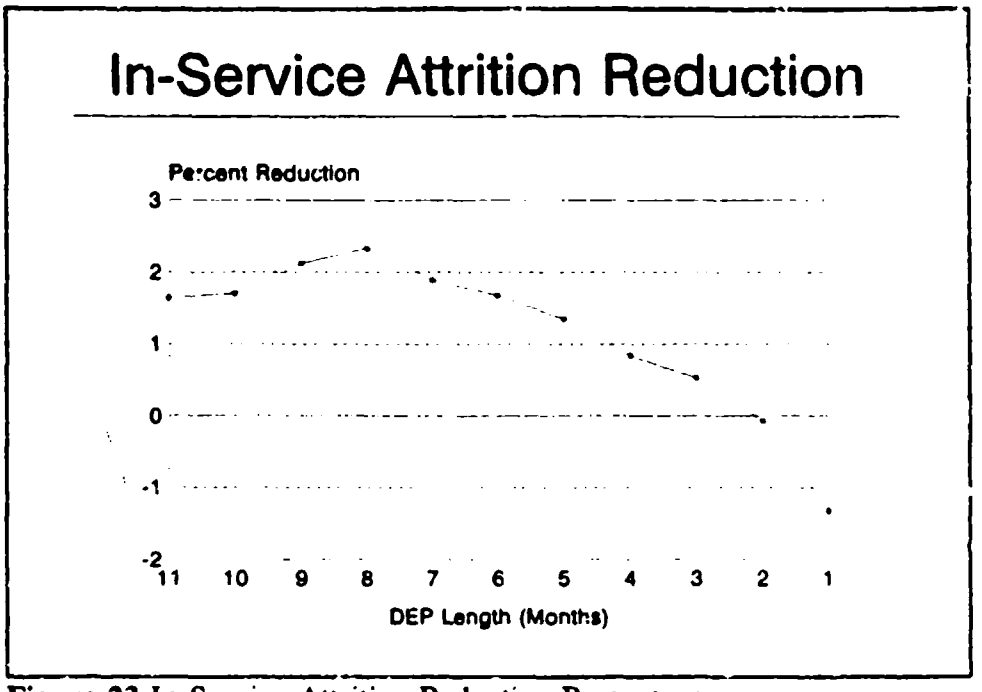


Figure 23 In-Service Attrition Reduction Percentages

If cost figures are given, it is possible to visualize the potential savings achieved if B-Cells males are not recruited. Suppose a cost estimation study estimates that $100.00 dollars are spent per month, per contract, based on a recruiter's man-months investment in the program. The computed average DEP length is of six months, providing an estimated average DEP cost of $600.00 dollars per contract. Let the cost estimate also reflect a cost of $6,000.00 dollars to get a recruit through Boot Camp and assume that the money allocated for that recruit would be "lost" if the recruit withdraws from the training at any point. Finally, suppose that the study estimates an average of $60,000.00 dollars spent in follow-on training for the period after Boot Camp and within two years of service for each contract. This amount is an estimate of the whole range

of Navy service schools from the two-day or three-day training schools to the very costly nuclear program training.

Further, suppose that the current force level requirements demand that, from the annual amount of recruiting contracts, 55,000 contracts stay in service beyond two years of service. From our analysis this would involve the annual recruiting of 85,020 contracts, including B-Cell males If B-Cell males are excluded, in order to maintain the 55,000 contract requirement, it would be necessary to recruit 83,608 contracts - a reduction of 1,412 contracts that would have become attrites. From these 1,412 contracts, 209 would have been DEP losses (14.82%), 93 would have become losses during Boot Camp (6.618%), and 180 would have been lost within two years, after graduating from Boot Camp (12.75%). Using the figures from the hypothetical cost estimation study (which includes only cost of training), these losses suggest savings of $12,442,820 dollars. This final amount is computed taking into consideration that Boot Camp attrites also include the cost of their DEP (i.e., Number of Contracts times the average cost for DEP per contract plus the average cost of Boot Camp per contract), and contracts that attrite within two years of service also incur the cost of Boot Camp and DEP.

Minimization of attrition is a very complex task that has been addressed in numerous occasions in the past. A myriad of research efforts have been expended in attempting to decipher the elements that contribute to its existence. Dealing with human behavior is also a very complex chore. There are a multiplicity of factors that could and would make some individuals behave in a certain way, different from the "average".

The conclusions reached here would help to develop a policy, for the regulation of the Delayed Entry Program, that is intended to assist the Navy Recruiting Command in reducing the losses of potential recruits. Once the policy is adopted, a plan can be formulated which would help in the minimization of the number of attrites both in DEP and during the first two years of service.

APPENDIX A

When S-Plus computes log-linear regression, it assigns the value of zero to the first level of each factor. Then, S-Plus compares the differences between the first level of the factor and its other levels, assigning a value to the coefficient of the model correspondent to this difference. For the two-way and higher interactions S-Plus also compares the combination of the first levels of the factors with the combination of the remaining levels. Therefore in a three-factor model with two levels on the first factor, three levels on the second factor and four levels on the third factor, the model statement includes a total of 60 coefficients, but S-plus returns a result table with 24 coefficients. There is one degree of freedom associated with each one of the coefficients displayed in the following tables derived from the S-Plus output. The letter M represents the second level of the Mental Category factor (C and D Cells of the Recruit Quality Matrix). The letter A stands for the attrition types. The first level was assigned to no attrition in two years or less. The levels displayed correspond to DEP Loss (A1), Boot Camp Loss (A2) and Under two year loss (A3). The letter D symbolize the time in DEP factor in which the first level was assigned to DEP lengths of eight months or less. The levels shown in the tables are the ones corresponding to DEP lengths greater than eight months but less than or equal to ten months (D1), and DEP lengths strictly greater than ten months (D2).

