

# **Final Report: Street-to-Fleet Study**

## **Volume II: Street-to-Fleet for Commissioned Officers**

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February 2001

A handwritten signature in black ink, appearing to read "Donald J. Cymrot". The signature is written in a cursive style with some loops and flourishes.

Donald J. Cymrot, Director  
Workforce, Education and Training Team  
Resource Analysis Division

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# Introduction to MCCOAC

The Marine Corps Commissioned Officer Accession Career (MCCOAC) file starts with records at The Basic School (TBS). With 20 years of commissioned officer accessions, it begins with the FY 1980 TBS classes.<sup>1</sup> It is an event-based file that combines information from several data sources to describe the street-to-fleet process:

- The Basic School (TBS)
- First HMF record
- Augmentation
- PMOS and full duty attainment
- Promotion(s)
- Separation.

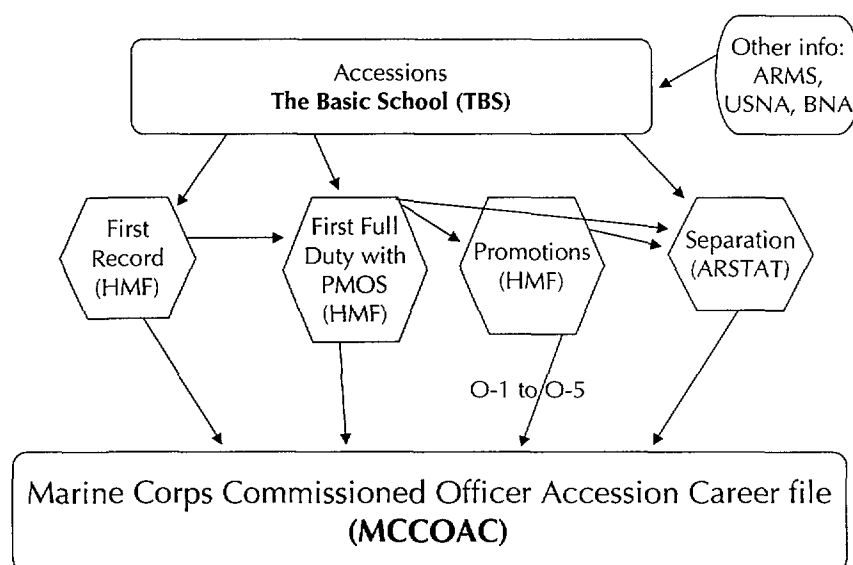
An officer's record begins at TBS and is followed on the Headquarters Master File (HMF) throughout his or her career. Separation information is obtained from the ARSTAT record. To our knowledge, this file will be the first historical officer accession file that has been built (see figure 1).

We anticipate that this file will be used both as a stand-alone file to analyze officer careers from the TBS point onward and as a file that can be merged with other records. For example, the file will be useful for those who want to analyze accession from the officer candidate school (OCS) onward. In this case, OCS records would be merged with MCCOAC records.

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1. There are usually about six TBS classes each year.

Figure 1. MCCOAC file



All officers, except for a very few who are commissioned late in their careers, go to The Basic School.<sup>2</sup> To ensure our ability to continue this file, we have an agreement with TBS to get current information as each fiscal year of classes is completed. This usually occurs in March of the following year. Information from TBS contains all performance data while at TBS, including overall grade-point averages and class standings, as well as performance in the academic, leadership, and military skills areas. We also include the first three PMOS preferences selected by an officer at TBS.<sup>3</sup> In addition, we created a variable to indicate which third of the overall TBS class rank the student occupied.

2. All street-to-fleet commissioned officers attend TBS, as well as all enlisted personnel in commissioning programs. Warrant officers who later become commissioned officers and some limited duty officers attend the Warrant Officer Basic Course (WOBC). While similar to TBS, it is not the same course. Our data file, MCCOAC, has no records for this group of officers who became commissioned later in their Marine Corps careers and who did not attend TBS.
3. For the last couple of years, we have the 20 PMOS preferences for each TBS attendee. We are providing this information to our sponsors in a separate file.

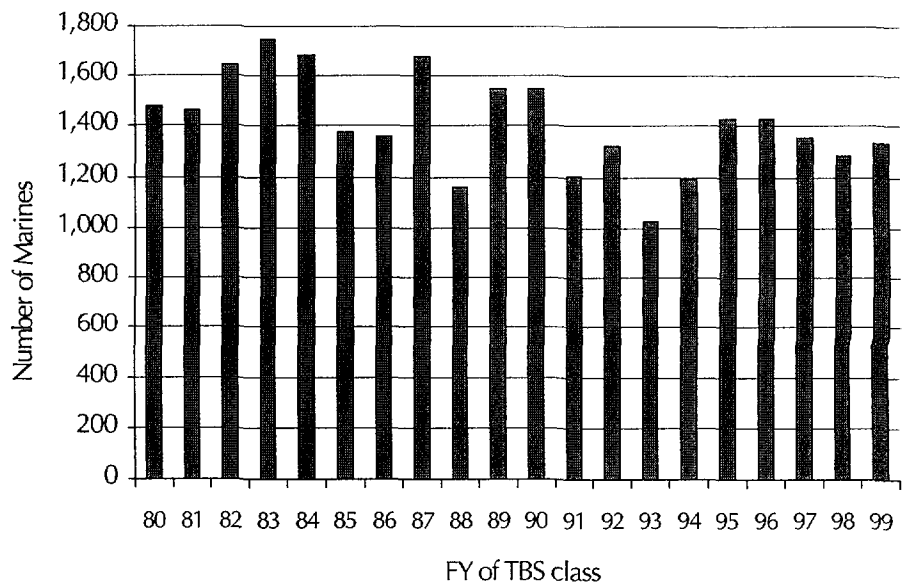
# File description

## File completeness

### Commissioned officers who attended TBS

We have over 28,000 TBS records for Marines who attended TBS in fiscal years 1980 through 1999.<sup>4</sup> Figure 2 shows the number of records we received from TBS for each fiscal year. Of these records, we found either separation records or subsequent HMF information for all but 15 of them. TBS is to be congratulated on its data entry for the SSNs of these students over the years.

Figure 2. Students at TBS, by fiscal year attending



4. The FY 2000 TBS information will not become complete until March 2001, so we do not include a discussion of those records here.

In summary, we believe that MCCOAC has records for virtually all Marines who attended TBS from FY 1980 onward. For a small number of these Marines, however, the information is not as complete as we would like. In particular, we are missing information for some of the TBS Marines who left the Corps before our first HMF data begin in September 1985. We have separation information for virtually all of them, but we are missing the demographic information that we get from the HMF. Fortunately, we have been able to recover some of this information from a data set used in a previous CNA study.<sup>5</sup>

### **Commissioned officers who did not attend TBS**

There are commissioned officers who did not attend TBS. These are warrant officers who later become commissioned officers, as well as some limited duty officers. Neither we, nor our study advisory committee (SAC), considered these individuals as we built the file. Even if we had been sufficiently prescient to have considered this omission earlier, however, it is not at all clear that we would have made a decision to try to include them in the file. They simply do not fit into the event-driven, street-to-fleet file that we have built. Marines who become commissioned officers late in their careers in the Marine Corps have followed very different career paths than those who began their careers at TBS. They are also a small group.

### **Relationship between commissioning year and TBS year**

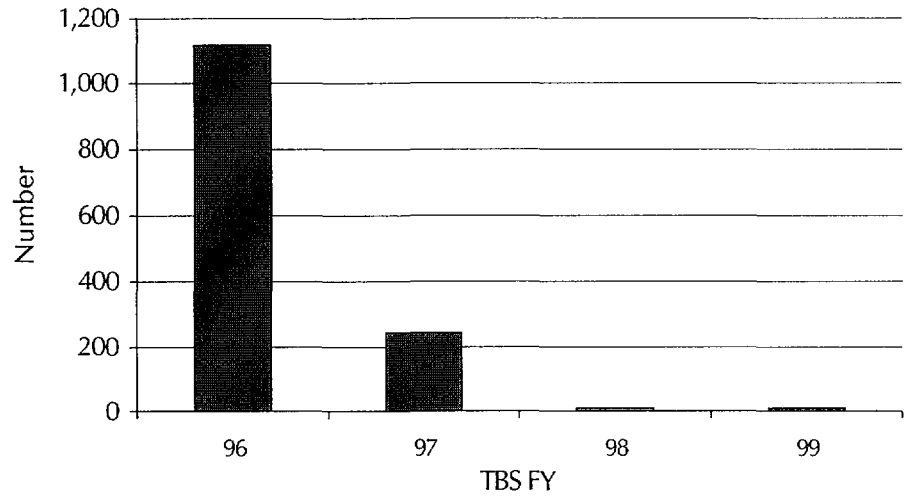
As we have stated, the basis for MCCOAC is TBS records. Most analyses of officers, however, have focused on “yeargroup,” which is defined by commissioning year. Most officers are commissioned in the same year that they attend TBS, but that is not always the case. Figure 3 shows the TBS year for those commissioned in FY 1996. We point this out because some may want to do analyses by yeargroup, while others may want do analyses by TBS year.

