

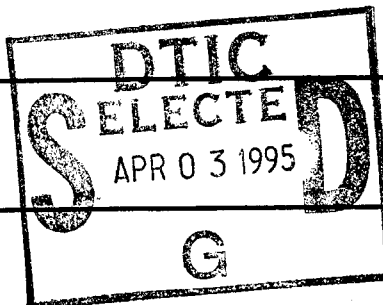
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13. ABSTRACT (Maximum 200 words) The Special Forces Qualification Course (SFQC) Longitudinal Database tracks individuals and cohorts of individuals through the Special Forces (SF) assessment and training pipeline--from the Special Forces Assessment and Selection (SFAS) program through each attempt to successfully complete the SFQC. This report addresses six questions concerning individual graduation/attrition and recycle rates over time and across SF Military Occupational Specialties (MOS) for SFAS candidates selected from classes conducted between fiscal year 1989 (FY89) and FY91. Three results are especially noteworthy. First, examination of graduation rates shows 18D training to be the most difficult to complete, especially for lower ranking soldiers (i.e., Specialists). Second, there is a downward trend in graduation rates from FY89 to FY91; this decline is especially pronounced for the medic training track. Third, results show that soldiers from combat arms, as opposed to non-combat arms, backgrounds were more likely to succeed at the SFQC. The potential impact of these results for predicting how many soldiers will make it through the selection and training pipeline and for identifying soldiers who are most likely to succeed is discussed.					
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Marisa Diana, Martha L. Teplitzky, and Michelle M. Zazanis
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**EDGAR M. JOHNSON
Director**

Technical review by

Judith E. Brooks
Mark Young

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Technical Report 1023

**Special Forces Qualification Course Graduation
and Attrition Statistics for Soldiers Selected
for Training in FY89–FY91**

**Marisa Diana, Martha L. Teplitzky,
and Michelle M. Zazanis**
U.S. Army Research Institute

**Organization and Personnel Resources Research Unit
Paul A. Gade, Chief**

**Manpower and Personnel Research Division
Zita M. Simutis, Director**

U.S. Army Research Institute for the Behavioral and Social Sciences
5001 Eisenhower Avenue, Alexandria, Virginia 22333-5600

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

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FOREWORD

The Manpower and Personnel Research Division (MPRD) of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) performs research on manpower and personnel issues of particular significance to the U.S. Army. In June 1991, ARI, the U.S. Army Special Operations Command (USASOC), and the U.S. Army John F. Kennedy Special Warfare Center and School (USAJFKSWCS) developed a research program that included examining soldier performance in the Special Forces Qualification Course (SFQC). ARI worked with personnel at the USAJFKSWCS to develop databases capable of supporting research in this domain. The researchers developed a class database that allows examination of SFQC classes over time and across different military occupational specialties (MOS) and a longitudinal database that facilitates examination of individuals' performance throughout their participation in the SFQC.

This report uses the longitudinal database to answer six basic questions concerning the success or attrition of students who were selected from Special Forces Assessment and Selection FY89-91 classes, both over time and across different Special Forces (SF) military occupational specialties (MOS). It examines the individual graduation rates for soldiers of different military experience and background characteristics and discusses conclusions we can draw from the results.

ARI's participation in this effort is part of an ongoing program of research designed to enhance the quality of Army personnel. This work is an essential component of the mission of MPRD to conduct research to help effectively and efficiently manage the force.

EDGAR M. JOHNSON
Director

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The U.S. Army Research Institute's Special Forces research program has received tremendous support from the 1st Special Warfare Training Group of the U.S. Army John F. Kennedy Special Warfare Center and School (USAJFKSWCS). Lieutenant Colonel Wilderman, Commander, 1st Battalion, 1st SPWAR Training Group, and his staff have generously responded to our every request for meetings, data, and access to their programs and soldiers. We also want to express our appreciation to Diane Flowers, Juanita St. Onge, and Doe Ann Keane for their assistance in building the database used in these analyses.

SPECIAL FORCES QUALIFICATION COURSE GRADUATION AND ATTRITION STATISTICS FOR SOLDIERS SELECTED FOR TRAINING IN FY89-FY91

EXECUTIVE SUMMARY

Requirement:

The U.S. Army John F. Kennedy Special Warfare Center and School (USAJFKSWCS) is required to track attrition in the Special Forces Qualification Course (SFQC) and training pipeline. This research supports this requirement by identifying and answering six important questions about attrition and graduation rates in the SFQC.

Procedure:

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) created the FY89-92 SFQC Longitudinal Database to provide a database that is capable of tracking individuals through the SF assessment and training pipeline. In this report we used the longitudinal database to compare SFQC graduation/attrition rates for 2,637 enlisted soldiers who were selected for SFQC training from FY89-91 Special Forces Assessment and Selection (SFAS) classes. Graduation/attrition statistics were completed separately for each of the following: (1) the four different Special Forces (SF) Military Occupational Specialties (MOS), (2) SFAS fiscal years, (3) branch type, (4) rank, and (5) army component. When necessary, graduation/attrition rates were estimated for SFAS FY91 students who were still recycling through the SFQC as of the end of FY92.

Findings:

Results show that recycle rates are relatively consistent across the four different SF training MOS, although 18C trainees were slightly more likely to graduate on their first attempt in the SFQC. Soldiers of all training backgrounds appear to have the most difficulty succeeding at medic training, with the lower ranking Specialists and Corporals showing the lowest 18D graduation rate. In general, combat arms trainees had a slight advantage in the SFQC, as did higher ranking non-commissioned officers (NCOs). For soldiers of all backgrounds, attrition rates from the SFQC increased between FY89 and FY91.

Utilization of Findings:

These results will help USAJFKSWCS and the U.S. Army Recruiting Command (USAREC) develop better recruiting guidelines and more accurate estimates of the number of soldiers likely to make it through the SF training pipeline, both within and across specific training MOS. Reliable attrition statistics not only provide important feedback to recruiters, assessors, and trainers, but also allow Department of Army manpower planners to more accurately project and manage the SF inventory. Over the long term, this report may also serve as a framework and reference point for assessing the impact of any changes in SF recruiting policies, the demographics of the SF eligible market, SFAS selection criteria, or SFQC training procedures.

SPECIAL FORCES QUALIFICATION COURSE GRADUATION AND ATTRITION STATISTICS FOR SOLDIERS SELECTED FOR TRAINING IN FY89-FY91

CONTENTS

	Page
INTRODUCTION	1
METHOD	3
Analysis Sample	3
Data Analysis	7
RESULTS	8
Overall Graduation Rates	9
First-Try Graduates vs. Multiple-Try Graduates	10
18D Graduation Rates: Special Operations Medical (SOMED) Course vs. SFQC	11
Graduation Rates Excluding Retrainees	12
SUMMARY	20
CONCLUSIONS	23
REFERENCES	25
APPENDIX A. SELECTED ANALYSES ON ACTIVE DUTY ENLISTED SOLDIERS	A-1

LIST OF TABLES

Table	1.	SFQC Student Background Characteristics by SFAS Cohort	4
	2.	SFQC Student Background Characteristics by Initial SFQC MOS Assignment	5
	3.	Percentages and Numbers (N) of Active Duty and Non-Active Duty Trainees in Each Rank Group	6

CONTENTS (Continued)

		Page
Table	4. Number and Percent of Students in Each MOS With 1, 2, or 3+ Attempts in the SFQC	9
	5. SFQC Graduation Rates by MOS for Trainees From SFAS FY89-91	10
	6. SOMED and SFQC Graduation Rates for 18D Trainees	11
	7. SFQC Graduation Rates by SFAS Cohort	13
	8. Graduation Rates Within Each Initial SFQC MOS by SFAS Cohort	14
	9. SFQC Graduation Rates by Rank	15
	10. Overall Graduation Rates for Different Ranks Across SFAS Cohorts	16
	11. Overall Graduation Rates for Different Ranks by Initial MOS	16
	12. SFQC Graduation Rates by Army Component	17
	13. SFQC Graduation Rates Within Each MOS by Army Component	18
	14. Graduation Rates by Rank Within Each Army Component	19
	15. Graduates Rates for CA vs. NCA Trainees by Initial MOS	19
	16. Graduation Rates for CA vs. NCA Trainees by SFAS Cohort	20

SPECIAL FORCES QUALIFICATION COURSE
GRADUATION AND ATTRITION STATISTICS FOR
SOLDIERS SELECTED FOR TRAINING IN FY89-FY91

INTRODUCTION

In order to become qualified as a Special Forces (SF) soldier, a candidate must successfully complete both the Special Forces Assessment and Selection (SFAS) program and the Special Forces Qualification Course (SFQC) at Fort Bragg, North Carolina. The SFAS program was initiated in June 1988 by the U.S. Army John F. Kennedy Special Warfare Center and School (USAJFKSWCS). The 21-day program was designed to assess volunteers for SF along a variety of dimensions considered to be important for success in SF training. Only soldiers who satisfactorily demonstrate the requisite skills and attributes (typically about 50% of those assessed) are selected for training in the SFQC.