LOG-LINEAR FIT FOR FEMALES

	Coefficient	Std Error	t-value
Intercept	8.5707	0.0036	2353.4595
M	-0.1561	0.0036	-42.8808
A1	-0.7668	0.0039	-192.6547
A2	-0.4696	0.0035	-132.4816
A3	-0.0722	0.0020	-34.6687
D1	-0.6328	0.0035	-180.8008
D2	-0.4065	0.0030	-134.1640
M:A1	0.0350	0.0039	8.7976
M:A2	0.0369	0.0035	10.4240
M:A3	-0.0167	0.0020	-8.0397
M:D1	-0.0233	0.0035	-6.6494
M:D2	0.0021	0.0030	0.6897
A1:D1	-0.0622	0.0040	-15.4150
A1:D2	0.0528	0.0033	15.7614
A2:D1	0.0204	0.0019	10.3198
A2:D2	0.0141	0.0032	4.3710
A3:D1	-0.0154	0.0030	-5.1952
A3:D2	0.0057	0.0017	-3.2954
M:A1:D1	-0.0135	0.0040	-3.3614
M:A1:D2	-0.0019	0.0034	-0.5725
M:A2:D1	0.0033	0.0020	1.6791
M:A2:D2	0.0018	0.0032	0.5719
M:A3:D1	-0.0005	0.0030	-0.1722
M:A3:D2	0.0009	0.0017	0.5206

M: Mental Category A: Attrition Type D: Time in DEP

LOG-LINEAR FIT FOR MALES

	Coefficient	Std Error	t-value
Intercept	6.6540	.098	676.9209
M	-0.3196	.8	-32.5122
A1	-0.4461	5	-47.3185
A2	-0.5468	.0099	-54.8473
A3	-0.0899	0.0057	-15.8927
D1	-0.6909	0.0094	-73.8912
D2	-0.4199	0.0082	-51.1207
M:A1	-0.0246	0.0095	-2.6027
M:A2	0.0534	0.0099	5.3563
M:A3	0.0154	0.0057	2.7230
M:D1	-0.0086	0.0094	-0.9242
M:D2	0.0044	0.0082	0.5385
A1:D1	-0.0791	0.0096	-8.2034
A1:D2	0.0477	0.0093	5.1267
A2:D1	0.0236	0.0054	4.4110
A2:D2	0.0229	0.0077	2.9905
A3:D1	-0.0203	0.0084	-2.4113
A3:D2	-0.0045	0.0047	-0.9490
M:A1:D1	0.0060	0.0096	0.6763
M:A1:D2	-0.0038	0.0093	-0.4106
M:A2:D1	0.0006	0.0054	0.1107
M:A2:D2	0.0128	0.0077	1.6749
M:A3:D1	-0.0044	0.0084	-0.5250
M:A3:D2	0.0007	0.0047	0.1573

M: Mental Category A: Attrition Type D: Time in DEP

APPENDIX B

Crosstabulation of all Male Contracts by Attrition Type

Mental	In DEP	DEP	Boot	Under 2	None	Totals	
A	1	1772	966	2156	10402	15296	
A	2	1545	732	1711	9157	13145	
A	3	1531	578	1402	7619	11130	
A	4	1500	567	1275	7389	10731	
A	5	1469	448	1053	6557	9527	
A	6	1611	462	1031	6347	9451	
A	7	1676	431	1015	6038	9160	
A	8	2138	423	1037	7193	10791	
A	9	1659	724	1525	8408	12316	
A	10	1282	797	1698	8015	11792	
A	11	1221	574	1280	6870	9945	
A	12	721	146	335	2429	3631	
A	13	64	24	53	335	476	127391
B	1	432	518	1088	2326	4364	
B	2	280	276	613	1247	2416	
B	3	208	197	415	949	1769	
B	4	160	169	352	730	1411	
B	5	116	94	209	450	869	
B	6	117	85	222	484	908	
B	7	61	91	229	444	825	
B	8	59	76	197	361	693	
B	9	189	288	630	1193	2300	
B	10	271	364	733	1480	2848	
B	11	241	222	488	1088	2039	
B	12	44	30	55	123	252	
B	13	2	2	5	8	17	20711

Crosstabulation of all Male Contracts by Attrition Type (Continuation)

Mental	In DEP	DEP	Boot	Under 2	None	Totals	
Cu	1	1152	903	1600	6489	10144	
Cu	2	1071	639	1134	5391	8235	
Cu	3	1083	482	904	4492	6961	
Cu	4	1122	484	897	4129	6632	
Cu	5	1174	381	645	3655	5855	
Cu	6	1223	333	693	3595	5844	
Cu	7	1130	324	633	3323	5410	
Cu	8	1462	327	613	3512	5914	
Cu	9	1033	576	1020	4453	7082	
Cu	10	856	652	1107	4617	7232	
Cu	11	819	498	879	4045	6241	
Cu	12	502	104	197	1278	2081	
Cu	13	82	31	46	250	409	78040
CL - D	1	405	529	682	3073	4689	
CL - D	2	348	314	380	1862	2904	
CL - D	3	299	231	278	1301	2109	
CL - D	4	281	227	275	1307	2090	
CL - D	5	246	147	199	933	1525	
CL - D	6	296	142	174	855	1467	
CL - D	7	286	137	166	749	1338	
CL - D	8	254	97	154	700	1205	
CL - D	9	241	261	373	1486	2361	
CL - D	10	228	304	427	1685	2644	
CL - D	11	252	201	317	1269	2039	
CL - D	12	86	33	51	230	400	
CL - D	13	12	9	5	35	61	24832
TOTALS		36312	17650	34656	162356		250974

