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# RESEARCH MEMORANDUM

## SURFACE WARFARE COMMUNITY STRUCTURE: THE FIRST EIGHT YEARS OF SERVICE

Robert L. Peck, Cdr., USN

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1. Enclosure (1) is forwarded as a matter of possible interest.
2. Monitoring the career progression of groups of officers has been difficult, historically, because the principal data sources (Officer Master Files) are "snapshots in time." Thus, measuring aggregate characteristics such as promotion, continuation, professional qualifications, and selection for special programs has often been time consuming, inflexible, and limited to comparisons of one point in time to another. This Research Memorandum describes the creation of longitudinal datasets for officers in the surface warfare community in each of four year groups. The new datasets were then used to determine descriptive statistics within each year group and facilitated comparing year groups for the movement of officers into and out of the surface warfare community, surface warfare officer qualification, selection for department head, and continuation rates.

*Robert F. Lockman*

ROBERT F. LOCKMAN  
 Director  
 Navy Manpower Program

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**SURFACE WARFARE COMMUNITY  
STRUCTURE: THE FIRST EIGHT YEARS  
OF SERVICE**

Robert L. Peck, Cdr., USN

*Navy-Marine Corps Planning and Manpower Division*

A Division of



Hudson Institute

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## ABSTRACT

This research memorandum describes the career paths for Surface Warfare Officers (SWOs) during their first eight years of active duty. Longitudinal history files were created for each of four year groups and were then used to determine summary statistics for the movement of officers into and out of the SWO community, attainment of SWO qualifications, and selection for department head.

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## INTRODUCTION

As stated in the Navy's *Unrestricted Line Officer Career Planning Guidebook* [1], the "Surface Warfare Community is composed of officers who are qualified in the surface warfare speciality, who man the surface ships of the Navy and whose goal is to command those ships." Within the Surface Warfare Officer (SWO) community, junior officers normally enter the structure and attend the SWO Basic course prior to their first sea duty assignment. Although most officers enter the community immediately upon commissioning, a significant number of Surface Warfare Officers enter the community from a non-SWO speciality.

The nominal professional path followed by the SWO community is shown in figure 1. Although very few officers' careers follow this exact path, this guide is used by individual officers, detailers, and managers to ensure that officers remain "on track" for promotions, for selection for key programs, and for filling authorized billets adequately.