The SFQC consists of approximately eight weeks of field or branch training, and approximately thirteen weeks of specialized training in one of four Military Occupational Specialties (MOS): 18B (Weapons Sergeant); 18C (Engineer Sergeant); 18D (Medical Sergeant); or 18E (Communication Sergeant). Soldiers who successfully complete the SFQC are awarded the SF tab and the green beret.

In its entirety, the assessment and training process in SF is very demanding. The SFAS program is physically rigorous and mentally stressful, and the SFQC requires solid academic skills as well as physical coordination and endurance. The qualifying process is also lengthy. It can take two to three years from the time a soldier first attends SFAS until he receives his first SF mission assignment. Many soldiers withdraw, either voluntarily or involuntarily, prior to completing their SF training. Predicting *how many* soldiers will make it through the selection and training pipeline and *which* soldiers are most likely to be successful is an important challenge facing both manpower planners and USAJFKSWCS.

In order to set SF recruiting missions, authorize and allocate an appropriate number of SFQC training seats, and project and manage operating strength in the force, manpower planners require accurate estimates of student graduation rates within and across the four SF MOS. Decision makers at the Special Warfare Center and School need similar data. Attrition statistics facilitate efforts to fine-tune the assessment process, identify reasonable prerequisites, assess the impact of changes in course policies and procedures, and project and efficiently manage training sources.

USAJFKSWCS has long recognized the need for a research database that can track individuals and groups through the SF assessment and training pipeline. Existing databases such as the Army Training Requirements and Resources System (ATRRS) can provide class graduation rates and demographic snapshots of the soldiers starting and finishing any particular class. The ATRRS database can also be used to research individual cases and list, for example, all the Army courses a certain soldier attended over the past several years. This type of database is not, however, designed to track cohorts of soldiers over time and cannot answer

questions about recycle rates, or graduation rates for certain types of soldiers in a given time frame. These types of questions and others typically asked by manpower planners and SF trainers require the use of a longitudinal database, which focuses on *individuals* rather than *classes*.

Efforts to build a longitudinal database capable of tracking SF recruits through SFAS and the SFQC began in 1990. Between 1990 and 1992, the U. S. Army Research Institute for the Behavioral and Social Sciences (ARI) and the Special Warfare Center collaborated on a project to build a database containing comprehensive background information and performance data on the more than 9,000 soldiers who had attended SFAS between the beginning of FY89 and the end of FY91 (see Reilly, Zazanis, Kane, Zaccaro, & Teplitzky, 1992). As this project was nearing completion, we shifted our focus to the SFQC and began extracting relevant information from ATRRS, local Special Warfare Center databases, and paper records and rosters. This latter effort resulted in the development of two separate databases: the FY89-92 SFQC Class Database (see Zazanis, Diana, & Teplitzky, 1994) and the FY89-92 SFQC Longitudinal Database (see Diana, Teplitzky, Zazanis, 1994).

The SFQC Class database, like the ATRRS class files, provides a picture of the results for each individual class. We can track class graduation rates over time, or find an overall class graduation rate for any particular fiscal year. For example, in FY92 the overall class graduation rate was 55%. The SFQC Class Database is used for analyses such as those conducted in a companion report that examines changes in class demographics and graduation rates over time (Zazanis, Teplitzky, & Diana, 1994). Class graduation rates reflect how individuals comprising a specific class perform within that class. They do not, however, take into account the fact that trainees who fail a particular class will typically be recycled, or, allowed to try the course again. Thus, the *class* graduation rates do not accurately reflect the actual *individual trainee* graduation rates. Because trainees who initially fail often graduate when they repeat the course, average class graduation rates will always underestimate trainee graduation rates.

Individual trainee graduation rates can only be computed by tracking students through multiple attempts in the SFQC until they are either relieved from the course, or graduate. This is precisely what the longitudinal database does. The students we have tracked for the purpose of this report are the SFAS selectees from FY89 through FY91, who subsequently attended the SFQC. For some analyses we examine SFQC outcomes separately for students who attended SFAS classes in FY89, FY90, and FY91. We refer to these groups as SFAS cohorts.

The present report uses the SFQC Longitudinal Database, and examines individual graduation rates, both over time and across SF MOS. The primary purpose of the report is to answer six questions concerning the success or failure of these soldiers in the SFQC:

1. Is the proportion of soldiers who recycle a course consistent across SF MOS?

2. What are the average graduation/attrition rates across training MOS?
3. Do graduation/attrition rates differ for soldiers selected from earlier (FY89) versus later (FY91) SFAS classes?
4. Do higher ranking soldiers tend to be more successful in the SFQC than lower ranking soldiers?
5. Do active duty soldiers tend to be more successful in the SFQC than non-active duty soldiers?
6. Do soldiers from Combat Arms MOS have an advantage in the SFQC?

The answers to these questions can be used to target recruiting efforts, understand how demographic changes in the trainee population are likely to affect graduation rates, and estimate how many SFQC graduates recent and on-going SFAS classes will produce. The statistics in this report can also serve as a reference point for future analyses designed to assess the impact of changes in recruiting policies, selection criteria, or training procedures.

Method

Analysis Sample

The analysis sample consists of all 2,637 enlisted soldiers who were selected from SFAS between FY89 and FY91 and subsequently attended the SFQC. This number represents 90% of all enlisted soldiers selected from SFAS during these years. The remaining 10% of the students selected from SFAS never attended the SFQC (6% from FY89, 10% from FY90, and 13.5% from FY91 were not in the SFQC database). The proportion of SFAS selectees who did not attend the SFQC was highest for the FY92 SFAS cohort because of the long wait for training seats. Similarly, over one third of the SFAS FY91 "no shows" were from the last two classes of the fiscal year, suggesting that they were still waiting for available training seats in the SFQC as of the end of FY92. SF Recruiters noted that a 5% - 8% SFQC no show rate is typical for active duty enlisted soldiers.

Table 1 presents demographic characteristics of the sample, organized by SFAS cohorts; Table 2 presents background information organized by the MOS to which students were initially assigned in the SFQC. As illustrated in Tables 1 and 2, the sample used for this report includes soldiers from all Army components. Separate tables showing results for just the active duty students are included in Appendix A.

Table 1. SFQC Student Background Characteristics by SFAS Cohort

	SFAS FY89 (N=831)	SFAS FY90 (N=877)	SFAS FY91 (N=929)	TOTAL %	TOTAL N=2637
Branch Type					
Combat arms (CA)	59%	59%	63%	60%	1510
Non-combat arms (NCA)	41%	41%	37%	40%	994
Rank					
PVT/PFC	2%	5%	2%	3%	77
CPL/SPC	13%	24%	38%	25%	666
SGT	45%	47%	40%	44%	1151
SSG/SFC	40%	25%	20%	28%	743
Component					
Active Duty	80%	78%	72%	76%	2017
National Guard	6%	11%	10%	9%	237
U.S. Army Reserve	14%	11%	5%	10%	263
Prior Service*			13%	5%	120
SFQC MOS Assignment					
18B	27%	24%	28%	26%	692
18C	23%	21%	22%	22%	583
18D	25%	32%	24%	27%	712
18E	25%	23%	26%	25%	650

* Prior service soldiers were allowed entry into SFAS only in FY91

Offering another breakdown of SFQC student background characteristics, Table 2 presents the background information according to the MOS to which students were initially assigned. In order to simplify comparisons of graduation rates across subgroups, the tables in the "results" section typically contain only percentages. The number of soldiers in most demographic subgroups can be obtained, however, by referring to the "Ns" in Tables 1 through 3.