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5. Missing values are defined for these variables in the SAS MCCOAC file; they are identified by a dot in the field for the comma-delimited file.



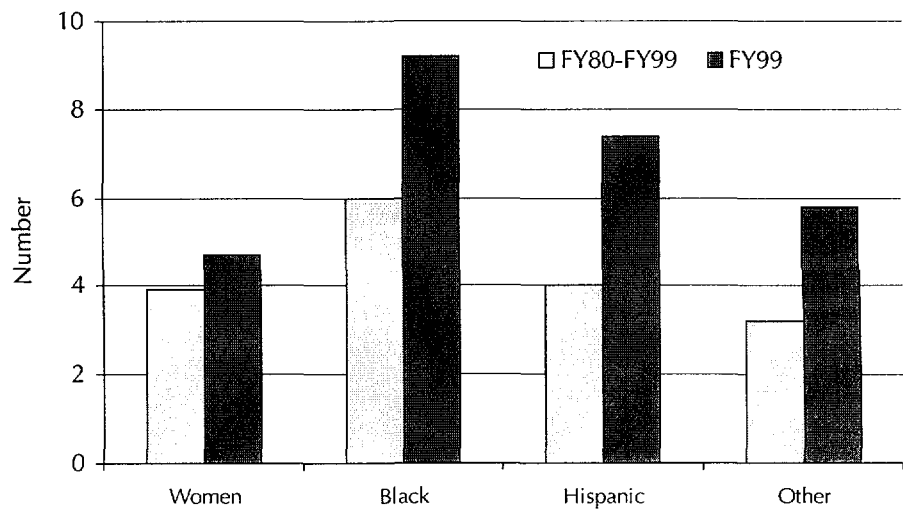
Figure 3. Example of relationship between commissioning year and TBS year: commissioning year 1996



### TBS: Women and minorities

Figure 4 shows the representation of women and minorities at TBS, over the entire period as well as for the FY 1999 TBS class. Hispanic and the category of “other” minorities particularly increased their participation over the period.

Figure 4. Women and minority representation at TBS: overall and in FY 1999 class



Let's now turn to a more detailed description of the information on the file.

## The event-based file

The HMF files provide the data for most of the file. We provide segments of data from the first HMF when an individual is seen as an officer, as well as from the last HMF at an enlisted rank, if any.<sup>6</sup> Basic information is also provided at time of augmentation, although augmentation is not explicitly dated on the HMF. We define it as occurring on the first HMF where we find the Component Code of "11," a United States Marine Corps regular. We use the "date current tour began" on that HMF; if that is missing or zero, we use the HMF date.

Data from the first full duty station is also included. This reflects the first record where the officer has a 4-digit PMOS,<sup>7</sup> a strength category that does not indicate a student status, and a former monitored command code (MCC) at a training school. Each promotion, from ranks O1 to O5, is recorded as well as information about the Marine at the time of promotion.

An extract from the last HMF record is also included. This would be current information for those active Marines or information at separation for those who have left. Specific fields for each event are described as follows:<sup>8</sup>

6. Because CNA's HMFs start in September 1985, we will miss the enlisted service of any enlisted member who entered an enlisted commissioning program before 1985. These commissioning sources are Marine Corps enlisted commissioning education program (MECEP) and enlisted commissioning program (ECP).
7. This is the first record where the officer has a 4-digit PMOS that does not end in an 01 or is not a 99xx or 7599.
8. We are providing a SAS data set of this file to our sponsors with this final report. Appendix A has a more complete description of the data fields. For Marines who were prior enlisted, we also include the following information from their last enlisted record: active duty base date, pay entry base date, AFQT, ASVAB scores, paygrade, and PMOS.

- TBS:
  - Date: FY attended
  - Academic GPA, academic class standing, overall class standing, overall GPA, leadership GPA, leadership class standing, military skills GPA, military skills class standing, class standing in the top, middle, or bottom third of the class
  - class ID, first three MOS preferences
- First HMF record:
  - HMF date and fiscal year
  - Demographics that do not change: date of birth, race, ethnicity, gender
  - Other demographic information at time of first HMF: marital status, number of dependents, home of record state,
  - Marine Corps information at time of first HMF: source of entry (SOE) code, recode of SOE into categories (PLC, OCC, etc.), component code, program enlisted for, first three duty preferences, PMOS,<sup>9</sup> rifle (date, class, ITS1-ITS4), pistol (date, class, ITS1-ITS2), PFT (date, code, class, score)
  - Military dates: active duty base date, pay entry base date, date first commission
  - Education and test score information from first HMF: education level, college major, GCT scores
- First full duty assignment<sup>10</sup>
  - Date: date current began<sup>11</sup>

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9. These are primarily 7599 (aviation) or 9901 (ground).

10. This is the first record where the officer has a 4-digit PMOS that does not end in a 00, 01, or is a 7599, a strength category that does not indicate a student status, and when the former monitored command code is from a training school.

11. "Date current tour began" (DCTB) is frequently recorded as a "0" when a Marine is in transit to another job. For such cases, we use the date of the HMF as DCTB and flag the record.

- Marine Corps information at time of first full duty assignment: component code, MCC, RUC, geographic location, rifle (date, class, ITS1-ITS4), pistol (date, class, ITS1-ITS2), PFT (date, code, class, score)
- Individual information at time of first full duty assignment: marital status, number of dependents, paygrade, PMOS
- At augmentation
  - Date: date current tour began for first component code of 11
  - Marine Corps information at time of augmentation: component code, MCC, RUC, geographic location, rifle (date, class, ITS1-ITS4), pistol (date, class, ITS1-ITS2), PFT (date, code, class, score)
  - Individual information at time of augmentation: marital status, number of dependents, paygrade, PMOS
- At each promotion (O-1 to O-5)
  - Date: date of rank<sup>12</sup>
  - Marine Corps information at time of promotion: component code, MCC, RUC, geographic location, rifle (date, class, ITS1-ITS4), pistol (date, class, ITS1-ITS2), PFT (date, code, class, score)
  - Individual information at time of promotion: marital status, number of dependents, paygrade, PMOS
- Last HMF record (either at separation or most recent file update if officer is still on active duty)
  - Date: Date of HMF
  - Marine Corps information at time of last HMF: MCC, RUC

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12. Rank is identified by the name of the variable. All variables that begin O1\_ are for second lieutenant, O2\_ for first lieutenant, and so on.

- Individual information at time of last HMF: paygrade, date of rank, component code, separation designator<sup>13</sup> (reason for separation), strength category, education code, college major
- Separation information (from ARSTAT file<sup>14</sup>)
  - Date: Date of action for separation
  - Marine Corps information at time of separation: MCC, RUC
  - Individual information at time of separation: paygrade, separation designator (reason for separation), duty status, duty limitation, strength category, record status, type change code
- Other information
  - Is the record on the current HMF?
  - ARMS information: is the record on ARMS?
  - Miscellaneous other information, such as age at first commissioning
  - Loss flag
  - Number of months service (for those still in this is the number of months from commissioning date to 30 September 2000, for those who have left it is the number of months from commissioning date to separation date)
- Information from Officer ARMS includes:
  - College code
  - SAT scores (math, verbal and combined score)
  - These data are not available for most individuals on this file, but are included where possible.

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13. Because this variable is not always updated on the HMF, separation information should be obtained from the ARSTAT segment.

14. See appendix B for more information. This appendix also includes more information on officers ARMS and other secondary data sources.

## File summary information

Table 1 describes the number of Marines who went to TBS in each fiscal year, as well as the number of Marines who were successfully matched to either a separation record or a subsequent HMF record.

We further report the percentage of these TBS students for whom we have a first full duty record.<sup>15</sup> Because we do not have HMF files before September 1985, we miss the first full duty record for Marines who went to TBS in the early 1980s. For the TBS classes at the end of the 1990s, the percentages with full duty records are incomplete, as Marines are still in school.

We then show the number of officers from each Basic School year group that were still on active duty in the Marine Corps as of September 1990 and September 2000.

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15. The data are current through September 2000.