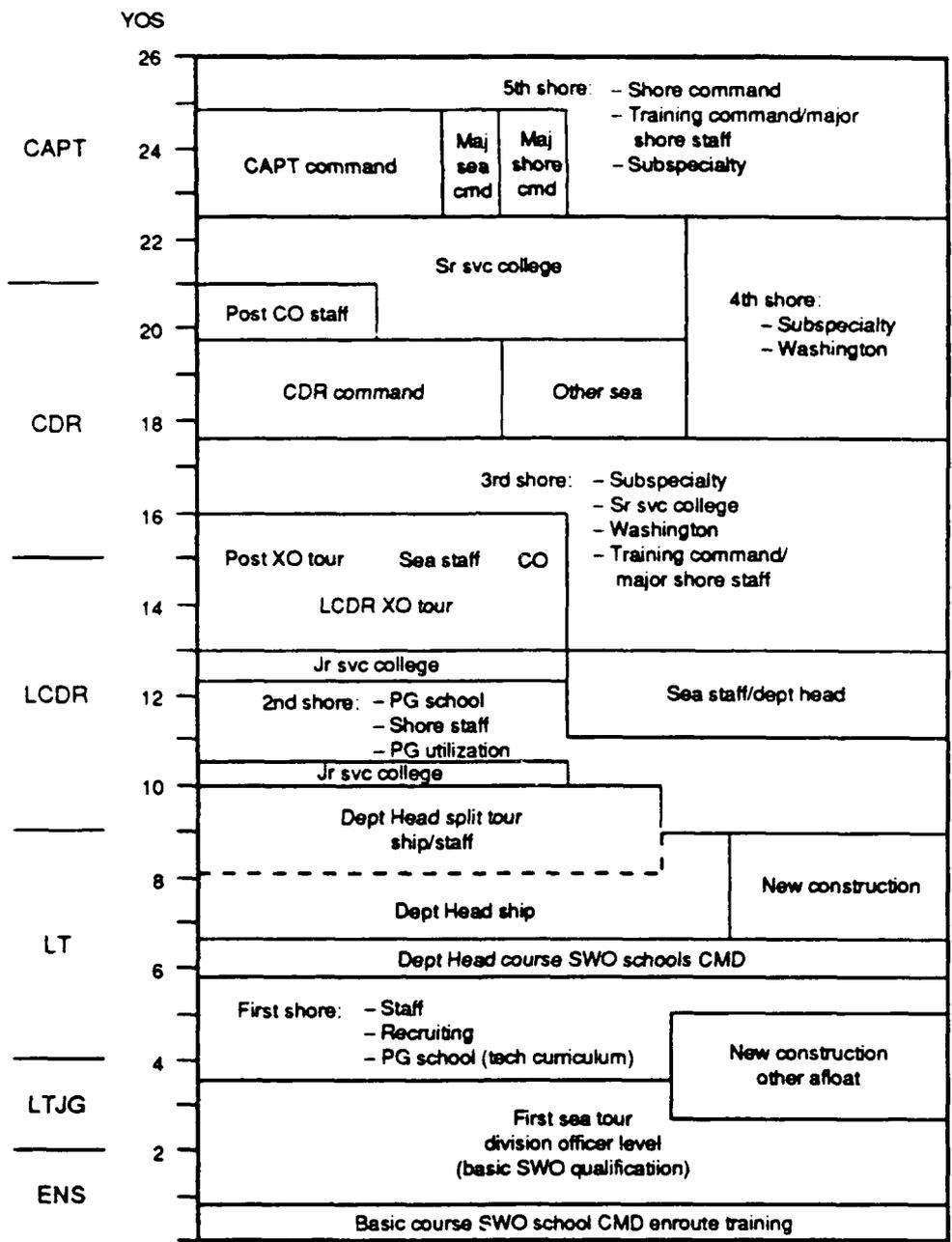
In the first eight to ten years of a Surface Warfare Officer's career, the two most important milestones are achieving SWO qualification and being selected for department head. To be considered for selection for department head, the officer must have attained his or her Surface Warfare Officer qualification<sup>1</sup> and completed at least 30 months of commissioned service. The selection board places all officers considered into one of the following three categories:

- Primary - guaranteed assignment to the Department Head course
- Alternate - qualified, but not enough slots are available in the course, or the officer requires more documented performance records<sup>2</sup>

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1. The qualification process is quite rigorous and includes demonstrating proficiency as a division officer, proficiency in damage control, knowledge of all shipboard systems with particular emphasis on weapons and engineering, proficiency in communications procedures, and qualification as Officer of the Deck in port and underway.

2. Officers placed into this category are often screened for "Primary" selection by subsequent boards.



**FIG. 1: PROFESSIONAL DEVELOPMENT PATH FOR SURFACE WARFARE OFFICERS**

Source: Reference [1]

- • Nonselect – officer not qualified at this time to be a department head.

Screening boards to select candidates for department head meet semiannually. Officers who are not selected by one board are considered by subsequent boards as long as the officers remain on active duty and in the SWO community.<sup>1</sup>

Selection of candidates for the Department Head course is closely monitored, as the selection generally occurs when the officers are nearing the end of their initial obligated service (at about three to four years of service). Selection for the Department Head course is a clear indication that an officer is considered capable of fulfilling the professionally demanding duties of head of a major warfare department aboard a warship. Conversely, failure to be selected signals the end of an officer's career in the SWO community.

For the reasons just described, officer manpower managers are quite selective in choosing candidates for department head while ensuring that enough officers will be available to fill future department head billets at sea. Selecting too many officers can mean that some selectees will not attend the Department Head course (and therefore fall behind their contemporaries in career progression); selecting too few officers can result in an insufficient number of reliefs for officers in their department head tours. Consequently, within the SWO community, the department head tour is generally considered the "chokepoint" in manpower management.

To understand the nature of this chokepoint, it is necessary to first examine the underlying movement of officers through the career structure of the SWO community. This paper reports the development of a methodology for such an examination.

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1. Beginning in 1988, two important changes occurred in screening for department head: "Alternate" screening was discontinued, and officers that fail to receive "Primary" screening will have a maximum of eight screening opportunities following selection for promotion to lieutenant.