Table 2. SFQC Student Background Characteristics by Initial SFQC MOS Assignment

	18B (N=682)	18C (N=583)	18D (N=712)	18E (N=650)	Total %	Total (N=2637)
Branch Type						
Combat arms (CA)	92%	67%	48%	34%	60%	1510
Non-combat arms (NCA)	8%	33%	52%	66%	40%	994
Rank						
PVT/PFC	2%	5%	3%	2%	3%	77
CPL/SPC	13%	27%	31%	30%	25%	666
SGT	44%	40%	45%	45%	44%	1151
SSG/SFC	41%	28%	21%	23%	28%	743
Component						
Active Duty	83%	70%	73%	80%	76%	2017
National Guard	7%	11%	11%	7%	9%	237
U.S. Army Reserve	3%	5%	6%	4%	10%	263
Prior Service*	7%	14%	11%	9%	5%	120
SFFY						
FY89	33%	32%	29%	32%	32%	831
FY90	30%	32%	39%	31%	33%	877
FY91	37%	36%	32%	37%	35%	929

* Prior service soldiers were allowed entry into SFAS only in FY91

In Tables 1 and 2, the Branch Type variable indicates whether the trainees were from combat arms (CA) MOS or non-combat arms (NCA) MOS based on the primary MOS reported on the SFAS background questionnaire. Soldiers who had an 18 series MOS upon entry into the SFQC (prior service candidates and reservists assigned to SF units but not yet SF qualified) were not included in the Branch Type analyses. The majority (60%) of soldiers across all SFAS cohorts had combat arms backgrounds. As Table 2 shows, however, there are large differences across SF MOS in the proportion of soldiers from CA and NCA backgrounds.

The Rank variable used in the analyses reflects the soldier's rank when he started the SFQC, rather than his rank in SFAS. Often soldiers who attended SFAS as Specialists had been promoted to Sergeant by the time they started training six to twelve months later. Sergeants comprise the largest group in the SFQC, accounting for 44% of all trainees (see Table 1). The CPL/SPC group (referred to simply as Specialists in the text) and the

SSG/SFC group (only 10% of whom are SFCs) each comprise about one fourth of the total sample. As shown in Table 1, however, the relative proportions of Specialists and higher ranking soldiers in the SFQC has changed quite dramatically over time. Among the FY89 SFAS graduates who attended the SFQC, there were very few SPCs (13%) relative to SSG/SFCs (40%). By FY91, however, SPCs outnumbered the higher ranking soldiers by almost two to one (38% SPCs vs. 20% SSG/SFCs).

Finally, the Component variable was taken from the SFAS database and indicates whether a trainee was from the active or reserve component (National Guard (NG) or US Army Reserve (USAR)). There is also a "prior service" component for FY91, only. Under an experimental program initiated in FY91, soldiers who had left military service after one or two tours of active duty were allowed to reenlist specifically for Special Forces (see Brady & Brooks, 1992 for a description of the program and SFAS results). These soldiers are labeled "prior service" for the component variable.

Overall, about three-fourths (76%) of the SFQC trainees in the analysis sample are active duty soldiers. As illustrated in Table 3, however, there are marked differences in the proportion of active duty and reserve component soldiers across ranks. For example, because active duty soldiers are not eligible for SF until they are at least Specialists (SPC) or Corporals (CPL), all of the Privates (PVT) and Privates First Class (PFCs) are reservists. The proportion of active duty soldiers also increases sharply as a function of rank. While only about half (52%) of the Specialists attending the SFQC are active duty, nearly all (95%) of the combined group of Staff Sergeants (SSG) and Sergeants First Class (SFC) are active component soldiers.

Table 3. Percentages and Numbers (N) of Active Duty and Non-Active Duty Trainees in Each Rank Group

	Active Duty	National Guard	Reserve	Prior Service
PVT/PFC	0%	57% (44)	43% (33)	0%
CPL/SPC	52% (345)	15% (103)	16% (107)	17% (111)
SGT	83% (962)	7% (77)	9% (103)	1% (9)
SSG/SFC	95% (710)	2% (13)	3% (20)	0%

Source: FY89-92 SFQC Longitudinal Database, all enlisted soldiers selected from SFAS classes in FY89-91 who attended the SFQC

Note: For each pay grade, the number of students from each Army component is indicated in parentheses.

Data Analysis

The analyses presented in this paper are based on the entire population of SFQC candidates who attended SFAS between FY89 and FY91, obviating the need for concern with sampling error or statistical significance. The primary analyses consisted of computing SFQC graduation and attrition rates, as of the end of FY92, for different SFAS cohorts or demographic subgroups. We also report the proportion of soldiers who had not completed training as of the end of FY92, the last fiscal year for which we have data in the FY89-92 SFQC Longitudinal Database. Most of the soldiers in this "still in training" category are students who were dropped from SFQC classes late in FY92 (typically academic failures or medical drops) and are expected to recycle into an early FY93 class.

Because the overall graduation rate is computed based on the proportion of trainees who had graduated from the SFQC as of the end of FY92, it slightly underestimates the actual final graduation rate. Some of the "still in" trainees who are counted as non-graduates will, in fact, eventually complete the course. This is only a problem when we are trying to compare graduation rates across groups, and one group has an especially high proportion of "still in" trainees relative to the others. In these situations, therefore, we calculated and report a *projected* graduation rate, which counts as graduates those "still in" trainees who are likely to successfully complete the SFQC.

For a given demographic group or cohort of students, we determined how many "still ins" are likely to graduate by calculating the graduation rate for all the students in that cohort who also had to repeat the SFQC, but did have a final outcome (i.e., graduated or were relieved) by the end of FY92. If we find, for example, that, excluding "still ins", 50% of the FY91 18C students attempting the SFQC for a second or third time were able to graduate, we assume that 50% of the "still in" trainees will eventually graduate. Thus, we simply multiply the number of students "still in training" by the expected graduation rate for recycles (e.g., our 50% rate) to determine the number of "still ins" we should add to the number of actual, end-of-FY92 graduates. The total number of actual and estimated graduates is then divided by the total number of trainees in that subgroup (e.g., all the FY91 18Cs) to obtain the projected graduation rate.

When calculated, the projected graduation rates are shown in parentheses next to the actual end-of-FY92 graduation rates. They provide the best basis for comparisons across groups with markedly different proportions of "still in" trainees. One additional problem, however, is that the "still in training" group includes a small number ($n=20$, 17%) of recycles from FY89 and FY90 whose last output code was a recycle or a medical relief, but have not returned to participate in an SFQC class since FY90. In computing the expected graduation rate for soldiers who repeated the course at least once, these individuals are assigned the same probability of graduating as more recent recycles. Therefore, our projected graduation rates are slightly more likely to overestimate than underestimate the true proportion of eventual graduates from a particular subgroup. Individuals who have not appeared in the database since FY90 are likely to be coded as "reliefs" in the updated longitudinal database.

Results

1. Is the proportion of soldiers who recycle in the SFQC consistent across SF MOS?

Table 4 shows the recycle rates for soldiers within each MOS. The percentages in the table simply indicate the proportion of soldiers in each MOS who attempted the SFQC once, twice, or three or more times; they do not reflect outcomes, or show how many soldiers actually *graduated* or were *relieved* from a particular course (this will be answered in Question 2). In all of the analyses in this report, soldiers coded as prerequisite failures or administrative recycles for a particular class are not counted as having attended the SFQC for that class. For a description of recycle rates across MOS for the Active Duty Enlisted sample, see Appendix A, Table 2.

The results indicate that 18C trainees are least likely to recycle. Seventy percent (70%) of the trainees initially assigned to the 18C course either graduate or are relieved after their first attempt; only 30% are given, or require, a second or third chance. In contrast, over 40% of the 18D and 18E trainees recycled at least once in the SFQC.

With respect to medics, it is important to keep in mind that soldiers assigned to 18D must complete the difficult 31 week Special Operations Medical (SOMED) course taught at Fort Sam Houston before they can start the 18D SFQC at Fort Bragg. Therefore, all of the 18D trainees used to compute the 18D SFQC recycle rates have already graduated from SOMED. The SOMED recycle rate (39%) is shown at the bottom of the table. Note also that the 42% SFQC recycle rate for 18D trainees does not include the 173 trainees who failed SOMED (and thus never attempted the 18D SFQC) and were reassigned to other MOS (71 to 18B, 70 to 18C, 32 to 18E) to continue their SF training.