Table 1. Summary of MCCOAC<sup>a</sup>

TBS FY	Number Marines	Good records <sup>b</sup>	Percentage good records <sup>c</sup>	Percentage with first full duty record	Number (percentage) still there as of			
					September 1990		September 2000	
					Number	Percentage	Number	Percentage
1980	1,480	1,479	99.9	Missing <sup>d</sup>	591	39.9	219	14.8
1981	1,460	1,460	100.0	Missing	602	41.2	312	21.4
1982	1,644	1,644	100.0	Missing	670	40.8	359	21.8
1983	1,744	1,744	100.0	Missing	824	47.2	407	23.3
1984	1,680	1,680	100.0	Missing	910	54.2	382	22.7
1985	1,374	1,374	100.0	95.9	827	60.2	344	25.9
1986	1,360	1,360	100.0	96.8	966	71.9	385	28.3
1987	1,675	1,675	100.0	95.5	1,377	82.2	413	24.7
1988	1,159	1,159	100.0	94.7	1,141	98.4	378	32.6
1989	1,550	1,550	100.0	94.8	1,540	99.4	502	32.4
1990	1,548	1,548	100.0	95.5	1,542	99.6	655	42.3
1991	1,206	1,206	100.0	97.8	NA <sup>e</sup>	NA	583	48.3
1992	1,324	1,324	100.0	98.1	NA	NA	712	53.8
1993	1,025	1,024	99.9	97.8	NA	NA	578	56.4
1994	1,195	1,195	100.0	99.0	NA	NA	796	66.6
1995	1,429	1,427	99.9	98.7	NA	NA	1,001	70.0
1996	1,429	1,418	99.2	95.9	NA	NA	1,087	76.1
1997	1,352	1,352	100.0	90.7	NA	NA	1,263	93.4
1998	1,285	1,285	100.0	81.3	NA	NA	1,273	99.1
1999	1,335	1,335	100.0	77.1	NA	NA	1,333	99.9

a. Data for FY 2000 TBS Marines are not yet complete; thus, we do not include them in the table.

b. Record for the Marine was later found on the HMF or on a ARSTAT separation record.

c. This is the percentage of TBS records (column 2) that were successfully matched to HMF or ARSTAT records.

d. CNA does not have any HMFs before September 1985, so we are missing the first full duty record for TBS Marines in the early years of the file.

e. Not applicable. We do not report the Marines who went to TBS after 1990 who were in the Marine Corps as enlisted Marines as of September 1990.

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## Some preliminary analyses

In this section, we report some preliminary analyses. In building this file, we focused on two analytic objectives:

- Validating the data
  - Ensuring that we identified missing data or source data that are clearly inaccurate<sup>16</sup>
  - Doing final checks to ensure that we accounted for all format changes in date fields
- Constructing useful analytic variables from this plethora of information. For example, we constructed the following variables:
  - Top, middle, or bottom third at TBS using the overall class standing
  - Accession program (ground, aviation, NFO, other)
  - Time to full duty (calculated from commissioning date, in months)
  - Time to O-2, O-3, O-4, and O-5 (calculated from commissioning date to each grade)
  - Top half GCT (score greater than 125 or not)
  - Number of months that the officer was in Marine Corps (from commissioning date to separation date, or from commissioning date to September 2000 if still in the Corps)

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16. Although the quality of Marine Corps data is very good, the data are not perfect.

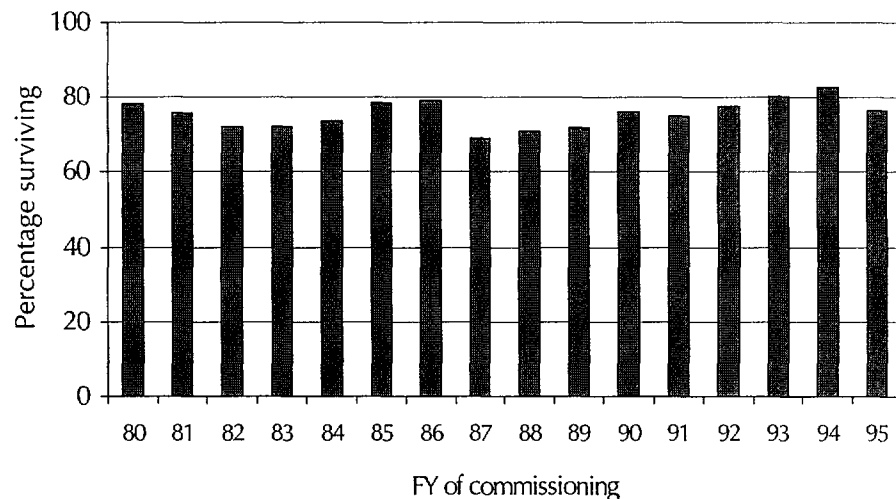
- A series of variables that will make it easier to analyze the information: race/ethnic group (called egroup), gender (M or F), loss flag, etc.

Appendix A lists the variables and the variable descriptions.

## Continuation behavior

As noted, we created a variable for the number of months that a Marine has been in the Corps. This variable is the difference between the commissioning date and the date of the last file update if the Marine is still active.<sup>17</sup> If the Marine has left the Corps, it is the difference between the commissioning date and the separation date. Figure 5 looks at the percentage of commissioned officers who were still in the Corps 5 years later. These percentages have varied from a low of 68.9 percent for those commissioned in FY 1987 to a high of 82.5 percent for those commissioned in FY 1994.

Figure 5. Percentage of commissioning yeargroup still in the Corps 5 years after commissioning



17. As of the completion of this study, MCCOAC has TBS records for classes from FY 1980 through FY 1999 and separation and other HMF information through September 2000.

## Continuation behavior by source of entry

We'll now use this variable to look at some continuation behavior by entry source.<sup>18</sup> We'll look at 5-year continuation rates, by fiscal year of commissioning, starting with those commissioned in FY 1982. We'll look at the following entry sources:

- Platoon leaders course (PLC), see figure 6
- Officer candidate course (OCC), see figure 7
- Naval reserve officer training course (NROTC), see figure 8
- Marine Corps enlisted commissioning education program (MECEP), see figure 9
- Enlisted commissioning program (ECP), see figure 10
- United States Naval Academy (USNA), see figure 11.

The PLC accession source has consistently had both higher and more even continuation rates than the OCC source. On average, over the years, the 5-year continuation rate was 74.5 percent for PLC and 67.2 percent for OCC accessions.

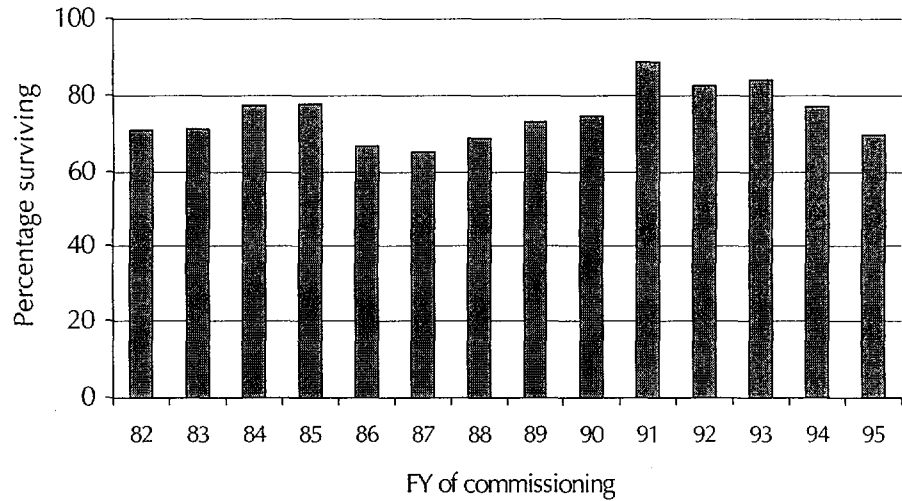
NROTC 5-year continuation rates averaged 77.3 percent. There are two enlisted commissioning programs, MECEP and ECP. The average 5-year continuation rate for MECEP accessions was 91.8 percent, higher even than the USNA 5-year continuation rate of 91.4 percent. The ECP accession program had 5-year continuation rates that averaged 74.1 percent.

Keep in mind that comparisons between accession sources, when some sources (namely USNA and NROTC) received regular commissions and all other accession sources received reserve commissions and need to be selected for augmentation to achieve regular status, are fraught with difficulties. Considerable care should be used for comparisons.

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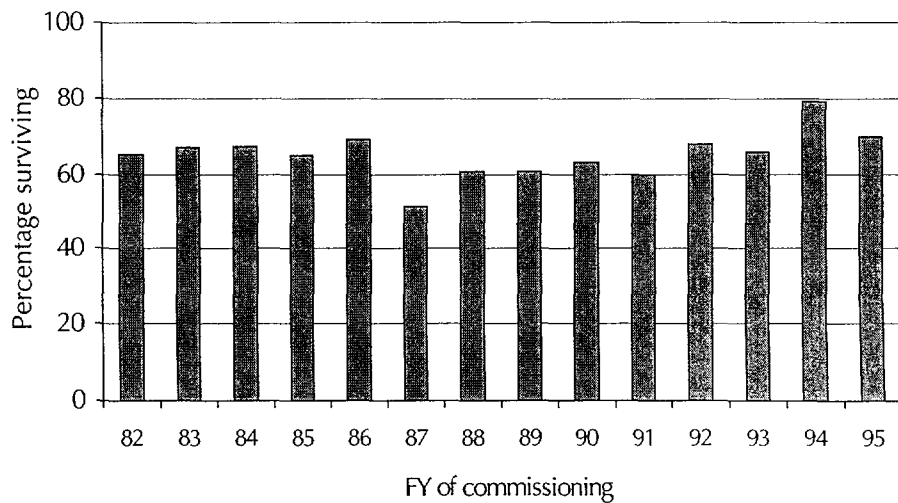
18. For Marines who left before September 1985, we do not have the commissioning date. For these officers, we estimate their commissioning as October 1 of the fiscal year they attended TBS. We indicate this omission by a variable (COMM\_FYF), which "flags" the fields we filled in.