## METHODOLOGY

To examine the SWO community, the analyst had to first look at trends within the structure in recent years. Also, because the object of the study was to quantify important elements of the structure that lead to assignment of officers to department head billets, three key milestones emerged as points to be studied to gain an accurate understanding of the first eight years of the SWO community structure:

- The movement of officers into and out of the community
  - Accessions from commissioning source
  - Lateral transfers from non-SWO communities
  - Officers leaving the Navy from the SWO community
  - Lateral transfers from SWO to non-SWO communities
- Surface Warfare Officer qualification
- Selection for department head.

To pursue these three main points, data had to be identified, collected, and organized.

The most appropriate sources of data available are the Officer Master Files (OMFs), which are point-in-time “snapshots” of all officers on active duty. A great deal of information about each individual is contained in the OMFs. CNA receives extracts of the OMFs every six months. Thus, the identification and collection of data proved to be relatively straightforward.

Organizing the data, however, required careful consideration. To examine the career structure over eight years of service, either officers had to be grouped within several year groups and patterns studied across the groups at a specific time, or patterns of a specific year group had to be studied over a range of years of service.

Trends over time were considered to be most important, so the approach chosen was that of studying the patterns of individual year groups over several years. The year group selected had to be isolated from all other year groups and organized in such a manner that the cohort could be "tracked" over time. Special care was needed to monitor the movement of officers into and out of the cohort. A new dataset was developed to isolate and track the selected year group, and by carefully selecting subsets of the year groups,<sup>1</sup> the movement of officers could be monitored.

### Development of an Initial Dataset

To model career progression through the SWO community, it is necessary to thoroughly understand how and when officers enter the community, how long they remain in the community, and how they make the transitions from one element of the career structure to the next.

For this type of study in which groups of individuals are to be tracked over time, it is very important to have data on officer career histories (longitudinal files). Unfortunately, existing longitudinal files derived from the OMFs were not suitable for the purposes of this study.<sup>2</sup> Therefore, a simplified longitudinal dataset was created to enable this analysis to begin. First, a file was created that contained one record for every officer who was ever in the surface warfare community in year group 1979 by matching OMFs across years. For year group 1979, the OMFs used were the 30 September files from 1979 through 1987. Subsequently, files were created for year groups 1978, 1980, and 1981. Table 1 shows a portion of five records contained in the 1979 file.

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1. Year groups consist of officers who were commissioned during the same fiscal year. For example, officers in year group 79 were commissioned between 1 October 1978 and 30 September 1979. Officers generally remain in their initial year group throughout their career. Exceptions occur when officers are promoted ahead of their contemporaries (early selected) or who fail to be selected for promotion and are subsequently selected at a later time (late selected). Such year group changes are relatively rare. In addition, there are other circumstances in which officers' year groups change, but these are highly unusual, and are not included in this study.

2. CNA has developed methodology [2] for creating longitudinal history files for enlisted personnel. Perhaps this methodology could be similarly adapted for officer records.

**TABLE 1**  
**SAMPLE LONGITUDINAL FILE**

SSN	OMF YEAR						
	1979	1980	1981	1982	1983	....	1987
001400850	116579L	116579L	116579K				
001499568	139079L	119079L	116079K	111079K	111079KAEC	....	111079JPEB
001543543	116579L	116579L	111579K	111079KPEO	111079KPEO	....	111079JGEO
012376549	310579L	116579L	116579K	111079KA	137079KA	....	
027493877	G116579L	116579L	116579K	L116579K			

NOTE: OMFs reflect data as of the end of the fiscal year

The first nine characters in each record are the officers' Social Security Numbers (SSNs). Following the SSN are repeating fields of 12 characters each. Each field contains information from one OMF. These fields contain:

- Gain/Loss Indicator (one character)
  - G = prospective gain, but not currently on active duty
  - L = prospective loss, but still on active duty
  - Blank = on active duty
- Designator (four characters)
- Year group (two characters)
- Rank (one character)
  - L = ensign
  - K = lieutenant junior grade
  - J = lieutenant
  - I = lieutenant commander
- Detailer's remarks<sup>1</sup> (four characters).

1. Detailer's remarks are entered into the OMF to indicate the results from the most recent department head screening board. This field includes the type of selection (Primary, Alternate, Nonselect) and departments to which the officer can expect to be assigned following the Department Head course.

Although the above fields represent only a small fraction of the information from the OMFs, they do provide sufficient detail to permit tracking an entire cohort over nine years of service.