One implication of the results is that a substantial number of SFQC training seats are being filled by recycles. In all MOS except 18C, over 40% of the soldiers who start training will participate in more than one class. This fact needs to be taken into consideration when planners estimate how long it will take the typical trainee to become SF qualified, and project how many seats will be available for new SFAS graduates. A full analysis of these issues would also need to take into account the seats filled by 18D trainees (mainly SOMED reliefs) who fail to complete medic training and are therefore reassigned to a new MOS. Overall and first try graduation rates across MOS and across fiscal years are examined in the next section.

Table 4. Number and Percent of Students in Each MOS With 1, 2, or 3+ Attempts in the SFQC

<u>Initial MOS</u>	Number of SFQC Attempts		
	1 (N = 1466)	2 (N = 653)	3 or more (N = 240)
18B	62%	27%	11%
18C	70%	23%	7%
18D*	58%	42%**	--
18E	57%	32%	11%

	Number of SOMED Attempts		
	1 (N = 424)	2 (N = 264)	3 or more (N = 6)
18D	61%	38%	1%

* Analysis includes only the 344 18D trainees who had graduated from SOMED and started the SFQC as of the end of FY92; the 30 SOMED graduates who will start the SFQC in FY93 and the 338 18D trainees who failed SOMED are excluded.

** Includes 13 18D "still in training" soldiers scheduled to recycle in FY93. Because many (10%) of the 18D trainees have not yet finished training, the number of "3 or more" tries cannot be reliably determined and the few known "3 or more" times trainees are included in the 2 attempts group.

2. What are the average graduation/attrition rates across training MOS?

Overall Graduation Rates

As Table 5 indicates, the overall graduation rates for trainees assigned to the weapons (18B), engineer (18C), and communications (18E) MOS are similar and quite high (85%, 84% and 87%, respectively). These rates are substantially higher than the overall graduation rate for 18D trainees (63%). It is important to note, however, that because of the length of their training, a much larger proportion of 18D trainees were still in training at the end of FY92. If we estimate the number of "still in" trainees who should eventually graduate from the SFQC and count these soldiers as graduates (see Data Analysis section for a description of this procedure), the overall graduation rate for trainees initially assigned

to 18D increases to 70%. Although this more realistic, adjusted figure is a marked improvement over the 63% overall graduation rate, it is still about 15% lower than the graduation rate for soldiers assigned to the other SF MOS. Reasons for this disparity are examined in the section entitled "18D Graduation Rates: SOMED vs. SFQC".

First-Try Graduates vs. Multiple-Try Graduates

In the lower half of Table 5, overall graduation rates are broken down into (a) the "first try graduation rates," or the proportion of trainees who graduated from the SFQC on their first attempt, and (b) "multiple try graduation rates," or the percentage of trainees who graduated after they failed or were dropped from their first attempt at the SFQC. The graduation rates shown in the upper half of Table 5 are the overall rates, including both those who graduated on their first try and those who required more than one attempt (i.e., recycles).

The "relief" category in Table 5 shows how many trainees were dropped from the SFQC, typically because they failed portions of the course one or more times. These students cannot reapply for SF training for at least one year, and even then must receive the commander's permission in order to try again. The "still in training" category shows the proportion of students who did not have a final outcome status in the SFQC (i.e., graduate or relief) as of the end of FY92. Note that the projected 18D graduation rates, adjusted for the trainees still in training who are predicted to graduate, are indicated in parentheses.

Table 5. SFQC Graduation Rates by MOS for Trainees From SFAS FY89-91

	Initial MOS Assignment			
	18B (N=692)	18C (N=583)	18D (N=712)	18E (N=650)
Overall Graduation Rate	85%	84%	63% (70%)	87%
Still in Training	2%	2%	10%	3%
Relief Rate	13%	14%	27%	10%
First Try Graduation Rate	56%	60%	18%	52%
Multiple Try Graduation Rate	29%	24%	45% (52%)	35%

Source: FY89-92 SFQC Longitudinal Database, all enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

Note: Of the soldiers who were initially assigned to each MOS, the following proportions of soldiers graduated from a *different* MOS: 3 18B's (.4%), 3 18C's (.6%), 134 18D's (19%), 2 18E's (.5%).

Although the overall graduation rates are similar across 18B, 18C, and 18E trainees (84% to 87%), 18C trainees are slightly more likely to graduate on their first attempt in the SFQC (60%) than 18B (56%) and 18E (52%) trainees. Medic trainees seldom get through the entire training sequence (SOMED plus the 18D SFQC) without recycling. Note that the graduation rates within each MOS for the active duty sample of soldiers mirror those rates indicated in the above table (see Appendix A, Table 3).

18D Graduation Rates: Special Operations Medical (SOMED) Course vs. SFQC

As noted above (and shown again in Table 6), there are few first time graduates among the medical sergeants because 18Ds must pass *both* SOMED and the SFQC on their first attempt in order to be classified as a "first try" graduate. SOMED in particular is a very difficult course. As indicated in the first column of Table 6, the overall graduation rate for SOMED is 54%, and only 32% of all trainees who start the course graduate on their first attempt.

Table 6. SOMED and SFQC Graduation Rates for 18D Trainees

	SOMED (N=694)	SFQC (N=344*)	Overall 18D Training (N=712)
Overall Graduation Rate	54%	84% (91%)	63% (70%)
Still in Training	---	11%	10%
Relief Rate	46%	5%	27%
First Try Graduation Rate	32%	57%	18%
Multiple Try Graduation Rate	22%	27% (34%)	45% (52%)

* Of the 374 individuals who graduated from SOMED, 30 are scheduled to attend SFQC training in FY93 and, therefore, are not included in this analysis.

Source: FY89-92 SFQC Longitudinal Database, all enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

In Table 6, the middle column shows SFQC graduation rates for *only* those soldiers who have successfully completed SOMED. We found that 84% of the SOMED graduates in the sample had also graduated from the SFQC by the end of FY92. Adjusting for the 11% still in training resulted in a projected SFQC graduation rate of 91% for SOMED graduates. Thus, although almost half of the soldiers assigned to 18D never complete SOMED and thus do not attend the 18D SFQC, the SFQC graduation rate for soldiers who *do* attend is actually higher than the graduation rates in the other MOS. Finally, the third

column in Table 6, also shown previously in the 18D column of Table 5, indicates the graduation rate for all students initially assigned to 18D training.

Given the graduation rates presented in Table 6, it would be logical to assume that the SOMED course screens out the lower aptitude or less motivated 18D trainees, and that this is a major reason for the high SFQC overall graduation rate. It is worth noting, however, that although 91% of all SOMED graduates *eventually* complete the 18D SFQC, only 57% actually graduate from the Fort Bragg SFQC on their *first* attempt. This is in the same range as the percentage of first time graduates in the other MOS (52% to 60%).

Another factor differentiating 18D trainees from other SFQC students is the fact that they are much more likely to be reassigned to a different MOS if they are having trouble completing medical training. The implications of "retrainees" for graduation/attrition statistics are discussed in the following section.

Graduation Rates Excluding Retrainees

The graduation rates shown earlier in Table 5 are broken out by the SF MOS trainees were **initially** assigned upon completion of SFAS. Sometimes, however, when trainees have difficulty with the MOS they are initially assigned, they are reassigned to, or "retrained" in, a different SF MOS. The percentage of trainees who were assigned to one MOS and graduated from a different MOS is negligible for those who started training in 18B, 18C, and 18E (.4%, .6%, and .5%, respectively), but is quite large for 18D trainees (19%). Because the number of non-medics who changed MOS is so small, the 18B, 18C, and 18E graduation rates do not change when we exclude retrainees from the sample. This is not the case with medics, however.

For the 18D MOS, graduation rates vary as a function of how retrainees are treated in the analyses. As noted above, in the tables presented in this report, a student is classified into an MOS group based solely on the MOS to which he was assigned upon completion of SFAS, even if he may have ultimately graduated or been relieved from a different MOS. This means that in Table 5, the overall (63%) and projected (70%) graduation rates for 18D include some students who failed 18D training, but were reassigned to, and graduated from 18B, 18C, or 18E courses.