Figure 6. Platoon leaders course 5-year continuation percentages, by FY of commissioning<sup>a</sup>



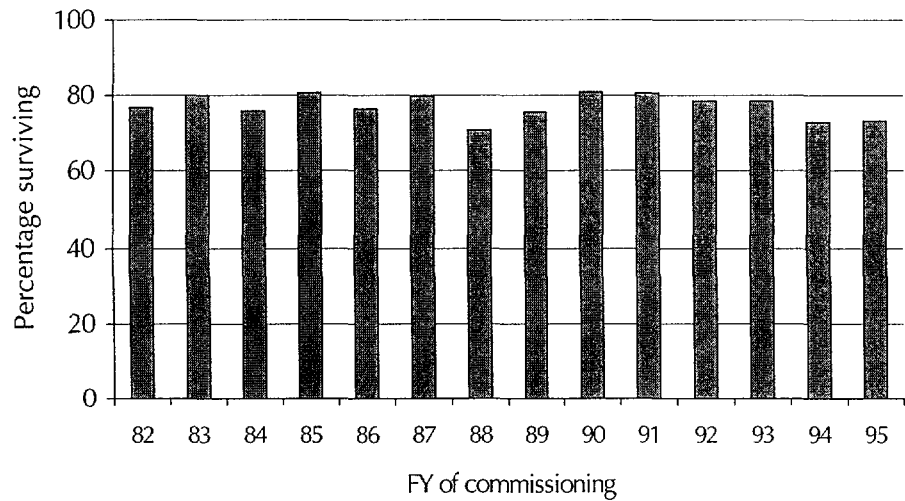
a. Note: The number of PLC accessions varied from 354 to 785 in these years. We exclude accession years 1980 and 1981 because we are missing accession source for 330 officers.

Figure 7. Officer candidate course 5-year continuation percentages, by FY of commissioning<sup>a</sup>



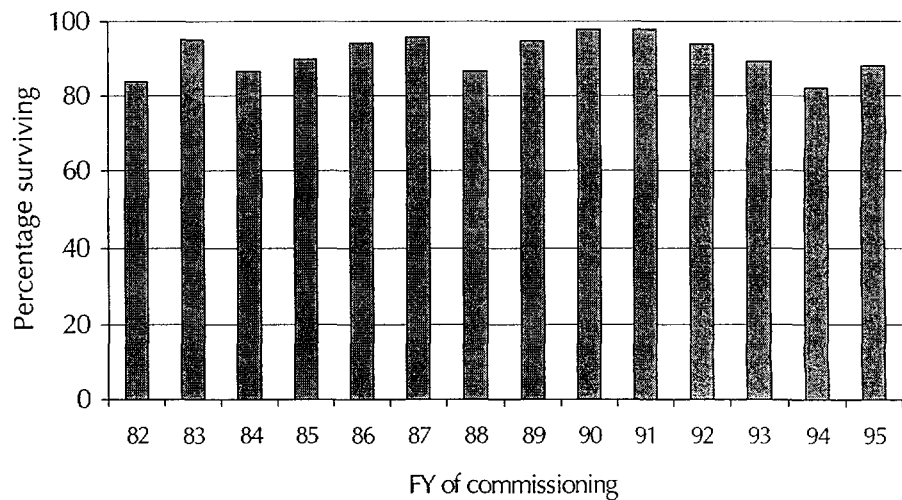
a. Note: The number of OCC accessions varied from 128 to 730 in these years. We exclude accession years 1980 and 1981 because we are missing accession source for 330 officers.

Figure 8. Naval reserve officer training course 5-year continuation percentages, by FY of commissioning<sup>a</sup>



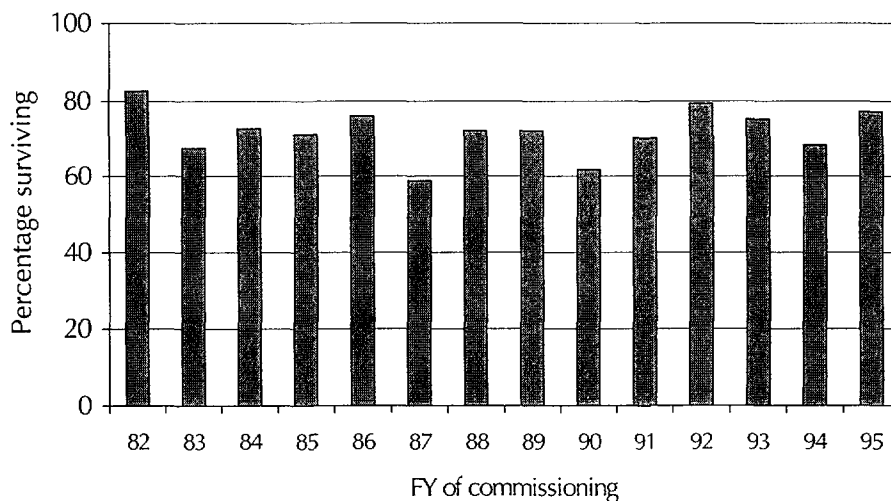
a. Note: The number of NROTC accessions varied from 179 to 352 in these years. We exclude accession years 1980 and 1981 because we are missing accession source for 330 officers.

Figure 9. Marine Corps enlisted commissioning education program 5-year continuation percentages, by FY of commissioning<sup>a</sup>



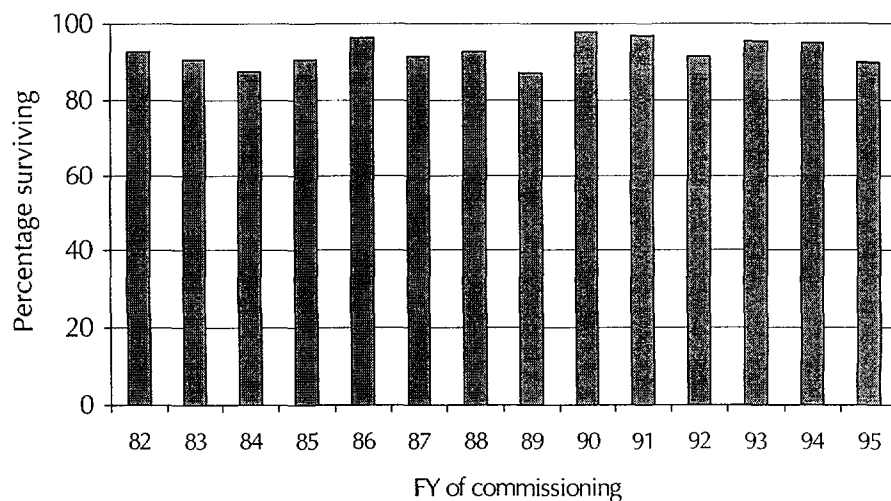
a. Note: The number of NROTC accessions varied from 35 to 59 in these years. We exclude accession years 1980 and 1981 because we are missing accession source for 330 officers.

Figure 10. Enlisted commissioning program 5-year continuation percentages, by FY of commissioning<sup>a</sup>



a. Note: The number of ECP accessions varied from 25 to 75 in these years. We exclude accession years 1980 and 1981 because we are missing accession source for 330 officers.

Figure 11. U.S. Naval Academy 5-year continuation percentages, by FY of commissioning<sup>a</sup>

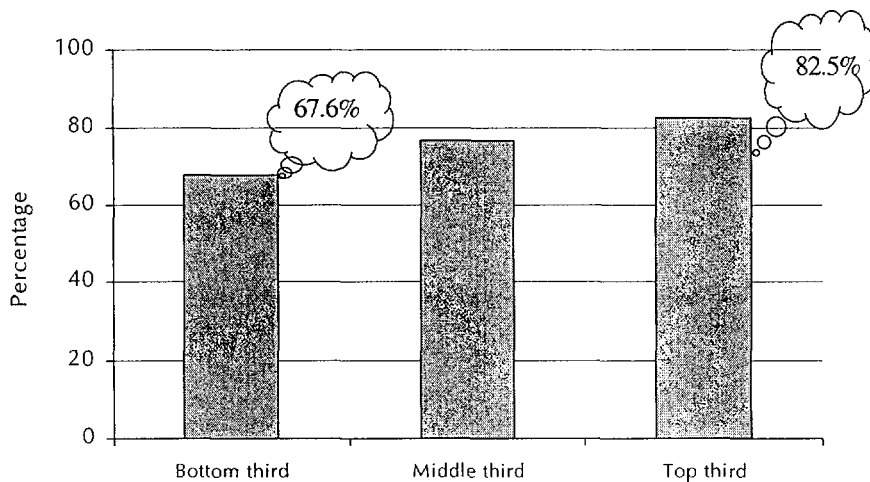


a. Note: The number of USNA accessions varied from 94 to 226 in these years. We exclude accession years 1980 and 1981 because we are missing accession source for 330 officers.