The first record in table 1 depicts an officer who entered the cohort in 1979 as an ensign and left the Navy after September 1981 but before the September 1982 OMF was created.

The second record is typical of many in that the officer began service as an ensign with designator 1390 (Line Officer in training for duty involving flying as a pilot) and before the September 1980 OMF changed the designator to 1190 (Line Officer in training for Special Operations qualification). Another designator change to 1160 (Line Officer in training for Surface Warfare qualification) occurred before the September 1981 OMF. This officer attained SWO qualifications (and a designator change to 1110) before the September 1982 OMF. The second record also shows that the officer was promoted to lieutenant junior grade in FY 1981 and then to lieutenant before the September 1987 OMF was created. The detailer's remarks (AEC) for this officer on the September 1983 OMF mean that the officer was selected as an alternate (A) for the Department Head course, and that upon completion of the course, he was expected to be assigned as head of an engineering (E) department followed by head of a combat systems (C) department.

The third record reflects an officer who followed a more direct career path. This officer entered the cohort as a SWO trainee (designator 1165) and qualified as a Surface Warfare Officer (designator 1115) in FY 1981. In FY 1982, the officer changed from a reserve to an active commission (last digit of designator changed from 5 to 0). Also in FY 1982, this officer received a Primary selection for the Department Head course and could expect to be assigned to an engineering department (E) followed by an operations (O) department.

The fourth record is interesting in that it shows an officer who entered the SWO community from the Supply Corps (designator 3105), attained SWO qualification in FY 1982, left the SWO community and entered the

Naval Flight Officer training program in FY 1983, and then left the Navy before the creation of the September 1987 OMF.

The last record shows that the officer was a potential gain in FY 1979, and then was on active duty in FYs 1980 through 1982. This officer did not achieve SWO qualification.

### **Cohorts Within Year Groups**

To examine career progression, the dataset was divided into cohort groups of officers who entered the naval service within a given period of time. These groups were considered as wholes. For this study, cohorts consist of all officers in the Surface Warfare community who are in the same year group.

It is quite common for officers to change from one speciality to another during their career. For example, officers who begin service as trainees in the aviation or submarine communities and do not complete their period of training often move into the SWO community. Also, as many as 28 percent of officers who are initially in the SWO community leave the community and enter another. Therefore, cohorts, as defined in this study, consist of all officers who are in the same year group and who at any time held one of the following designators:

- 116x:<sup>1</sup> Surface Warfare Trainee
- 111x: Surface Warfare Officer - Qualified
- 121x: Material Professional designated and qualified Surface Warfare.

Long-range planning for officers requires very careful treatment of officer continuation rates.<sup>2</sup> Traditionally, continuation rates are defined to be

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1. The first three digits of the designator denote the officer's speciality. The fourth digit is generally 0 (active commission), 5 (reserve commission), or 7 (reserve TAR (training and administration of reserves)). TAR officers do not count toward endstrength and are excluded from this study.

2. See [3] for an examination of continuation rates for Navy pilots.

the percentage of officers in a beginning cohort who remain on active duty at some later date. For example, if 1,000 officers are in the cohort initially, and after six years of service (YOS) 500 remain on active duty, the 0-6 YOS continuation rate ( $CR_{0-6}$ ) is 50 percent. Unfortunately, such a definition is easily misinterpreted if one is specifically interested in examining a particular speciality.

By examining the datasets used in this study, the analyst quickly learned that there is a great deal of movement between officer specialties. Therefore, officers who leave the SWO community but remain on active duty must be removed from the cohort when their designators change from SWO to non-SWO. On the other hand, the cohort must be amended to include those officers whose designators change from non-SWO to SWO.

Consequently, subsets of the year-group datasets were created. The dataset for year group 1979 included 1,436 officers. Of the 1,436, 1,211 were in the community in the first OMF (September 1979). Among the 225 who were not in the SWO community in September 1979, 132 entered in FY 1980, 63 entered in FY 1981, 20 entered in FY 1982, and the other 10 entered after FY 1982. The subsets (cohorts) are components of the overall 1979 cohort. The subsets are:

- Cohort 0 (entered FY 1979) – Notation: 79<sup>0</sup>
- Cohort 1 (entered FY 1980) – Notation: 79<sup>1</sup>
- Cohort 2 (entered FY 1981) – Notation: 79<sup>2</sup>
- Cohort 3 (entered after FY 1981) – Notation: 79<sup>3</sup>.