If we exclude from the analysis the 180 soldiers who were reassigned from 18D to another MOS, the overall 18D graduation rate drops slightly to 60%¹. If we adjust this percentage for the 11% of the non-retrainees who were "still in training" at the end of FY92, the graduation rate (projected) increases to 66%. This is slightly lower than the projected 18D graduation rate (70%) that includes retrainees.

¹Note that of the 180 soldiers who retrained into a *different* MOS, 134 (74%) successfully completed the SFQC.

Our final question about medics concerned the number of 18D graduates that SF can expect from an average SFQC class. In other words, what proportion of soldiers initially assigned to medic training after SFAS actually graduate from 18D? To find this proportion we divided the total number of students initially assigned to 18D (712) into the sum of those soldiers who have already graduated *as 18Ds* (317), and those trainees in the "still in" category who are projected to successfully complete 18D training (39 soldiers, based on applying a 75% recycle-graduation rate to the 52 18D trainees recycling in FY93). Doing this, we find that only 50% of all SFQC trainees initially assigned to 18D actually graduate from the SFQC as medical sergeants.

3. Do graduation/attrition rates differ for soldiers selected from earlier (FY89) versus later (FY91) SFAS classes?

SFQC trainees from earlier SFAS classes tend to have a higher graduation rate than trainees from later SFAS classes. The overall SFQC graduation rates for soldiers selected from SFAS FY89, FY90, and FY91 classes were 85%, 83%, and 72%, respectively (see Table 7). Note, however, that the low graduation rate for FY91 is partly due to the fact that more of these soldiers were still in SFQC training as of the end of FY92 (9% compared to 2% or 3% for earlier years). If we project the overall graduation rate to include that proportion of "still in" trainees who are predicted to graduate, the graduation rate for FY91 increases to 76%. Although higher than the original 72% overall graduation rate, the projected rate is still substantially lower than the rates for earlier years.

Examination of the first try and multiple try graduation rates reveals that the sharpest decline across fiscal years occurs in the multiple try graduation rates. It appears that fewer trainees in the FY91 cohort were allowed to recycle multiple times until they finally were able to graduate. (For comparison of earlier versus later SFAS cohorts within the active duty sample, see Appendix A, Table 4; results tended to replicate the findings shown below in Table 7).

Table 7. SFQC Graduation Rates by SFAS Cohort

	FY89	FY90	FY91
Overall Graduation Rate	85%	83%	72% (76%)
Still In Training	3%	2%	9%
Relief Rate	12%	15%	20%
First Try Graduation Rate	49%	45%	45%
Multiple Try Graduation Rate	36%	38%	27% (31%)

Note: The projected FY91 graduation rates, based on the number of "still in" trainees who are predicted to graduate, are shown in parentheses.

Source: FY89-92 SFQC Longitudinal Database, all enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

In Table 8, overall graduation rates for the three SFAS cohorts are broken out by the MOS to which trainees were initially assigned. Across all MOS, trainees from the FY91 cohort were slightly less likely to graduate from the SFQC than FY89 trainees. The differences were modest (3% to 5%, based on projected FY91 graduation rates) for 18B and 18C trainees, and somewhat larger for 18E trainees (a decline of 11% from FY89 to FY91). Most striking, however, is the sharp drop in the 18D graduation rate and the parallel increase in relief rates for FY91, relative to FY89 and FY90 SFAS cohorts. Again, analysis of the active duty sample indicates similar patterns of graduation rates across SFAS cohorts within each MOS (see Appendix A, Table 5).

Table 8. Graduation Rates Within Each Initial SFQC MOS by SFAS Cohort

	FY89	FY90	FY91
<u>18B Trainees</u>			
Overall Graduation Rate	88%	87%	82% (83%)
Still In Training	2%	0%	3%
Relief Rate	10%	13%	16%
<u>18C Trainees</u>			
Overall Graduation Rate	87%	85%	81% (84%)
Still In Training	1%	1%	4%
Relief Rate	12%	14%	15%
<u>18D Trainees</u>			
Overall Graduation Rate	72%	74%	43% (50%)
Still In Training	5%	4%	21%
Relief Rate	23%	23%	36%
<u>18E Trainees</u>			
Overall Graduation Rate	94%	89%	78% (83%)
Still In Training	1%	2%	8%
Relief Rate	4%	10%	14%

Note: The projected FY91 graduation rates, based on the number of "still in" trainees who are predicted to graduate, are shown in parentheses.

Source: FY89-92 SFQC Longitudinal Database, enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

One factor underlying the sharp decline in the 18D graduation rate may be the fact that the manpower shortage in SF eased in FY92. As the non-medic MOS approached full strength, commanders may have been less likely to assign SOMED failures to a different training MOS. (Recall that graduation rates broken out by initial MOS include 18Ds who

were reassigned to and graduated from a different MOS, as well as those who graduated from 18D.) At the same time, the decline in multiple try graduation rates suggests that stricter recycle policies may have gone into effect in FY92. Another factor to consider is the influx of Specialists into the SFQC (and the concomitant reduction in Staff Sergeants) as the SFAS FY91 cohort started training. In the next section we examine the possibility that these younger, less experienced soldiers might be at a disadvantage in the SFQC.

4. Do higher ranking soldiers tend to be more successful in the SFQC than lower ranking soldiers?

Results presented in Table 9 indicate that generally, higher ranking soldiers are more likely to graduate from the SFQC than lower ranking soldiers. The PVT/PFC group is the exception to this rule. These soldiers however, are also unusual in that they comprise a very small proportion of the total sample (3%, n=77), and they are all reservists. We will take a closer look at the PVT/PFC group in the next section when we examine active duty versus reserve component graduation rates across the different ranks. (See Appendix A, Table 6 for graduation rates across different ranks for the sample of active duty enlisted soldiers).

Table 9. SFQC Graduation Rates by Rank

	PVT/PFC	SPC	SGT	SSG/SFC
Overall Graduation Rate	84%	70%	82%	84%
Still In Training	3%	6%	5%	3%
Relief Rate	13%	24%	14%	13%
First Try Graduation Rate	49%	40%	46%	51%
Multiple Try Graduation Rate	35%	30%	36%	33%

Source: FY89-92 SFQC Longitudinal Database, all enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

The most noteworthy result in Table 9 is the difference between the 84% graduation rate for the SSG/SFC group and the 70% graduation rate for Specialists. Even if all of the "still in" trainees in each rank eventually graduated, the SPC graduation rate would still be 11% lower than the graduation rate for every other group. This suggests that the lower graduation rate for the FY91 SFAS cohort could indeed be at least partly attributable to the recent increase in the proportion of Specialists in the SFQC.

To test this hypothesis, we examined graduation rates across the SFAS cohorts for each rank group. The results in Table 10 show that Specialists have the lowest graduation

rate across all three fiscal years. At the same time, however, the graduation rate for Sergeants and Staff Sergeants dropped 4% to 5% between FY89 and FY91, suggesting that the recent influx of Specialists into the SFQC is not the only factor contributing to the lower overall graduation rate for the FY91 cohort. Analyses of the sample of active duty enlisted soldiers also show a decline in graduation rates for Sergeants and Staff Sergeants over time (see Appendix A, Table 7).

Table 10. Overall Graduation Rates for Different Ranks Across SFAS Cohorts

	SPC	SGT	SSG/SFC
SFAS FY89	76%	86%	87%
SFAS FY90	79%	83%	86%
SFAS FY91	63% (69%)	76% (82%)	77% (82%)

Source: FY89-92 SFQC Longitudinal Database, all enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

Next we looked at graduation rates for the different rank groups within each MOS (see Table 11). Specialists had more difficulty than the other rank groups across all MOS except 18C; however, the disparity is largest for 18D graduation rates. Specialists initially assigned to 18D had a projected graduation rate of only 55% compared to 76% and 78% for the SGT and SSG/SFC groups, respectively. The fact that slightly more Specialists are assigned to 18D (33%) than Sergeants (29%) and SSG/SFCs (20%) contributes to the relatively low overall graduation rate for 18D trainees.