## Continuation behavior by TBS rank

We divided each class at TBS into thirds based on the overall class rank. Figure 12 shows the 5-year continuation rate by TBS ranking, for all accessions from FY 1980 through FY 1995. As is clear from the figure, overall rank at TBS is a strong predictor of Marine Corps retention. This is good news. Overall rank at TBS is one measure of officer quality. By this measure at least, we are retaining proportionally more of our highest quality officers.

Figure 12. 5-year continuation rate by TBS rank: TBS yeargroups FY 1980-1995



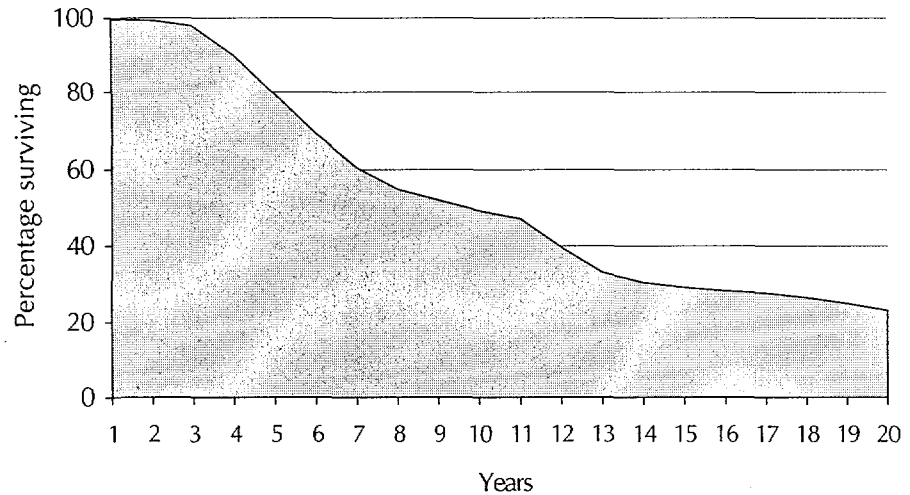
For 1995, the most recent class for which we can observe 5-year continuation, the continuation rates by overall TBS rank were similar to historical numbers. For the FY 1995 yeargroup, they were 67.5 percent for the lowest third, 78.1 percent for the middle third, and 83.1 percent for the highest third.

## Long-term continuation behavior: FY 1980 yeargroup over a 20-year period

Finally, we show some examples of how we can use this data set to examine long-term continuation behavior. We again use our number-of-months variable to do this analysis. Figure 13 shows the survival

pattern for the FY 1980 commissioning yeargroup. There were 1,501 officers commissioned in FY 1980, a somewhat larger number than the number of TBS attendees for that year (1,480).<sup>19</sup>

Figure 13. FY 1980 yeargroup: percentage surviving<sup>a</sup>



a. We used FY of commissioning to define the yeargroup. We compute survival years by the difference between the separation date and commissioning date. If there is no separation, the years of service is the difference between the commissioning date and September 2000.

The continuation rate drops off fairly sharply after 4 years of service. It flattens out somewhat between the 8th and 11th year of service and then falls relatively sharply in the 11th and 12th year of service. For this yeargroup, it flattens out after completion of the 13th year of service.<sup>20</sup>

19. Fiscal year of commissioning and fiscal year for TBS attendance are the same for most, but not all, Marines. Although we usually define yeargroups by fiscal year of commissioning, we use TBS year for some of our benchmark calculations.

20. It would be extremely valuable to have initial obligation length as a field on Marine Corps HMF data.



## Long-term continuation rates by regular and reserve status at accession

In an earlier draft of this paper, we attempted to do 20-year continuation rates with the FY 1980 yeargroup, and it appeared that there was a real difference in the long-term continuation behavior by regular/reserve status at accession. As we said in the draft paper, that work was preliminary because the data still had many inaccuracies. After we cleaned the data and omitted any FY 1980 accessions for whom we could not identify accession source, we discovered that approximately the same percentage of reserve and regular accessions in the FY 1980 yeargroup made it to 20 years of service (25.2 percent for the reserve accessions and 26.3 percent for the regular accessions). Even at 10 years of service, the continuation rates were similar (52.2 percent for reserve accessions and 53.7 percent for regular accessions).

Because we had expected the long-term continuation rates for regular accessions to be substantially higher than those for reserve accessions, we decided to look at a larger number of years. Thus, we analyzed continuation behavior for the FY 1982 through FY 1990 yeargroups.<sup>21</sup> We can watch these accessions for 10 years. First, though, we'll look at the 5-year continuation rates where there are fairly substantial differences by regular/reserve status at accession. Figure 14 shows these continuation rates.

Figure 15 shows the 10-year continuation rates where the differences by accession status are much smaller. For the FY 1990 yeargroup, there are really no differences in 10-year continuation rates for the two groups.

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21. We omit yeargroups 1980 and 1981 because we are missing accession source for the early separations.

Figure 14. 5-year continuation rates by regular/reserve status at commissioning

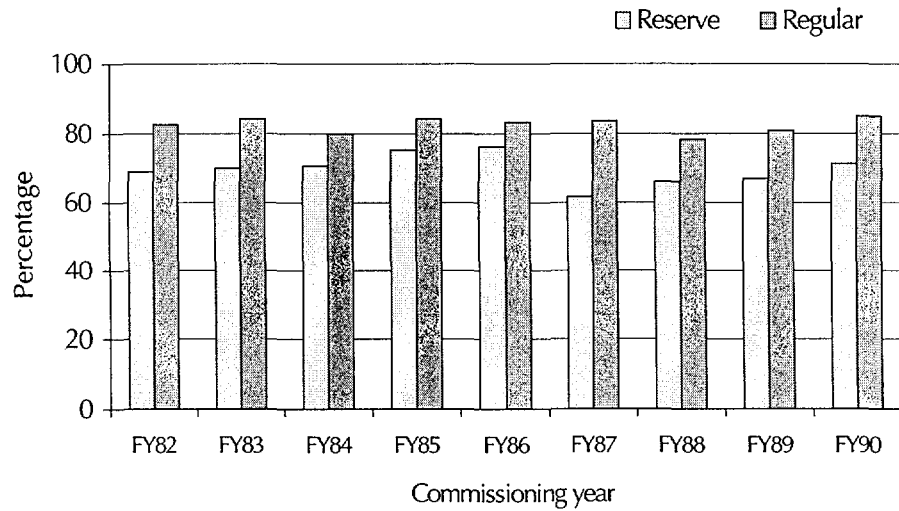
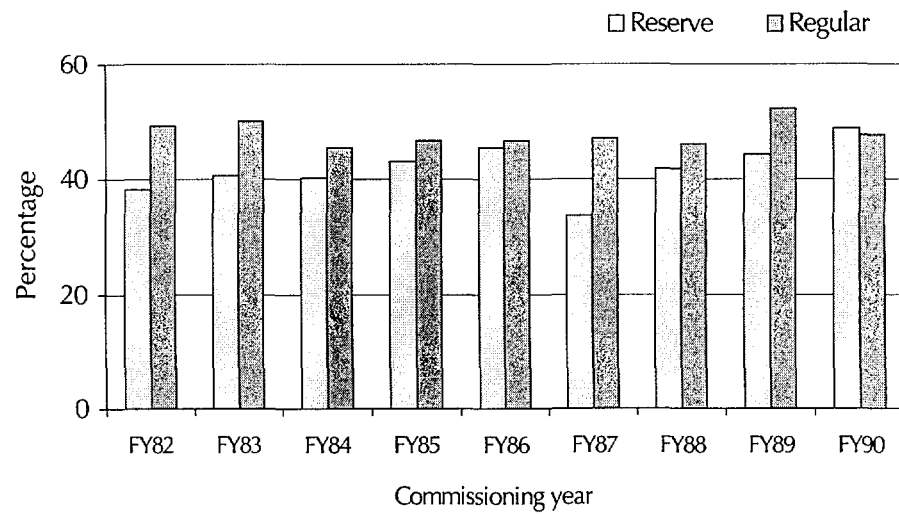


Figure 15. 10-year continuation rates by regular/reserve status at commissioning



## Promotion to major

### By commissioning year

We can also use this dataset to determine promotion to the various grades. Here we will look at promotion to major. Figure 16 shows the probability of promotion to major, by commissioning year, for officers commissioned in the FY 1980–1990 period. The “street-to-major” overall probability was 32.7 percent for these yeargroups. As the figure shows, however, the probabilities have varied over the years. The probability is highest for the most recent yeargroup, those commissioned in FY 1990. That year group also had the shortest average time to major, as is shown in figure 17. Over the period, the months from the commissioning date to the promotion to major fell from 148.8 months to 117.0 months.