Unconditional Attrition Probabilities for Males by Attrition Type

Mental	In DEP	DEP	Boot	Under 2	None	Totals
A	1	0.115847	0.063154	0.1409519	0.680047	0.060947
A	2	0.117535	0.055687	0.1301636	0.696615	0.052376
A	3	0.137556	0.051932	0.1259659	0.684546	0.044347
A	4	0.139782	0.052838	0.1188146	0.688566	0.042757
A	5	0.154193	0.047024	0.110528	0.688254	0.03796
A	6	0.170458	0.048884	0.109089	0.671569	0.037657
A	7	0.182969	0.047052	0.1108079	0.65917	0.036498
A	8	0.198128	0.039199	0.0960986	0.666574	0.042996
A	9	0.134703	0.058785	0.1238227	0.682689	0.049073
A	10	0.108718	0.067588	0.1439959	0.679698	0.046985
A	11	0.122775	0.057717	0.1287079	0.690799	0.039626
A	12	0.198568	0.040209	0.0922611	0.668962	0.014468
A	13	0.134454	0.05042	0.1113445	0.703782	0.001897
B	1	0.098992	0.118698	0.2493126	0.532997	0.017388
B	2	0.115894	0.114238	0.2537252	0.516142	0.009626
B	3	0.117581	0.111362	0.2345958	0.536461	0.007049
B	4	0.113395	0.119773	0.2494685	0.517364	0.005622
B	5	0.133487	0.10817	0.2405063	0.517837	0.003463
B	6	0.128855	0.093612	0.2444934	0.53304	0.003618
B	7	0.073939	0.110303	0.2775758	0.538182	0.003287
B	8	0.085137	0.109668	0.2842713	0.520924	0.002761
B	9	0.082174	0.125217	0.273913	0.518696	0.009164
B	10	0.095154	0.127809	0.2573736	0.519663	0.011348
B	11	0.118195	0.108877	0.239333	0.533595	0.008124
B	12	0.174603	0.119048	0.218254	0.488095	0.001004
B	13	0.117647	0.117647	0.2941176	0.470588	6.77E-05
Cu	1	0.113565	0.089018	0.1577287	0.639688	0.040419
Cu	2	0.130055	0.077596	0.1377049	0.654645	0.032812
Cu	3	0.155581	0.069243	0.1298664	0.64531	0.027736
Cu	4	0.16918	0.072979	0.1352533	0.622587	0.026425
Cu	5	0.200512	0.065073	0.1101623	0.624253	0.023329
Cu	6	0.209274	0.056982	0.1185832	0.615161	0.023285
Cu	7	0.208872	0.059889	0.1170055	0.614233	0.021556
Cu	8	0.24721	0.055293	0.1036524	0.593845	0.023564
Cu	9	0.145863	0.081333	0.1440271	0.628777	0.028218
Cu	10	0.118363	0.090155	0.1530697	0.638413	0.028816
Cu	11	0.131229	0.079795	0.1408428	0.648133	0.024867
Cu	12	0.24123	0.049976	0.094666	0.614128	0.008292
Cu	13	0.200489	0.075795	0.1124694	0.611247	0.00163

Unconditional Attrition Probabilities for Males by Attrition Type (Continuation)

Mental	In DEP	DEP	Boot	Under 2	None	Totals
CL - D	1	0.086372	0.112817	0.1454468	0.655364	0.018683
CL - D	2	0.119835	0.108127	0.130854	0.641185	0.011571
CL - D	3	0.141773	0.109531	0.131816	0.61688	0.008403
CL - D	4	0.13445	0.108612	0.1315789	0.625359	0.008328
CL - D	5	0.161311	0.096393	0.1304918	0.611803	0.006076
CL - D	6	0.201772	0.096796	0.1186094	0.582822	0.005845
CL - D	7	0.213752	0.102392	0.1240658	0.559791	0.005331
CL - D	8	0.210788	0.080498	0.1278008	0.580913	0.004801
CL - D	9	0.102075	0.110546	0.1579839	0.629394	0.009407
CL - D	10	0.086233	0.114977	0.1614977	0.637292	0.010535
CL - D	11	0.12359	0.098578	0.1554684	0.622364	0.008124
CL - D	12	0.215	0.0825	0.1275	0.575	0.001594
CL - D	13	0.196721	0.147541	0.0819672	0.57377	0.000243
TOTALS		0.144684	0.070326	0.138086	0.646904	1

Crosstabulation of Male Accessions by Attrition Type

Mental	In DEP	Boot	Under 2	None	Totals	
A	1	966	2156	10402	13524	
A	2	732	1711	9157	11600	
A	3	578	1402	7619	9599	
A	4	567	1275	7389	9231	
A	5	448	1053	6557	8058	
A	6	462	1031	6347	7840	
A	7	431	1015	6038	7484	
A	8	423	1037	7193	8653	
A	9	724	1525	8408	10657	
A	10	797	1698	8015	10510	
A	11	574	1280	6870	8724	
A	12	146	335	2429	2910	
A	13	24	53	335	412	109202
B	1	518	1088	2326	3932	
B	2	276	613	1247	2136	
B	3	197	415	949	1561	
B	4	169	352	730	1251	
B	5	94	209	450	753	
B	6	85	222	484	791	
B	7	91	229	444	764	
B	8	76	197	361	634	
B	9	288	630	1193	2111	
B	10	364	733	1480	2577	
B	11	222	488	1088	1798	
B	12	30	55	123	208	
B	13	2	5	8	15	18531
Cu	1	903	1600	6489	8992	
Cu	2	639	1134	5391	7164	
Cu	3	482	904	4492	5878	
Cu	4	484	897	4129	5510	
Cu	5	381	645	3655	4681	
Cu	6	333	693	3595	4621	
Cu	7	324	633	3323	4280	
Cu	8	327	613	3512	4452	
Cu	9	576	1020	4453	6049	
Cu	10	652	1107	4617	6376	
Cu	11	498	879	4045	5422	
Cu	12	104	197	1278	1579	
Cu	13	31	46	250	327	65331