Summary statistics were determined for each cohort to identify patterns of movement between communities, distribution of time required to attain SWO qualifications, losses from the Navy, and selection for the Department Head course. Table 2 displays summary statistics for cohort 79<sup>0</sup>.

**TABLE 2**  
**SUMMARY STATISTICS FOR YEAR GROUP 1979**  
 (Cohort 0)

End of fiscal year	Active			Attrites		
	All SWO	111x	Non- SWO	111x	116x	Non- SWO
1979	1,211	0	0	0	0	0
1980	1,173	9	37	0	1	0
1981	1,104	163	100	0	6	0
1982	1,038	556	152	1	12	1
1983	826	695	229	34	89	12
1984	675	630	224	79	44	32
1985	530	528	216	94	21	39
1986	432	431	225	76	2	11
1987	380	380	216	46	0	15
Total	N/A	N/A	N/A	330	175	110

NOTE: Cohort 0 includes all officers in year group 1979 who entered the SWO community in FY 1979.

Of the original 1,211 officers in the cohort, only 380 remain in the SWO community after eight years of service (all are SWO qualified). Another 216 officers remain on active duty but have transferred to non-SWO communities. A total of 615 of the 1,211 officers have left the Navy. Within the losses, 330 left after attaining their SWO qualifications, 175 left as SWO trainees, and another 110 left after transferring to non-SWO communities. Thus, for purposes of community management, the 0-8 YOS SWO continuation rate ( $SWOCR_{0-8}$ ) is:

$$SWOCR_{0-8} = 380/1,211 = 31.4\%.$$

This statistic is markedly different from a continuation rate that represents the percentage of the initial cohort remaining on active duty (active duty continuation rate ( $ADCR_{0-8}$ )):

$$ADCR_{0-8} = (380 + 216)/1,211 = 49.2\%.$$

Figure 2 shows cumulative percentages of cohort 0 at each year of the period examined that remain in the SWO community, remain on active duty in non-SWO communities, or have left the Navy.

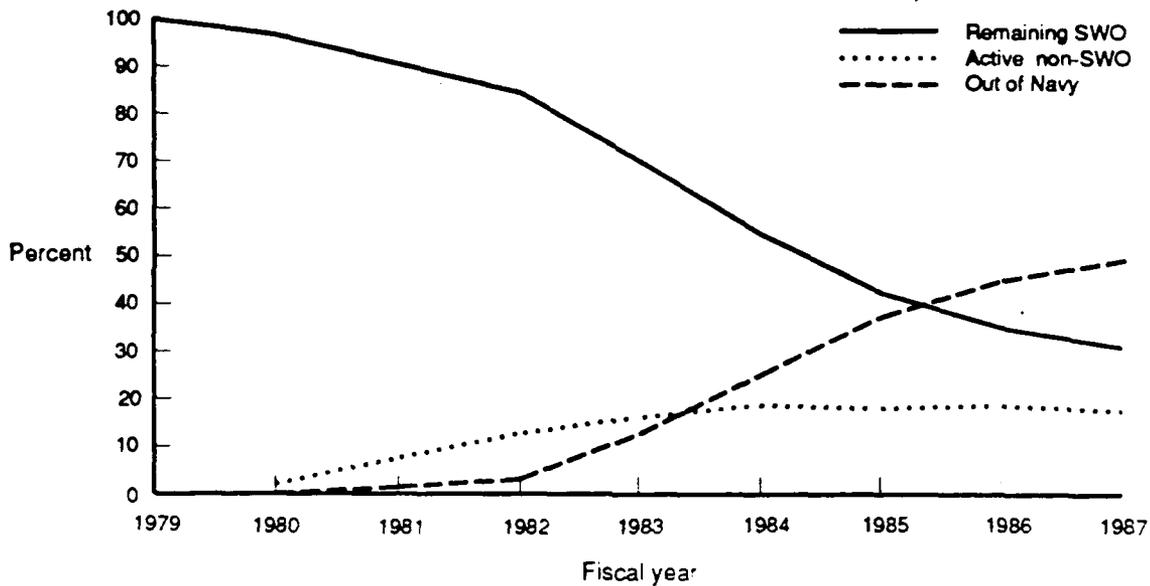


FIG. 2: CUMULATIVE PERCENT OF YEAR GROUP 1979 COHORT 0

Source: Officer Master File

Net inflow and outflow for cohorts 0 through 3 are shown in table 3. The numbers shown for each fiscal year are the number of each cohort that remain in the SWO community. Among the 132 officers in year group 1979 who entered the community in FY 1980, only 33 remained in the community at the end of FY 1987 (YOS 8). Of the 99 officers who had left the