Figure 16. Probability of promotion to major, by fiscal year of commissioning

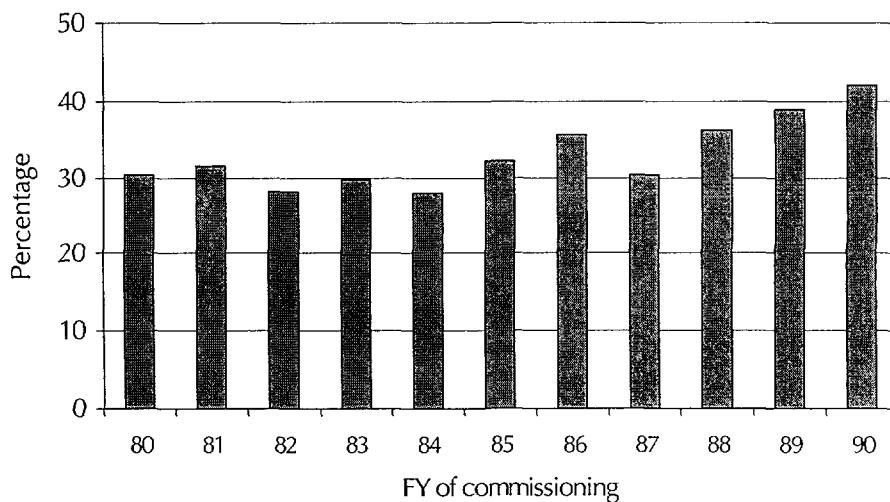
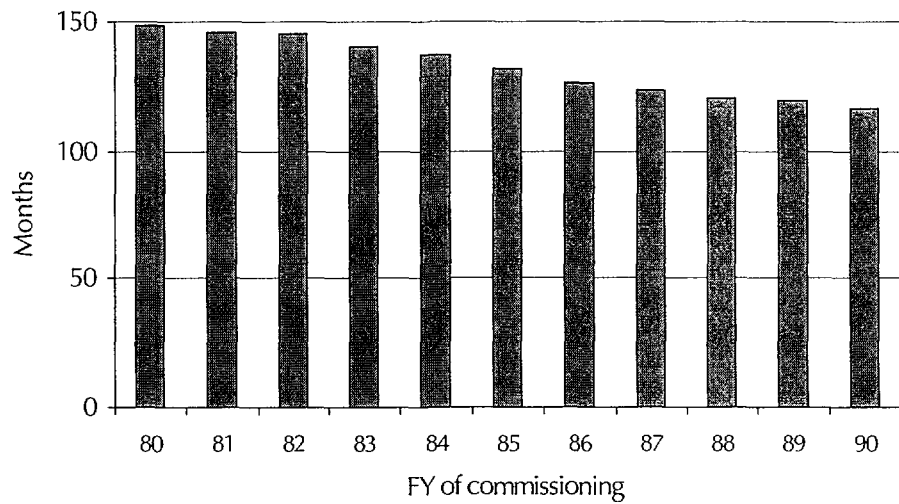


Figure 17. Months from commissioning date to promotion to major<sup>a</sup>



a. Months are calculated based upon the Marines in the yeargroup who were promoted to major.

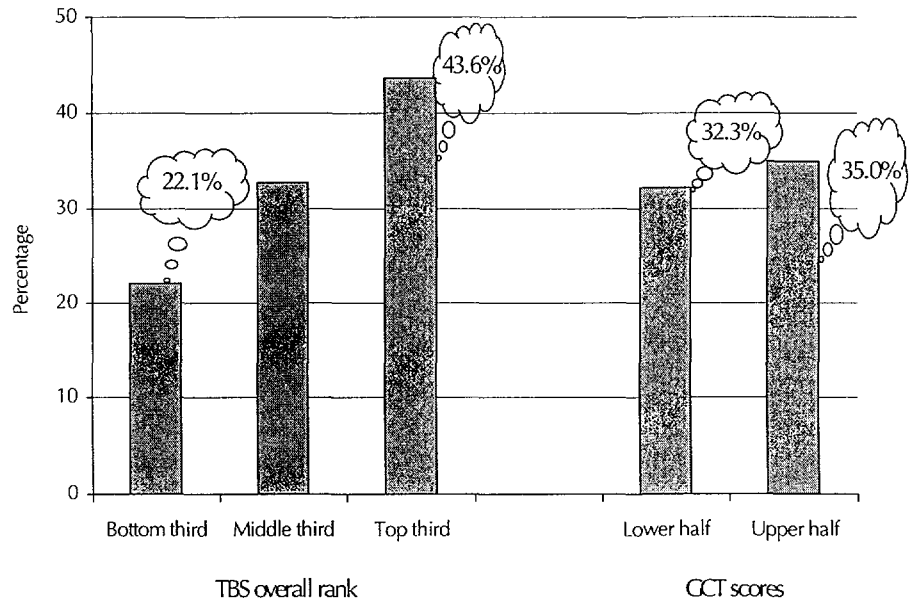
### By TBS rank or GCT score category

We looked at all the officers commissioned in the FY 1980–1990 time period to see what percentage made it to major. Now we will look at all these officers together and examine the relationship between the promotion probability and two possible measures of officer quality: overall rank at TBS and GCT score category.<sup>22</sup> As is shown in figure 18, there is a very strong relationship between TBS rank and the probability of promotion to major, with those in the top third of their TBS classes having almost double the probability of promotion to major of those in the bottom third. There is also a positive relationship between GCT scores and the probability of promotion to major, but the effect is small.<sup>23</sup>

22. We divided GCT scores into roughly equal halves: those scoring 125 or lower and those scoring 125 or higher.

23. Over the years, we have heard some discussion that the GCT was not always administered in a serious test-taking environment.

Figure 18. Probability of promotion to major by TBS overall rank and GCT score category: commissioning years FY 1980–1990



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## Concluding comments

MCCOAC should be a rich database to analyze Marine Corps officer accessions. We anticipate that as CNA and Marine Corps analysts use these data, we will construct additional variables to aid in analyses. At present, most of the variables are coded exactly as they were coded in the source data. Because we have done very little work in the past with officer data, this is a process that can continue over a period of time.

We currently have MCCOAC as a SAS data set. It is our belief that this is the best way to keep the main dataset. SAS allows statistical analyses, as well as extensive data manipulation. In contrast to enlisted accessions, officer accessions in a SAS data set, even accessions over several decades, can fit easily on a desktop computer.

We have also developed a beta version<sup>24</sup> of the officer data that can be used in a Windows-based environment. We are calling this database the Marine Corps Officer Database (MCOB). Current through September 2000, this database is similar to the MCAID/MCAR enlisted databases described in volume I of this report.

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24. A beta version is a test version of a database. Though not originally part of the study plan, we were very pleased to be able to additionally develop this in the course of the study.

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## Appendix A: MCCOAC file format

This appendix lists the variables in the file in alphabetical order.

Table 2. File description

Variable	Label
A_CC	Augmentation component code
A_DCTB	Date current tour began for 1st component code of 11
A_DEP	Number of dependents at augmentation
A_DT_FL	Flag if Date current tour began is HMF date used if DCTB = 0
A_GEO	Geographic location at augmentation
A_GRD	Rank 1st comp code of 11
A_MAR	Marital status at augmentation
A_PFT_CD	Augmentation PFT code
A_PFT_CL	Augmentation PFT class
A_PFT_DT	Augmentation PFT date
A_PFT_SC	Augmentation PFT score
A_PMCC	Monitored command code at augmentation
A_PMOS	PMOS at Augmentation
A_P_CL	Augmentation Pistol class
A_P_DT	Augmentation Pistol date
A_P_IT1	Augmentation Pistol ITS1
A_P_IT2	Augmentation Pistol ITS2
A_P_SC	Augmentation Pistol score
A_RUC	Reporting Unit Code at augmentation
A_R_CL	Augmentation Rifle class
A_R_DT	Augmentation Rifle date
A_R_IT1	Augmentation Rifle ITS1
A_R_IT2	Augmentation Rifle ITS2
A_R_IT3	Augmentation Rifle ITS3
A_R_IT4	Augmentation Rifle ITS4
A_R_SC	Augmentation Rifle score

Table 2. File description (continued)