Crosstabulation of Male Accessions by Attrition Type (Continuation)

Mental	In DEP	Boot	Under 2	None	Totals	
CL - D	1	529	682	3073	4284	
CL - D	2	314	380	1862	2556	
CL - D	3	231	278	1301	1810	
CL - D	4	227	275	1307	1809	
CL - D	5	147	199	933	1279	
CL - D	6	142	174	855	1171	
CL - D	7	137	166	749	1052	
CL - D	8	97	154	700	951	
CL - D	9	261	373	1486	2120	
CL - D	10	304	427	1685	2416	
CL - D	11	201	317	1269	1787	
CL - D	12	33	51	230	314	
CL - D	13	9	5	35	49	21598
TOTALS		17650	34656	162356	214662	

Attrition Probabilities, given no DEP Loss for Males

Mental	In DEP	Boot	Under 2	None	Totals	
A	1	0.071429	0.1594203	0.769151	0.063001	
A	2	0.063103	0.1475	0.789397	0.054038	
A	3	0.060215	0.1460569	0.793729	0.044717	
A	4	0.061423	0.1381215	0.800455	0.043002	
A	5	0.055597	0.1306776	0.813725	0.037538	
A	6	0.058929	0.1315051	0.809566	0.036523	
A	7	0.05759	0.1356227	0.806788	0.034864	
A	8	0.048885	0.1198428	0.831272	0.04031	
A	9	0.067937	0.1430984	0.788965	0.049645	
A	10	0.075833	0.1615604	0.762607	0.048961	
A	11	0.065796	0.1467217	0.787483	0.040641	
A	12	0.050172	0.1151203	0.834708	0.013556	
A	13	0.058252	0.1286408	0.813107	0.001919	0.508716
B	1	0.13174	0.276704	0.591556	0.018317	
B	2	0.129213	0.286985	0.583801	0.009951	
B	3	0.126201	0.2658552	0.607944	0.007272	
B	4	0.135092	0.2813749	0.583533	0.005828	
B	5	0.124834	0.2775564	0.59761	0.003508	
B	6	0.107459	0.2806574	0.611884	0.003685	
B	7	0.11911	0.2997382	0.581152	0.003559	
B	8	0.119874	0.3107256	0.569401	0.002953	
B	9	0.136428	0.2984368	0.565135	0.009834	
B	10	0.14125	0.2844393	0.574311	0.012005	
B	11	0.123471	0.2714127	0.605117	0.008376	
B	12	0.144231	0.2644231	0.591346	0.000969	
B	13	0.133333	0.3333333	0.533333	6.99E-05	0.086326
Cu	1	0.100423	0.1779359	0.721641	0.041889	
Cu	2	0.089196	0.1582915	0.752513	0.033373	
Cu	3	0.082001	0.1537938	0.764206	0.027383	
Cu	4	0.08784	0.1627949	0.749365	0.025668	
Cu	5	0.081393	0.1377911	0.780816	0.021806	
Cu	6	0.072062	0.1499675	0.77797	0.021527	
Cu	7	0.075701	0.1478972	0.776402	0.019938	
Cu	8	0.07345	0.1376909	0.788859	0.02074	
Cu	9	0.095222	0.1686229	0.736155	0.028179	
Cu	10	0.102258	0.1736198	0.724122	0.029703	
Cu	11	0.091848	0.1621173	0.746035	0.025258	
Cu	12	0.065864	0.1247625	0.809373	0.007356	
Cu	13	0.094801	0.1406728	0.764526	0.001523	0.304344

Attrition Probabilities, given no DEP Loss for Males (Continuation)

Mental	In DEP	Boot	Under 2	None	Totals	
CL - D	1	0.123483	0.159197	0.71732	0.019957	
CL - D	2	0.122848	0.1486698	0.728482	0.011907	
CL - D	3	0.127624	0.1535912	0.718785	0.008432	
CL - D	4	0.125484	0.1520177	0.722499	0.008427	
CL - D	5	0.114934	0.1555903	0.729476	0.005958	
CL - D	6	0.121264	0.1485909	0.730145	0.005455	
CL - D	7	0.130228	0.1577947	0.711977	0.004901	
CL - D	8	0.101998	0.1619348	0.736067	0.00443	
CL - D	9	0.123113	0.1759434	0.700943	0.009876	
CL - D	10	0.125828	0.1767384	0.697434	0.011255	
CL - D	11	0.112479	0.1773923	0.710129	0.008325	
CL - D	12	0.105096	0.1624204	0.732484	0.001463	
CL - D	13	0.183673	0.1020408	0.714286	0.000228	0.100614
TOTALS		0.082222	0.1614445	0.756333	1	