Again the graduation rate for the active duty soldiers mirrors the pattern of results shown in Table 11, although the 18D graduation rate was somewhat lower for active duty specialists (see Appendix A, Table 8).

Table 11. Overall Graduation Rates for Different Ranks by Initial MOS

	SPC	SGT	SSG/SFC
18B	75%	84%	90%
18C	83%	88%	80%
18D	48% (55%)	69% (76%)	73% (78%)
18E	82% (85%)	89% (91%)	88% (89%)

Note: Because the proportion of trainees still in training differed across the rank levels only for 18D and 18E courses, the projected graduation (in parentheses) rates were calculated only for these MOS.

Source: FY89-92 SFQC Longitudinal Database, all enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

5. Do active duty soldiers tend to be more successful in the SFQC than non-active duty soldiers?

As Table 12 shows, active duty soldiers do not have a clear advantage in the SFQC. Their overall graduation rate is 80%, slightly higher than the National Guard graduation rate (77%) and slightly lower than the U.S. Army Reserve (USAR) rate (83%). It is interesting to note that a greater proportion of USAR soldiers graduate the SFQC on their first attempt.

All groups had an edge over Prior Service trainees, who had only a 68% overall graduation rate and a 73% projected graduation rate. Recall that Prior service soldiers were allowed entry into SFAS under an experimental program, only in FY91. As noted earlier, nearly all (93%) of the 120 Prior Service soldiers were Specialists, and Specialists, in general, had more trouble with the SFQC than higher ranking soldiers. Another disadvantage is that Prior Service trainees all came from the FY91 SFAS cohort (hence their large "still in" rate) and thus were disproportionately affected by the slightly stricter recycle policies in FY92.

Table 12. SFQC Graduation Rates by Army Component

	Active Duty	National Guard	Reserve	Prior Service
Overall Graduation Rate	80%	77%	83%	68% (73%)
Still In Training	5%	3%	3%	10%
Relief Rate	15%	20%	14%	23%
First Try Graduation Rate	46%	43%	51%	43%
Multiple Try Graduation Rate	34%	34%	32%	24% (30%)

Source: FY89-92 SFQC Longitudinal Database, all enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

Table 13 presents graduation rates for active and reserve component soldiers within each MOS. The results show that no single Army component outperformed the others consistently across every MOS. The Prior Service trainees did, however, have the lowest proportion of graduates in all MOS except 18C. Across all components, medical training was clearly the most difficult. The "easiest" course, however, based on graduation rates, varied from group to group.

Table 13. SFQC Graduation Rates Within Each MOS by Army Component

	Active Duty	National Guard	Reserve	Prior Service
18B				
Overall Graduation Rate	87%	79%	82%	70%
Still in Training	2%	0%	0%	4%
Relief Rate	11%	21%	18%	26%
18C				
Overall Graduation Rate	83%	83%	89%	93%
Still in Training	3%	0%	0%	3%
Relief Rate	14%	17%	11%	3%
18D				
Overall Graduation Rate	64% (69%)	67%(72%)	67% (74%)	45% (55%)
Still in Training	9%	8%	8%	20%
Relief Rate	27%	25%	23%	35%
18E				
Overall Graduation Rate	87%	81%	96%	72%
Still in Training	4%	2%	0%	7%
Relief Rate	9%	17%	4%	21%

Note: The projected graduation rates, adjusting for the proportion of "still in" trainees who are predicted to graduate, are indicated in parentheses.

Source: FY89-92 SFQC Longitudinal Database, all enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

In earlier analyses focusing on differences across rank, we found that the PVT/PFC trainees, all of whom are reserve component soldiers, had a surprisingly high graduation rate in light of the overall tendency for higher ranking soldiers to be more successful (refer to Table 9). Table 14 shows how the graduation rates differ by component within each rank. Because of the small number of trainees in NG and USAR, these reserve component groups are combined and sample sizes are reported in parentheses (total number of *graduates* in the category/the total number of *trainees* in that group). Across all ranks, including Specialists, the reserve component graduation rate was relatively high. Both Active Duty and Prior Service Specialists, however, appear to have difficulty in successfully completing the SFQC. This fact confirms that it is not the Prior Service soldiers who are bringing down the graduation rate for the Specialist group as a whole.

Table 14. Graduation Rates by Rank Within Each Army Component

	PVT/PFC	SPC	SGT	SSG/SFC
Active Duty	---	65% (224/345)	83% (795/962)	84% (596/710)
Reservists	84% (65/77)	80% (168/210)	77% (138/180)	85% (28/33)
Prior Service	---	67% (74/111)	78% (7/9)	---

Source: FY89-92 SFQC Longitudinal Database, all enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

6. Do soldiers from Combat Arms MOS have an advantage in the SFQC?

Soldiers from Combat Arms (CA) MOS were more likely to be successful in the SFQC (83%) than trainees from non-Combat Arms (NCA) MOS (76%). Examination of the overall graduation rates for Combat Arms versus non-Combat Arms trainees within each SF MOS, reveals that a Combat Arms background is most strongly related to SFQC success for soldiers in 18B and 18C courses; 10% more Combat-Arms than non-Combat Arms trainees graduated from each MOS (see Table 15). The difference is smaller for 18D trainees (CA trainees have an 8% higher graduation rate) and negligible for 18E trainees.

Table 15 also shows that Combat Arms trainees had a higher first-try graduation rate; a greater proportion of soldiers from non-Combat Arms MOS required multiple attempts in the SFQC before they were able to graduate. It is clear that across all training MOS, a greater proportion of Combat Arms trainees were able to graduate without recycling. The active duty analysis indicated very similar graduation rates across the MOS (see Appendix A, Table 9).

Table 15. Graduation Rates for CA vs. NCA Trainees by Initial MOS

	18B		18C		18D		18E	
	CA	NCA	CA	NCA	CA	NCA	CA	NCA
Overall Graduation Rate	87%	77%	87%	77%	69%	61%	88%	87%
Still in Training	2%	2%	2%	3%	9%	9%	2%	5%
Relief Rate	12%	21%	12%	20%	23%	30%	10%	9%
First Try Graduation Rate	58%	41%	64%	53%	22%	14%	56%	50%
Multiple Try Graduation Rate	29%	36%	23%	24%	47%	47%	32%	37%

Source: FY89-92 SFQC Longitudinal Database, all enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

The Combat Arms advantage is also consistent across SFAS cohorts (see Table 16). Note, however, that the disparity is largest for the FY91 cohort, where there is a 12% difference, overall, in the proportion of Combat Arms versus non-Combat Arms trainees who graduate from the SFQC (for Active Duty sample, see Appendix A, Table 10).

Table 16. Graduation Rates for CA vs. NCA Trainees by SFAS Cohort

	FY89		FY90		FY91	
	CA	NCA	CA	NCA	CA	NCA
Overall Graduation Rate	88%	81%	84%	81%	77% (81%)	63% (69%)
Still In Training	2%	3%	2%	2%	6%	14%
Relief Rate	10%	16%	14%	17%	17%	24%
First Try Graduation Rate	57%	37%	49%	39%	50%	37%
Multiple Try Graduation Rate	31%	44%	35%	42%	27% (31%)	26% (32%)

Source: FY89-92 SFQC Longitudinal Database, all enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

Summary

This report examined the SFQC success and failure rates of different subgroups of trainees selected from FY89 through FY91 SFAS classes. The report is organized around six questions suggested to be important by USAJFKSWCS and our preliminary analyses. Our findings are summarized below.

The first question addressed in this report concerned recycle rates across the four training MOS. "Recycles" are trainees who fail to graduate from the SFQC on their first attempt, typically for academic reasons, but are kept in the training base and allowed to try again in the next available class. Trainee recycle rates are important because recycling increases the load on SFQC instructors, delays the soldiers' entry with SF or his return to his unit, and makes it more difficult to manage and project the flow of students into and out of training. The results showed that, overall, over one third of the SFAS FY89-91 selectees were recycled at least once in the SFQC. Students assigned to the 18D and 18E training MOS were the most likely to attend more than one class (about 42%), and 18C trainees were the least likely to recycle (30%). Disparities in recycle rates across time and across MOS need to be monitored closely to ensure that students, instructors, and training resources are allocated properly.