Variable	Label
Augment	"1=yes, did augment 0=has no augmentation record". Note: if the Marine separated before our first HMF record in September 1985, we can tell if he or she augmented by the component code on the ARSTAT separation record, but the rest of the augmentation information like rifle score, etc., will be missing.
BAD_LOSS	"1 = No longer on the HMF, but has no loss record"
COL_CD	College code from ARMS
COMM_AGE	Age at 1st commission
COMM_FY	Fiscal year of first commission
COMM_FYF	"Flag if Commissioning FY is TBS FY, used if COMM_FY is missing"
COMM_SOU	Commissioning source: "1 = PLC, 2 = OCC, 3 = NROTC, 4 = MECEP, 5 = ECP, 6 = USNA, 7 = MCP," "0 = other, 8 = missing"
CAPT_PFT	"PFT class at Captain, 1 = 1, 2 = 2, 3 = 3, 4 = 4 or 5, 5 = not reported, 6 = no Captain record"
EGROUP	"Ethnic group, 0=other 1=white 2=black 3=hispanic"
E_ADBD	"Active duty base date, last enlisted record"
E_AFQT	"AFQT, last enlisted record"
E_ASV_CL	"ASVAB Clerical composite score, last enlisted record"
E_ASV_EL	"ASVAB Electrical composite score, last enlisted record"
E_ASV_GT	"ASVAB General Technical composite score, last enlisted record"
E_ASV_MM	"ASVAB Mechanical Maintenance composite score, last enlisted record"
E_GRD	"Pay grade, last enlisted record"
E_PEBD	"Pay Entry Base Date, last enlisted record"
E_PMOS	"PMOS, last enlisted record"
FD_CC	"Component code, first full duty record"
FD_DCTB	DCTB first full duty station
FD_DEP	"Number of dependents, first full duty record"
FD_DT_FL	Flag if Date Current Tour Began is HMF date used if DCTB = 0
FD_GEO	"Geographic location code, first full duty record"
FD_GRD	"Pay grade, first full duty record"
FD_MAR	"Marital status, first full duty record"
FD_PFT_C	"PFT code, first full duty record"
FD_PFT_D	"PFT date, first full duty record"
FD_PFT_L	"PFT class, first full duty record"
FD_PFT_S	"PFT score, first full duty record"

Table 2. File description (continued)

Variable	Label
FD_PMCC	"Monitored command code, first full duty record"
FD_PMOS	"PMOS, first full duty station"
FD_P_CL	"Pistol class, first full duty station"
FD_P_DT	"Pistol date, first full duty station"
FD_P_IT1	"Pistol ITS1, first full duty station"
FD_P_IT2	"Pistol ITS2, first full duty station"
FD_P_SC	"Pistol score, first full duty station"
FD_RUC	"Reporting Unit Code, first full duty station"
FD_R_CL	"Rifle class, first full duty station"
FD_R_DT	"Rifle date, first full duty station"
FD_R_IT1	"Rifle ITS1, first full duty station"
FD_R_IT2	"Rifle ITS2, first full duty station"
FD_R_IT3	"Rifle ITS3, first full duty station"
FD_R_IT4	"Rifle ITS4, first full duty station"
FD_R_SC	"Rifle score, first full duty station"
F_ADBD	"Active duty base date, 1st HMF record as an officer"
F_CC	"Component code, 1st HMF record as an officer"
F_CMAJ	"College major, 1st HMF record as an officer"
F_COMM	"Date first commission, 1st HMF record as an officer"
F_DOB	"Date of birth, 1st HMF record as an officer"
F_DUTY1	"Duty preference 1, 1st HMF record as an officer"
F_DUTY2	"Duty preference 2, 1st HMF record as an officer"
F_DUTY3	"Duty preference 3, 1st HMF record as an officer"
F_EDU	"Education level, 1st HMF record as an officer"
F_ETH	"Ethnic code, 1st HMF record as an officer"
F_GCT	"GCT score, 1st HMF record as an officer"
F_GCT_AC	"GCT Arithmetic computation score, 1st HMF record as an officer"
F_GCT_AR	"GCT Arithmetic reasoning score, 1st HMF record as an officer"
F_GCT_PA	"GCT Pattern analysis score, 1st HMF record as an officer"
F_GCT_RV	"GCT Reading/Vocabulary score, 1st HMF record as an officer"
F_HOR	"Home of record state, 1st HMF record as an officer"
F_ID	"HMF date, 1st HMF record as an officer"
F_MAR	"Marital status, 1st HMF record as an officer"
F_NDEP	"Number of dependents, 1st HMF record as an officer"
F_PEBD	"Pay entry Base Date, 1st HMF record as an officer"
F_PEF	"Program enlisted for, 1st HMF record as an officer"
F_PFT_CD	"PFT code, 1st HMF record as an officer"
F_PFT_CL	"PFT class, 1st HMF record as an officer"

Table 2. File description (continued)

Variable	Label
F_PFT_DT	"PFT date, 1st HMF record as an officer"
F_PFT_SC	"PFT score, 1st HMF record as an officer"
F_PMOS	"PMOS, 1st HMF record as an officer"
F_P_CL	"Pistol class, 1st HMF record as an officer"
F_P_DT	"Pistol date, 1st HMF record as an officer"
F_P_IT1	"Pistol ITS1, 1st HMF record as an officer"
F_P_IT2	"Pistol ITS2, 1st HMF record as an officer"
F_P_SC	"Pistol score, 1st HMF record as an officer"
F_RACE	"Race code, 1st HMF record as an officer"
F_R_CL	"Rifle class, 1st HMF record as an officer"
F_R_DT	"Rifle date, 1st HMF record as an officer"
F_R_IT1	"Rifle ITS1, 1st HMF record as an officer"
F_R_IT2	"Rifle ITS2, 1st HMF record as an officer"
F_R_IT3	"Rifle ITS3, 1st HMF record as an officer"
F_R_IT4	"Rifle ITS4, 1st HMF record as an officer"
F_R_SC	"Rifle score, 1st HMF record as an officer"
F_SEX	"Sex code, 1st HMF record as an officer"
F_SOE	"Source of entry, 1st HMF record as an officer"
GCT_CAT	"GCT category, GCT score less than or equal to 125 = 0, greater than 125 = 1"
GENDER	"Male= M, Female = F"
LS_CCD	"Component code, loss record"
LS_DOA	"Date of action, loss record"
LS_D_LMT	"Duty limitation, loss record"
LS_D_ST	"Duty status, loss record"
LS_FLAG	"Loss flag, 1=has loss record 0=no loss record"
LS_MCC	"Monitored command code, loss record"
LS_PG	"Pay grade, loss record"
LS_RSTAT	"Record status, loss record"
LS_RUC	"Reporting unit code, loss record"
LS_SDN	"Separation designator, loss record"
LS_STR	"Strength category, loss record"
LS_TCC	"Type change code, loss record"
L_CC	"Component code, last HMF record"
L_CMAJ	"College major, last HMF record"
L_COMM	"Commissioning date, last HMF record"
L_COMM_FL	Last commissioning date flag--1=used commission date from last HMF record

Table 2. File description (continued)

Variable	Label
L_DOR	"Date of rank, last HMF record"
L_EDU	"Education code, last HMF record"
L_ID	"HMF date, last HMF record"
L_MCC	"Monitored command code, last HMF record"
L_PG	"Pay grade, last HMF record"
L_RUC	"Reporting unit code, last HMF record"
L_SOE	"Source of Entry code, last HMF record"
L_SDN	"Separation designator, last HMF record"
L_STR	"Strength category, last HMF record"
NUM_MON	Number of months service since commissioning date
O1_CC	"Component code, Second Lieutenant"
O1_DEP	"Number of dependents, Second Lieutenant"
O1_DOR	"Date of Rank, Second Lieutenant"
O1_FY	"Fiscal year, Second Lieutenant"
O1_GEO	"Geographic location code, Second Lieutenant"
O1_MAR	"Marital status, Second Lieutenant"
O1_PFT_C	"PFT code, Second Lieutenant"
O1_PFT_D	"PFT date, Second Lieutenant"
O1_PFT_L	"PFT class, Second Lieutenant"
O1_PFT_S	"PFT score, Second Lieutenant"
O1_PMCC	"Monitored command code, Second Lieutenant"
O1_PMOS	"PMOS, Second Lieutenant"
O1_P_CL	"Pistol class, Second Lieutenant"
O1_P_DT	"Pistol date, Second Lieutenant"
O1_P_IT1	"Pistol ITS1, Second Lieutenant"
O1_P_IT2	"Pistol ITS2, Second Lieutenant"
O1_P_SC	"Pistol score, Second Lieutenant"
O1_RUC	"Reporting Unit code, Second Lieutenant"
O1_R_CL	"Rifle class, Second Lieutenant"
O1_R_DT	"Rifle date, Second Lieutenant"
O1_R_IT1	"Rifle ITS1, Second Lieutenant"
O1_R_IT2	"Rifle ITS2, Second Lieutenant"
O1_R_IT3	"Rifle ITS3, Second Lieutenant"
O1_R_IT4	"Rifle ITS4, Second Lieutenant"
O1_R_SC	"Rifle score, Second Lieutenant"

Table 2. File description (continued)