Crosstabulation of Male Boot Camp Graduates by Attrition Type

Mental	In DEP	Under 2	None	Totals	
A	1	2156	10402	12558	
A	2	1711	9157	10868	
A	3	1402	7619	9021	
A	4	1275	7389	8664	
A	5	1053	6557	7610	
A	6	1031	6347	7378	
A	7	1015	6038	7053	
A	8	1037	7193	8230	
A	9	1525	8408	9933	
A	10	1698	8015	9713	
A	11	1280	6870	8150	
A	12	335	2429	2764	
A	13	53	335	388	102330
B	1	1088	2326	3414	
B	2	613	1247	1860	
B	3	415	949	1364	
B	4	352	730	1082	
B	5	209	450	659	
B	6	222	484	706	
B	7	229	444	673	
B	8	197	361	558	
B	9	630	1193	1823	
B	10	733	1480	2213	
B	11	488	1088	1576	
B	12	55	123	178	
B	13	5	8	13	16119
Cu	1	1600	6489	8089	
Cu	2	1134	5391	6525	
Cu	3	904	4492	5396	
Cu	4	897	4129	5026	
Cu	5	645	3655	4300	
Cu	6	693	3595	4288	
Cu	7	633	3323	3956	
Cu	8	613	3512	4125	
Cu	9	1020	4453	5473	
Cu	10	1107	4617	5724	
Cu	11	879	4045	4924	
Cu	12	197	1278	1475	
Cu	13	46	250	296	59597

Crosstabulation of Male Boot Camp Graduates by Attrition Type (Continuation)

Mental	In DEP	Under 2	None	Totals	
CL - D	1	682	3073	3755	
CL - D	2	380	1862	2242	
CL - D	3	278	1301	1579	
CL - D	4	275	1307	1582	
CL - D	5	199	933	1132	
CL - D	6	174	855	1029	
CL - D	7	166	749	915	
CL - D	8	154	700	854	
CL - D	9	373	1486	1859	
CL - D	10	427	1685	2112	
CL - D	11	317	1269	1586	
CL - D	12	51	230	281	
CL - D	13	5	35	40	18966
TOTALS		34656	162356	197012	197012

Attrition Probabilities, given no Boot Camp Attrition for Males

Mental	In DEP	Under 2	None	Totals	
A	1	0.1716834	0.828317	0.063742	
A	2	0.1574347	0.842565	0.055164	
A	3	0.1554151	0.844585	0.045789	
A	4	0.1471607	0.852839	0.043977	
A	5	0.1383706	0.861629	0.038627	
A	6	0.1397398	0.86026	0.037449	
A	7	0.1439104	0.85609	0.0358	
A	8	0.1260024	0.873998	0.041774	
A	9	0.1535286	0.846471	0.050418	
A	10	0.1748173	0.825183	0.049302	
A	11	0.1570552	0.842945	0.041368	
A	12	0.1212012	0.878799	0.01403	
A	13	0.1365979	0.863402	0.001969	0.51941
B	1	0.3186878	0.681312	0.017329	
B	2	0.3295699	0.67043	0.009441	
B	3	0.3042522	0.695748	0.006923	
B	4	0.3253235	0.674677	0.005492	
B	5	0.3171472	0.682853	0.003345	
B	6	0.3144476	0.685552	0.003584	
B	7	0.3402675	0.659733	0.003416	
B	8	0.3530466	0.646953	0.002832	
B	9	0.3455842	0.654416	0.009253	
B	10	0.3312246	0.668775	0.011233	
B	11	0.3096447	0.690355	0.008	
B	12	0.3089888	0.691011	0.000903	
B	13	0.3846154	0.615385	6.6E-05	0.081817
Cu	1	0.1977995	0.802201	0.041058	
Cu	2	0.1737931	0.826207	0.03312	
Cu	3	0.1675315	0.832468	0.027389	
Cu	4	0.1784719	0.821528	0.025511	
Cu	5	0.15	0.85	0.021826	
Cu	6	0.1616138	0.838386	0.021765	
Cu	7	0.1600101	0.83999	0.02008	
Cu	8	0.1486061	0.851394	0.020938	
Cu	9	0.1863695	0.813631	0.02778	
Cu	10	0.1933962	0.806604	0.029054	
Cu	11	0.1785134	0.821487	0.024993	
Cu	12	0.1335593	0.866441	0.007487	
Cu	13	0.1554054	0.844595	0.001502	0.302504

Attrition Probabilities, given no Boot Camp Attrition for Males (Continuation)

Mental	In DEP	Under 2	None	Totals
CL - D	1	0.1816245	0.818375	0.01906
CL - D	2	0.1694915	0.830508	0.01138
CL - D	3	0.1760608	0.823939	0.008015
CL - D	4	0.1738306	0.826169	0.00803
CL - D	5	0.1757951	0.824205	0.005746
CL - D	6	0.1690962	0.830904	0.005223
CL - D	7	0.1814208	0.818579	0.004644
CL - D	8	0.1803279	0.819672	0.004335
CL - D	9	0.2006455	0.799354	0.009436
CL - D	10	0.202178	0.797822	0.01072
CL - D	11	0.1998739	0.800126	0.00805
CL - D	12	0.1814947	0.818505	0.001426
CL - D	13	0.125 0.875	0.000203	0.096268
TOTALS		0.1759081	0.824092	1

Crosstabulation of all Female Contracts by Attrition Type

Mental	In DEP	DEP	Boot	Under 2	None	Totals	
A-B	1	457	215	435	1649	2756	
A-B	2	423	159	347	1395	2324	
A-B	3	518	139	286	1376	2319	
A-B	4	520	129	264	1078	1991	
A-B	5	552	105	237	1091	1985	
A-B	6	698	103	241	1059	2101	
A-B	7	761	94	219	1091	2165	
A-B	8	941	80	204	1036	2261	
A-B	9	520	139	262	1165	2086	
A-B	10	384	168	393	1386	2331	
A-B	11	366	120	249	1080	1815	
A-B	12	250	20	62	321	653	
A-B	13	29	5	12	44	90	24877
C-D	1	180	153	275	968	1576	
C-D	2	188	102	205	739	1234	
C-D	3	218	97	184	630	1129	
C-D	4	220	74	146	545	985	
C-D	5	264	58	121	511	954	
C-D	6	272	63	140	482	957	
C-D	7	321	61	126	530	1038	
C-D	8	379	70	96	473	1018	
C-D	9	224	86	172	567	1049	
C-D	10	156	104	197	649	1106	
C-D	11	162	74	157	542	935	
C-D	12	137	14	29	132	312	
C-D	13	8	2	6	11	27	12320
Totals		9148	2434	5065	20550	37197	