Next we examined the overall graduation and attrition rates across training MOS. For soldiers assigned to the non-medic MOS, the results are straightforward. Approximately 85% of all soldiers initially assigned to 18B, 18C, and 18E eventually graduate from the SFQC. These soldiers almost always graduate from the MOS to which they were initially assigned. From a planning perspective this means that it takes about 100 SFQC trainees, or 106 to 108 SFAS selectees if we take "no shows" into account, to produce 85 SF qualified weapons, engineer and communication sergeants. It is, however, more difficult to predict exactly *when* these graduates will enter the inventory of SF qualified soldiers. Only 50% to 60% of the new 18B, 18C, and 18E trainees assigned to a class are likely to graduate with that particular class (i.e., "first try" graduates). The rest of the graduates from that class will trickle into the force three to six months later with first-try graduates from subsequent classes. If this fact is not taken into consideration, strength levels may be below projected levels for one fiscal year and over projected levels for the next fiscal year.

The situation is much more complicated when we consider 18D trainees. The training period for 18Ds is considerably longer than the training period for non-medics because medics must complete the Special Operations Medical (SOMED) course prior to their 18D SFQC training. The extra training medical sergeants receive has several consequences. First, only trainees who pass the SOMED course are sent to Ft. Bragg for SFQC branch and medical training. The lower SFQC graduation rate for soldiers initially assigned to 18D training (projected to be 70%), relative to non-medics (approximately 15% higher), is a result of the high attrition rate (46%) in SOMED.

Second, the precise graduation rate for any entering cohort of 18D trainees is not likely to be available for at least two years after the cohort starts training. This makes it difficult to project and manage the flow of 18Ds into the operational inventory. The time lag also makes it more difficult to compute up-to-date graduation rates for medics. Among the FY89-91 SFAS graduates, for example, 10% of the 18D students were still in training at the end of FY92, compared to only 2% of the students in the other MOS. We compensated for this in our analyses by projecting graduation rates for those still in the system. Changes in course policies or structure, however, can change future graduation rates and reduce the accuracy of our estimates.

Related to the high SOMED attrition rate is the high retrainee rate among soldiers initially assigned to 18D. Historically, many of the 18D trainees who failed SOMED were relieved from the 18D track and assigned to another MOS. Among the FY89-FY91 SFAS selectees initially assigned to 18D, 19% were reassigned to and ultimately graduated from a different MOS (only 1% of the non-medics were retrained). This means that although 70% of all SFAS selectees assigned to 18D eventually earned the SF tab, only 50% graduated from the 18D training track. In other words, 100 new 18D trainees are likely to produce only 50 SF *medical* sergeants but, given the retrainee policies in effect during FY90-FY92, they also produced approximately 20 SF soldiers with *non-medical* specialties. Given that the recruits typically selected for 18D are those who show the greatest academic promise, it is probably wise to retain as many of these soldiers as possible. Manpower

planners need to carefully track 18D retrainee rates, however, in order to avoid exceeding requirements for 18B, 18C, and 18E soldiers.

The next question we addressed concerned changes in graduation rates over time. We found that trainees from the FY91 SFAS cohort (who typically attended the SFQC in FY92) had a lower overall graduation rate than trainees from FY89 and FY90 SFAS classes. This is particularly true for 18D trainees. The drop appears to be largely due to policies that restricted opportunities for recycling and retraining as the pipeline from SFAS swelled and manpower shortages in the active duty inventory were alleviated. We also, however, explored the potential impact of another factor - the influx of specialists into the SFQC. In 1990 and 1991, SF recruiters were struggling to meet their unusually high missions for SF recruits. They asked for and were given permission to waive the requirement that SFAS recruits must be Sergeants, or at least promotable Specialists. As a result, the proportion of Specialists entering the SFQC increased from 13% (5% for active duty soldiers) in the FY89 cohort to 38% in the FY91 cohort (27% for active duty soldiers).

In response to this shift in the demographic composition of the SFQC, we examined the relative success rates of higher and lower ranking SFQC students. We found that more experienced NCOs had a clear advantage over Specialists. While Sergeants and Staff Sergeants had graduation rates of 82% and 84%, respectively, the graduation rate for Specialists was only 70%. Further analysis indicated that Specialists were particularly likely to have trouble in 18D training, where their projected graduation rate was approximately 22% lower than the graduation rate for higher ranking soldiers. Examination of the graduation rates for all rank groups by fiscal year, however, showed that graduation rates declined between FY89 and FY91 in each of the rank groups. Therefore, the drop in overall graduation rates in FY91 cannot be attributed *solely* to the influx of Specialists into the SFQC.

Analyses for the fifth question addressed in the report focused on differences across components. Overall, active duty soldiers had an 80% graduation rate, midway between the U.S. Army Reserve (83%) and the National Guard (77%) graduation rates. Prior Service soldiers brought into SFAS during the recruiting crunch in FY91 had the lowest graduation rate (73%).

For the final question, we examined the hypothesis that soldiers with a Combat Arms background are more likely to be successful in the SFQC. The data supported this widely held belief. Combat Arms trainees had an overall graduation rate of 83% compared to 76% for non-Combat Arms trainees. Furthermore, the Combat Arms trainees had substantially higher first try graduation rates across all MOS and all SFAS cohorts.

Conclusions

The six specific questions addressed in the report were designed to provide information useful to those charged with recruiting, selecting and training SF soldiers, as well as manpower planners responsible for forecasting and adjusting the flow of personnel into Special Forces. In light of these findings, it is important to consider the psychometric properties of these statistics. Given that these statistics are based on the entire population of SFAS FY89-91 graduates who attended the SFQC, there is no sampling error and, hence, *statistical* significance is not relevant. Whether or not the trends and differences reported here are of any *practical* significance will depend on the perspective of the reader.

These statistics are also reliable in that they are based on a database that was carefully checked and corrected to ensure that the data accurately reflect SFQC outcomes. Whether or not these demographics and graduation rates are representative of current and future trends, however, is open to question. Changes in the SF recruit pool or the SFQC itself will affect the composition and outcomes of future classes. For this reason, it is necessary to remain apprised of any policy and course changes, and to take into account the potential impact of such changes when using the results presented in this report to make future predictions. With this caveat in mind, we offer several conclusions and recommendations.

First, Specialists and soldiers without Combat Arms experience are less likely than other soldiers to be successful in SF training. This is not surprising since the course assumes that entering soldiers have at least some of the field and leadership skills that Combat Arms soldiers and platoon leaders or Sergeants are expected to have acquired. With the drastic reduction in the SF recruiting missions for FY94 and FY95, targeted recruiting of the soldiers most likely to succeed should be both possible and cost effective.

Second, graduation rates have dropped recently. This is partly due to the large number of relatively inexperienced specialists entering the SFQC in the FY91 SFAS cohort, and partly due to the gradual tightening of recycle policies in late FY92. Attrition due to the influx of less experienced recruits should diminish in the next couple of years if traditional recruiting standards and empirically based guidelines are followed.

It is unlikely that the increase in attrition stemming from a decrease in the number of recycle opportunities for students who fail will change. With the four MOS at or above authorized strength levels and a large pool of recent SFAS graduates waiting for SFQC seats, there is no pressure to recycle students until they graduate. FY93 and FY94 policies clearly state that, except in the most unusual circumstances, soldiers will not be allowed to recycle more than once in the MOS and field phases of the course. While this policy may reduce graduation rates, it also should reduce the average training cost per graduate and ultimately enhance the quality of the force. Special Forces soldiers need a solid grounding in fundamental field and leadership skills to take full advantage of the opportunity to learn advanced skills in the SFQC. SF soldiers also need to be able to grasp new material and

acquire new skills very quickly in order to develop as SF soldiers and successfully complete the wide variety of challenges they are likely to face in the field. Both of these factors support targeted recruiting efforts and the enforcement of stricter recycle policies.

From a manpower planning perspective, the recycle, graduation, and attrition statistics presented here can be used as a starting point in efforts to determine SF recruiting missions, training seat requirements, and the number of potential graduates among those already in the SF pipeline. Similarly, those charged with assessing and training SF soldiers can use these baseline statistics to monitor the impact of changes in the recruitment, assessment, selection, and training process. For both purposes, however, it is necessary to continually update statistics and validate assumptions by tracking outcomes for new trainee cohorts and subgroups, bearing in mind the impact of any changes in course policies and structure on these statistics. Continued conscientious efforts to maintain a longitudinal research database, as well as to methodically document current assumptions and evolving program and policy changes, are critical to the Army's ability to systematically select, train, and manage Special Forces soldiers.