Variable	Label
O2_CC	"Component code, First Lieutenant"
O2_DEP	"Number of dependents, First Lieutenant"
O2_DOR	"Date of Rank, First Lieutenant"
O2_DOR	"Fiscal year, First Lieutenant"
O2_GEO	"Geographic location code, First Lieutenant"
O2_MAR	"Marital status, First Lieutenant"
O2_PFT_C	"PFT code, First Lieutenant"
O2_PFT_D	"PFT date, First Lieutenant"
O2_PFT_L	"PFT class, First Lieutenant"
O2_PFT_S	"PFT score, First Lieutenant"
O2_PMCC	"Monitored command code, First Lieutenant"
O2_PMOS	"PMOS, First Lieutenant"
O2_P_CL	"Pistol class, First Lieutenant"
O2_P_DT	"Pistol date, First Lieutenant"
O2_P_IT1	"Pistol ITS1, First Lieutenant"
O2_P_IT2	"Pistol ITS2, First Lieutenant"
O2_P_SC	"Pistol score, First Lieutenant"
O2_RUC	"Reporting Unit code, First Lieutenant"
O2_R_CL	"Rifle class, First Lieutenant"
O2_R_DT	"Rifle date, First Lieutenant"
O2_R_IT1	"Rifle ITS1, First Lieutenant"
O2_R_IT2	"Rifle ITS2, First Lieutenant"
O2_R_IT3	"Rifle ITS3, First Lieutenant"
O2_R_IT4	"Rifle ITS4, First Lieutenant"
O2_R_SC	"Rifle score, First Lieutenant"
O3_CC	"Component code, Captain"
O3_DEP	"Number of dependents, Captain"
O3_DOR	"Date of Rank, Captain"
O3_FY	"Fiscal year, Captain"
O3_GEO	"Geographic location code, Captain"
O3_MAR	"Marital status, Captain"
O3_PFT_C	"PFT code, Captain"
O3_PFT_D	"PFT date, Captain"
O3_PFT_L	"PFT class, Captain"
O3_PFT_S	"PFT score, Captain"
O3_PMCC	"Monitored command code, Captain"
O3_PMOS	"PMOS, Captain"
O3_P_CL	"Pistol class, Captain"

Table 2. File description (continued)

Variable	Label
O3_P_DT	"Pistol date, Captain"
O3_P_IT1	"Pistol ITS1, Captain"
O3_P_IT2	"Pistol ITS3, Captain"
O3_P_SC	"Pistol score, Captain"
O3_RUC	"Reporting Unit code, Captain"
O3_R_CL	"Rifle class, Captain"
O3_R_DT	"Rifle date, Captain"
O3_R_IT1	"Rifle ITS1, Captain"
O3_R_IT2	"Rifle ITS3, Captain"
O3_R_IT3	"Rifle ITS3, Captain"
O3_R_IT4	"Rifle ITS4, Captain"
O3_R_SC	"Rifle score, Captain"
O4_CC	"Component code, Major"
O4_DEP	"Number of dependents, Major"
O4_DOR	"Date of Rank, Major"
O4_FY	"Fiscal year of rank, Major"
O4_GEO	"Geographic location code, Major"
O4_MAR	"Marital status, Major"
O4_PFT_C	"PFT code, Major"
O4_PFT_D	"PFT date, Major"
O4_PFT_L	"PFT class, Major"
O4_PFT_S	"PFT score, Major"
O4_PMCC	"Monitored command code, Major"
O4_PMOS	"PMOS, Major"
O4_P_CL	"Pistol class, Major"
O4_P_DT	"Pistol date, Major"
O4_P_IT1	"Pistol ITS1, Major"
O4_P_IT2	"Pistol ITS4, Major"
O4_P_SC	"Pistol score, Major"
O4_RUC	"Reporting Unit code, Major"
O4_R_CL	"Rifle class, Major"
O4_R_DT	"Rifle date, Major"
O4_R_IT1	"Rifle ITS1, Major"
O4_R_IT2	"Rifle ITS4, Major"
O4_R_IT3	"Rifle ITS4, Major"
O4_R_IT4	"Rifle ITS4, Major"
O4_R_SC	"Rifle score, Major"

Table 2. File description (continued)

Variable	Label
O5_CC	"Component code, Lieutenant Colonel"
O5_DEP	"Number of dependents, Lieutenant Colonel"
O5_DOR	"Date of Rank, Lieutenant Colonel"
O5_FY	"Fiscal year of rank, Lieutenant Colonel"
O5_GEO	"Geographic location code, Lieutenant Colonel"
O5_MAR	"Marital status, Lieutenant Colonel"
O5_PFT_C	"PFT code, Lieutenant Colonel"
O5_PFT_D	"PFT date, Lieutenant Colonel"
O5_PFT_L	"PFT class, Lieutenant Colonel"
O5_PFT_S	"PFT score, Lieutenant Colonel"
O5_PMCC	"Monitored command code, Lieutenant Colonel"
O5_PMOS	"PMOS, Lieutenant Colonel"
O5_P_CL	"Pistol class, Lieutenant Colonel"
O5_P_DT	"Pistol date, Lieutenant Colonel"
O5_P_IT1	"Pistol ITS1, Lieutenant Colonel"
O5_P_IT2	"Pistol ITS5, Lieutenant Colonel"
O5_P_SC	"Pistol score, Lieutenant Colonel"
O5_RUC	"Reporting Unit code, Lieutenant Colonel"
O5_R_CL	"Rifle class, Lieutenant Colonel"
O5_R_DT	"Rifle date, Lieutenant Colonel"
O5_R_IT1	"Rifle ITS1, Lieutenant Colonel"
O5_R_IT2	"Rifle ITS5, Lieutenant Colonel"
O5_R_IT3	"Rifle ITS5, Lieutenant Colonel"
O5_R_IT4	"Rifle ITS5, Lieutenant Colonel"
O5_R_SC	"Rifle score, Lieutenant Colonel"
ON_ARMS	Is record on the ARMS file?
ON_CURR	Is record on the current HMF?
PGM	"Program, based on Source of Entry: OTH = other, GRD = ground, AVI = aviation, NFO = NFO"
SAT_COMB	SAT combined score
SAT_MATH	SAT math score
SAT_VERB	SAT verbal score
SSN	Social security number
TBS_FY	Fiscal year at The Basic School



Table 2. File description (continued)

Variable	Label
T_A_GPA	TBS academic GPA
T_A_STD	TBS academic class standing
T_CLASS	TBS Class ID
T_CL_STD	TBS overall class standing
T_GPA	TBS overall GPA
T_L_GPA	TBS leadership GPA
T_L_STD	TBS leadership class standing
T_MOSPR1	MOS preference 1 from Student information file from TBS
T_MOSPR2	MOS preference 2 from Student information file from TBS
T_MOSPR3	MOS preference 3 from Student information file from TBS
T_M_GPA	TBS military skills GPA
T_M_STD	TBS military skills class standing
T_SIZE	Size on TBS class
TBS_TH	"1=top third of TBS class, 2=middle third, 3=bottom third Based on overall class standing"
TIME_FD	Months from commission date to full duty status. Virtually all with a zero in this field are prior enlisted.
TIME_O2	Months from commission date to DOR First Lieutenant
TIME_O3	Months from commission date to DOR Captain
TIME_O4	Months from commission date to DOR Major
TIME_O5	Months from commission date to DOR Lieutenant Colonel

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## **Appendix B: Additional file information**

### **Separation information**

The ARSTAT file has a record for each separation from the Marine Corps. This file dates back to 1979, so we should have most of the separation records. However, we are missing 2 quarters of data in 1985 and an additional 2 in 1986. Because this is a stat file, we will be missing any separations that occurred during those quarters. As a check, we matched the data to a current HMF and examined all individuals who were not on the current file but did not have any type of separation record. There were 277 Marines in this category. Fifteen of these also never appear on any HMFs, which may indicate a problem with their SSN on the TBS record. The majority (79 percent) of those missing records were at TBS before FY 1985. The rest are spread out over several years with just a few in each class. We will identify these individuals on the file and can use separation information from the last time they were seen on the HMF as a substitute for the ARSTAT record.

### **Officer ARMS data, supplementary data from the USNA, and by name assignment (BNA) data**

We also included a small portion of data from the Officer ARMS file, which we have only since FY 1992. ARMS is not useful as a “base” file for officer accessions for several reasons. The most important reason is that some officer accessions, for example, Naval Academy graduates, do not even appear in the ARMS system. Even though incomplete, however, the ARMS educational and test score fields may be useful, and we have included them in our officer files. Supplemental test score data have also been obtained from USNA for inclusion in this file.

- Information from Officer ARMS includes:

- College code
- SAT scores (math, verbal, and combined score)
- These data are not available for most individuals on this file, but are included where possible.

CNA also has by name assignment (BNA data) from FY 1993 to the present. These data identify all who attend officer-training courses. We have not included these data in MCCOAC, but we will retain the data we have and will continue to receive the data. These data will be available for use by other Marine Corps analysts.

We have used the BNA data to verify the completeness of the TBS data. We have records on virtually all those individuals who attended TBS from FY 1993 to the present based on the BNA files.

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