Unconditional Attrition Probabilities for Females by Attrition Type

Mental	In DEP	DEP	Boot	Under 2	None	Totals
A-B	1	0.16582	0.078012	0.157837	0.598331	0.074092
A-B	2	0.182014	0.068417	0.149312	0.600258	0.062478
A-B	3	0.223372	0.05994	0.123329	0.593359	0.062344
A-B	4	0.261175	0.064792	0.132597	0.541436	0.053526
A-B	5	0.278086	0.052897	0.119395	0.549622	0.053365
A-B	6	0.332223	0.049024	0.114707	0.504046	0.056483
A-B	7	0.351501	0.043418	0.101155	0.503926	0.058204
A-B	8	0.416188	0.035383	0.090226	0.458204	0.060784
A-B	9	0.249281	0.066635	0.125599	0.558485	0.05608
A-B	10	0.164736	0.072072	0.168597	0.594595	0.062666
A-B	11	0.201653	0.066116	0.13719	0.595041	0.048794
A-B	12	0.382848	0.030628	0.094946	0.491577	0.017555
A-B	13	0.322222	0.055556	0.133333	0.488889	0.00242
C-D	1	0.114213	0.097081	0.174492	0.614213	0.042369
C-D	2	0.15235	0.082658	0.166126	0.598865	0.033175
C-D	3	0.193091	0.085917	0.162976	0.558016	0.030352
C-D	4	0.22335	0.075127	0.148223	0.553299	0.026481
C-D	5	0.27673	0.060797	0.126834	0.535639	0.025647
C-D	6	0.284222	0.065831	0.14629	0.503657	0.025728
C-D	7	0.309249	0.058767	0.121387	0.510597	0.027905
C-D	8	0.372299	0.068762	0.094303	0.464637	0.027368
C-D	9	0.213537	0.081983	0.163966	0.540515	0.028201
C-D	10	0.141049	0.094033	0.178119	0.586799	0.029734
C-D	11	0.173262	0.079144	0.167914	0.579679	0.025136
C-D	12	0.439103	0.044872	0.092949	0.423077	0.008388
C-D	13	0.296296	0.074074	0.222222	0.407407	0.000726
Totals		0.245934	0.065435	0.136167	0.552464	1

Crosstabulation of Female Accessions by Attrition Type

Mental	In DEP	Boot	Under 2	None	Totals	
A-B	1	215	435	1649	2299	
A-B	2	159	347	1395	1901	
A-B	3	139	286	1376	1801	
A-B	4	129	264	1078	1471	
A-B	5	105	237	1091	1433	
A-B	6	103	241	1059	1403	
A-B	7	94	219	1091	1404	
A-B	8	80	204	1036	1320	
A-B	9	139	262	1165	1566	
A-B	10	168	393	1386	1947	
A-B	11	120	249	1080	1449	
A-B	12	20	62	321	403	
A-B	13	5	12	44	61	18458
C-D	1	153	275	968	1396	
C-D	2	102	205	739	1046	
C-D	3	97	184	630	911	
C-D	4	74	146	545	765	
C-D	5	58	121	511	690	
C-D	6	63	140	482	685	
C-D	7	61	126	530	717	
C-D	8	70	96	473	639	
C-D	9	86	172	567	825	
C-D	10	104	197	649	950	
C-D	11	74	157	542	773	
C-D	12	14	29	132	175	
C-D	13	2	6	11	19	9591
Totals		2434	5065	20550	28049	

Attrition Probabilities, given no DEP Loss for Females by Attrition Type

Mental	In DEP	Boot	Under 2	None	Totals	
A-B	1	0.093519	0.189213	0.717268	0.081964	
A-B	2	0.08364	0.182536	0.733824	0.067774	
A-B	3	0.077179	0.158801	0.76402	0.064209	
A-B	4	0.087695	0.17947	0.732835	0.052444	
A-B	5	0.073273	0.165387	0.76134	0.051089	
A-B	6	0.073414	0.171775	0.754811	0.05002	
A-B	7	0.066952	0.155983	0.777066	0.050055	
A-B	8	0.060606	0.154545	0.784848	0.047061	
A-B	9	0.088761	0.167305	0.743934	0.055831	
A-B	10	0.086287	0.201849	0.711864	0.069414	
A-B	11	0.082816	0.171843	0.745342	0.05166	
A-B	12	0.049628	0.153846	0.796526	0.014368	
A-B	13	0.081967	0.196721	0.721311	0.002175	0.658063
C-D	1	0.109599	0.196991	0.69341	0.04977	
C-D	2	0.097514	0.195985	0.706501	0.037292	
C-D	3	0.106476	0.201976	0.691548	0.032479	
C-D	4	0.096732	0.19085	0.712418	0.027274	
C-D	5	0.084058	0.175362	0.74058	0.0246	
C-D	6	0.091971	0.20438	0.70365	0.024422	
C-D	7	0.085077	0.175732	0.739191	0.025562	
C-D	8	0.109546	0.150235	0.740219	0.022782	
C-D	9	0.104242	0.208485	0.687273	0.029413	
C-D	10	0.109474	0.207368	0.683158	0.033869	
C-D	11	0.095731	0.203105	0.701164	0.027559	
C-D	12	0.08	0.165714	0.754286	0.006239	
C-D	13	0.105263	0.315789	0.578947	0.000677	0.341937
Totals		0.086777	0.180577	0.732646	1	