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Appendix A
Selected Analyses on
Active Duty Enlisted
Soldiers

Introduction

All active duty enlisted soldiers who were selected from SFAS classes between FY89 and FY91, and subsequently attended the SFQC comprise the sample used for the results presented in this appendix. It is designed to replicate analyses conducted on the entire sample of SFQC soldiers, and to briefly present the results in order to ascertain whether the active duty sample's graduation/attrition rates tend to be consistent with the overall sample.

In addition to examining basic demographic information about the active duty sample, the following questions are addressed in this appendix:

1. Is the proportion of soldiers who recycle in the SFQC consistent across the MOS?
2. What are the average graduation/attrition rates across training MOS?
3. Do graduation/attrition rates differ for soldiers selected from earlier (FY89) vs. later (FY91) SFAS Classes?
4. Do higher ranking soldiers tend to be more successful in the SFQC than lower ranking soldiers?
5. Do soldiers from combat arms MOS have an advantage in the SFQC?

For a description of the statistics used in this appendix, please see the Data Analysis section of this report.

Table 1. Background Characteristics of SFAS FY89-91 Candidates Who Attended SFQC

	SFAS FY89 (N=667)	SFAS FY90 (N=684)	SFAS FY91 (N=666)	TOTAL %	TOTAL N=2017
Rank					
PVT/PFC*	0%	0%	0%	0%	0
CPL/SPC	5%	19%	27%	17%	345
SGT	46%	51%	46%	48%	962
SSG/SFC	49%	30%	27%	35%	710
Branch Type					
Combat arms (CA)	60%	60%	64%	61%	1238
Non-combat arms (NCA)	40%	40%	36%	39%	779

* Active Duty soldiers must have attained the rank of Corporal or Specialist prior to admission to the SFAS program.

1. Is the proportion of soldiers who recycle a course consistent across SF MOS?

Table 2. Recycle Rates Within Each MOS for Activity Duty Enlisted Trainees

Initial MOS	Number of SFQC Attempts		
	1	2	3 or more
18B	63%	27%	10%
18C	69%	22%	9%
18D*	62%	38%**	---
18E	56%	34%	10%

	Number of SOMED Attempts		
	1	2	3 or more
18D	59%	40%	1%

* Includes only the 244 18D trainees who had graduated from SOMED and started the SFQC as of the end of FY92; the 24 SOMED graduates who will start the SFQC in FY93, as well as the 239 18D soldiers who failed SOMED, are excluded.

** Includes 6 18Ds who will recycle in FY93, based on first try output codes; because a larger number of 18Ds have not yet finished training, the number of "3 or more" tries cannot be reliably determined.

2. What are the average graduation/attrition rates across training MOS?

Table 3. SFQC Graduation Rates by MOS for Trainees From SFAS FY89-91

	Initial MOS Assignment			
	18B (N=571)	18C (N=410)	18D (N=518)	18E (N=518)
Overall Graduation Rate	87%	83%	64% (70%)	87%
Still in Training	2%	3%	9%	4%
Relief Rate	11%	14%	27%	9%

(Overall graduation rate broken down)

First Try Graduation Rate	57%	59%	18%	51%
Multiple Try Graduation Rate	30%	24%	46%	36%

Note: Of the soldiers who were initially assigned to each MOS, the following proportions of soldiers graduated from a *different* MOS: 1 18B (.2%), 2 18C's (.5%), 107 18D's (21%), 1 18E (.2%).

Source: FY89-92 SFQC Longitudinal Database, all active duty enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

3. Do SFQC graduation rates differ for soldiers selected from earlier (FY89) versus later (FY91) SFAS classes?

Table 4. SFQC Graduation Rates by SFAS Cohorts

	SFAS Cohorts		
	FY89	FY90	FY91
Overall Graduation Rate	85%	83%	72% (78%)
Still In Training	3%	2%	9%
Relief Rate	12%	15%	19%

(Overall graduation rate broken down)

First Try Graduation Rate	48%	44%	46%
Multiple Try Graduation Rate	37%	39%	26%

Note: The number in parentheses indicates the projected overall graduation rates for FY91 when we include the percentage of "still in" trainees who are likely to graduate.

Source: FY89-92 SFQC Longitudinal Database, all active duty enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

Table 5. Graduation Rates Within Each Initial SFQC MOS by SFAS Cohorts

	FY89	FY90	FY91
18B Trainees			
Overall Graduation Rate	89%	89%	83% (85%)
Still In Training	3%	0%	3%
Relief Rate	8%	11%	14%
18C Trainees			
Overall Graduation Rate	85%	85%	78% (82%)
Still In Training	1%	1%	6%
Relief Rate	14%	14%	16%
18D Trainees			
Overall Graduation Rate	71%	73%	42% (54%)
Still In Training	5%	4%	21%
Relief Rate	24%	23%	37%
18E Trainees			
Overall Graduation Rate	93%	89%	79% (85%)
Still In Training	2%	2%	8%
Relief Rate	5%	9%	13%

Note: The projected graduation rates for are indicated in parentheses.

Source: FY89-92 SFQC Longitudinal Database, active duty enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

4. Do higher ranking soldiers tend to be more successful in the SFQC than lower ranking soldiers?

Table 6. SFQC Graduation Rates by Rank

	SPC (N=345)	SGT (N=962)	SSG/SFC (N=710)
Overall Graduation Rate	65% (70%)	83% (86%)	84% (86%)
Still In Training	7%	5%	3%
Relief Rate	28%	12%	13%
(Overall Graduation Rate Broken Down)			
First Try Graduation Rate	35%	46%	51%
Multiple Try Graduation Rate	30%	37%	33%

Source: FY89-92 SFQC Longitudinal Database, all active duty enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

Table 7. Overall Graduation Rates for Different Ranks Across SFAS Cohorts

	SPC	SGT	SSG/SFC
SFAS FY89	51%	87%	86%
SFAS FY90	76%	84%	87%
SFAS FY91	59% (67%)	77% (83%)	76% (81%)

Source: FY89-92 SFQC Longitudinal Database, all active duty enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

Table 8. Overall Graduation Rates for Different Ranks Within Each MOS

	SPC	SGT	SSG/SFC
18B	73%	85%	90%
18C	78%	87%	80%
18D	40% (45%)	70% (76%)	72% (76%)
18E	80% (84%)	90% (93%)	88% (89%)

Source: FY89-92 SFQC Longitudinal Database, all active duty enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

5. Do soldiers from Combat Arms MOS have an advantage in the SFQC?

Table 9. Graduation Rates for Branch Types Within Each MOS

	Initial MOS Assignment							
	18B		18C		18D		18E	
	CA	NCA	CA	NCA	CA	NCA	CA	NCA
Overall Graduation Rate	87%	77%	87%	75%	68%	60%	90%	85%
Still in Training	2%	3%	3%	3%	9%	9%	2%	5%
Relief Rate	11%	21%	10%	22%	23%	31%	8%	10%

(Overall graduation rate broken down)

First Try Graduation Rate	58%	41%	65%	49%	22%	14%	58%	47%
Multiple Try Graduation Rate	29%	36%	22%	26%	46%	46%	32%	38%

Source: FY89-92 SFQC Longitudinal Database, all active duty enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC

Table 10. Graduation Rates for CA vs. NCA Trainees by SFAS Cohorts

	SFAS Classes					
	FY89		FY90		FY91	
	CA	NCA	CA	NCA	CA	NCA
Overall Graduation Rate	88%	79%	85%	80%	78% (82%)	61% (71%)
Still In Training	3%	4%	2%	2%	6%	14%
Relief Rate	9%	17%	13%	18%	16%	24%

(Overall Graduation Rate Broken Down)

First Try Graduation Rate	56%	35%	49%	36%	52%	35%
Multiple Try Graduation Rate	32%	44%	36%	44%	26%	26%

Source: FY89-92 SFQC Longitudinal Database, all active duty enlisted soldiers selected from SFAS FY89-91 classes who attended the SFQC