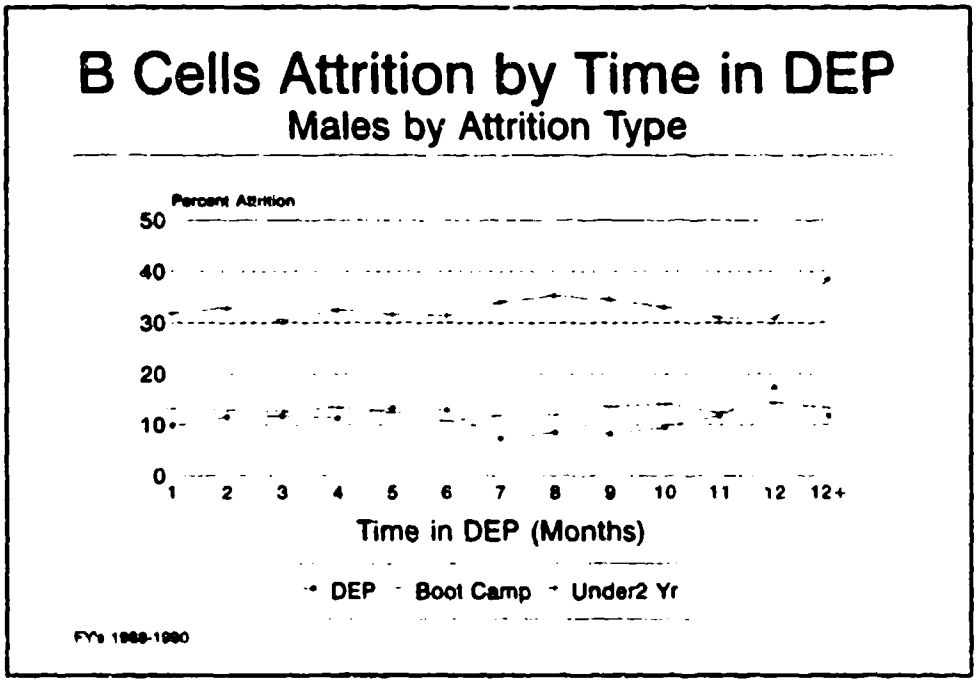
Crosstabulation of Female Boot Camp Graduates by Attrition Type

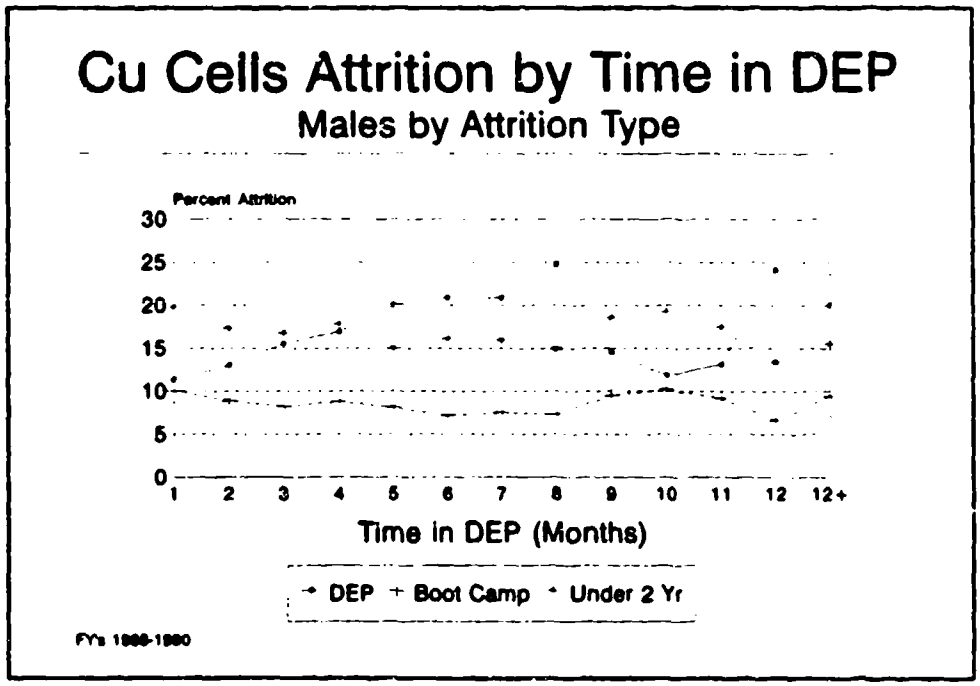
Mental	In DEP	Under 2	None	Totals	
A-B	1	435	1649	2084	
A-B	2	347	1395	1742	
A-B	3	286	1376	1662	
A-B	4	264	1078	1342	
A-B	5	237	1091	1328	
A-B	6	241	1059	1300	
A-B	7	219	1091	1310	
A-B	8	204	1036	1240	
A-B	9	262	1165	1427	
A-B	10	393	1386	1779	
A-B	11	249	1080	1329	
A-B	12	62	321	383	
A-B	13	12	44	56	16982
C-D	1	275	968	1243	
C-D	2	205	739	944	
C-D	3	184	630	814	
C-D	4	146	545	691	
C-D	5	121	511	632	
C-D	6	140	482	622	
C-D	7	126	530	656	
C-D	8	96	473	569	
C-D	9	172	567	739	
C-D	10	197	649	846	
C-D	11	157	542	699	
C-D	12	29	132	161	
C-D	13	6	11	17	8633
Totals		5065	20550	25615	

Attrition Probabilities, given no Boot Camp Attrition for Females

Mental	In DEP	Under 2	None	Totals	
A-B	1	0.208733	0.791267	0.081359	
A-B	2	0.199196	0.800804	0.068007	
A-B	3	0.172082	0.827918	0.064884	
A-B	4	0.196721	0.803279	0.052391	
A-B	5	0.178464	0.821536	0.051845	
A-B	6	0.185385	0.814615	0.050752	
A-B	7	0.167176	0.832824	0.051142	
A-B	8	0.164516	0.835484	0.048409	
A-B	9	0.183602	0.816398	0.05571	
A-B	10	0.220911	0.779089	0.069451	
A-B	11	0.187359	0.812641	0.051884	
A-B	12	0.16188	0.83812	0.014952	
A-B	13	0.214286	0.785714	0.002186	0.662971
C-D	1	0.221239	0.778761	0.048526	
C-D	2	0.217161	0.782839	0.036853	
C-D	3	0.226044	0.773956	0.031778	
C-D	4	0.211288	0.788712	0.026976	
C-D	5	0.191456	0.808544	0.024673	
C-D	6	0.22508	0.77492	0.024283	
C-D	7	0.192073	0.807927	0.02561	
C-D	8	0.168717	0.831283	0.022214	
C-D	9	0.232747	0.767253	0.02885	
C-D	10	0.232861	0.767139	0.033028	
C-D	11	0.224607	0.775393	0.027289	
C-D	12	0.180124	0.819876	0.006285	
C-D	13	0.352941	0.647059	0.000664	0.337029
Totals		0.197736	0.802264	1	

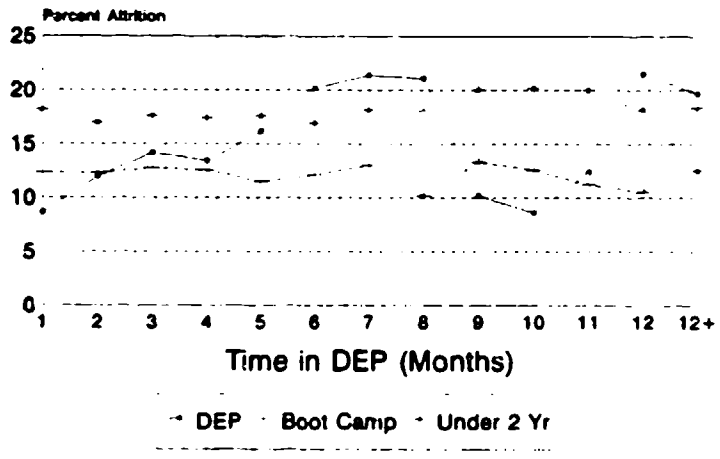
APPENDIX C


B Cells Attrition by Time in DEP
Males by Attrition Type
Percent Attrition
50
40
30
20
10
0
1 2 3 4 5 6 7 8 9 10 11 12 12+
Time in DEP (Months)
DEP Boot Camp Under2 Yr
FYs 1988-1990


Cu Cells Attrition by Time in DEP
Males by Attrition Type
Percent Attrition
30
25
20
15
10
5
0
1 2 3 4 5 6 7 8 9 10 11 12 12+
Time in DEP (Months)
DEP Boot Camp Under 2 Yr
FYs 1988-1990

CI & D Cells Attrition by Time in DEP

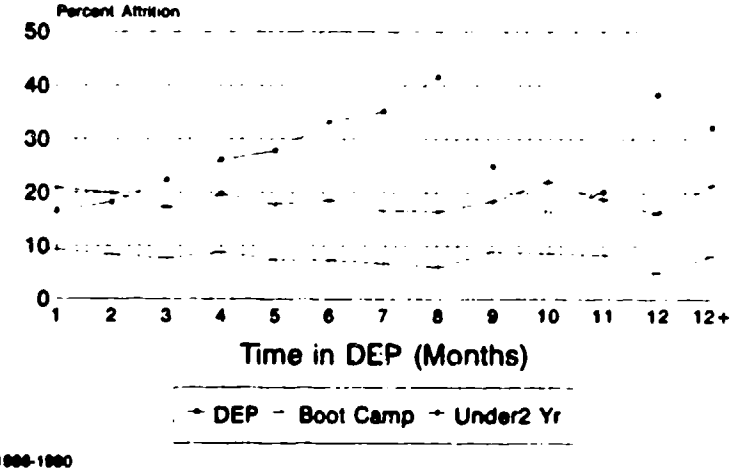
Males by Attrition Type



FYs 1988-1990

A & B Cells Attrition by Time in DEP

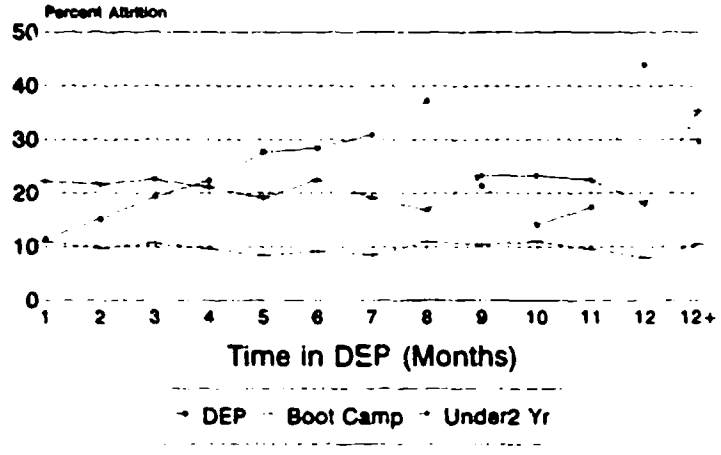
Females by Attrition Type



FYs 1988-1990

C & D Cells Attrition by Time in DEP

Females by Attrition Type



FYs 1988-1990

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