community, 25 were still on active duty in non-SWO communities (non-SWO active) and the remaining 74 were no longer on active duty. Thus, for cohort 79<sup>1</sup>, the SWOCR<sub>0-8</sub> and ADCR<sub>0-8</sub> were 25.0 percent and 44.0 percent, respectively.

**TABLE 3**  
**INFLOW AND OUTFLOW WITHIN COHORTS**  
**FOR YEAR GROUP 1979**

End of fiscal year	Cohort			
	79 <sup>0</sup>	79 <sup>1</sup>	79 <sup>2</sup>	79 <sup>3</sup>
1979	1,211	0	0	0
1980	1,173	132	0	0
1981	1,104	112	62	0
1982	1,038	101	58	20
1983	826	75	44	19
1984	675	65	31	16
1985	530	48	22	13
1986	432	38	17	13
1987	380	33	16	12
Net in	1,211	132	62	30
Net out	831	99	46	18

NOTE: Includes all active duty officers  
in the SWO community in year group 1979.

A summary showing SWOCR and ADCR for each cohort for year groups 1978 through 1981 is provided in table 4. Because data were available only for YOS 0-6 for year group 1981, SWOCR<sub>0-6</sub> and ADCR<sub>0-6</sub> are shown to enable a comparison to be made across the four year groups.

**TABLE 4**  
**SUMMARY OF CONTINUATION RATES FOR**  
**YEAR GROUPS 1978 THROUGH 1981**

	Year Group			
	1978	1979	1980	1981
<b>SWOCR<sub>0-6</sub></b>				
Cohort 0	46.0	43.8	36.2	39.2
Cohort 1	36.8	36.4	40.0	33.8
Cohort 2	54.2	35.5	48.1	44.3
Cohort 3	68.0	43.3	50.0	68.0
All	46.9	42.7	37.4	39.4
<b>ADCR<sub>0-6</sub></b>				
Cohort 0	64.0	61.6	52.1	51.8
Cohort 1	58.8	54.5	54.5	43.2
Cohort 2	71.1	58.1	55.8	50.8
Cohort 3	78.0	60.0	62.5	76.0
All	64.8	60.8	52.7	51.3

For YOS 0-6, there is a trend of decreasing continuation rates from year group 1978 through 1981. This trend is similar for both SWOCR and ADCR for the year groups with cohorts 0 through 3 combined. Among cohorts 2 and 3, the trend is not as consistent. However, since cohorts 0 and 1 are significantly larger than the other two, the variations within cohorts 2 and 3 have a much smaller effect on the entire year groups. It is interesting to note that for cohorts 2 and 3 both the SWOCRs and ADCRs are generally larger than for cohorts 0 and 1. It might be argued that officers making a change to SWO after two or more years in a non-SWO community tend to be more committed to remaining in the Navy than officers beginning their service obligation.

The comparisons shown in table 4 may not capture officers in the same stage of their career in the SWO community. On average, lateral transfers are likely to lag officers in cohort 0. An alternate way to view continuation rates is in terms of years in the SWO community. Tables 5 and

6 provide additional detail for year group 1978. In table 5, SWOCR<sub>0-1</sub> through SWOCR<sub>0-8</sub> are provided. This table again shows that the SWO continuation rates for cohorts 78<sup>2</sup> and 78<sup>3</sup> (and to a lesser extent 78<sup>1</sup>) are consistently greater than for cohort 78<sup>0</sup>. From a community management standpoint, however, one may be more interested in comparing continuation rates across cohorts based on time in the community. Table 6 displays SWO continuation rates conditioned on years in the SWO community. This table reveals that cohort 78<sup>0</sup> conditional SWOCRs are consistently greater than the other three cohorts. The conditional SWOCR trend is similar for all four year groups examined.

**TABLE 5**

**SWO CONTINUATION RATES:  
TOTAL YEARS OF SERVICE**

(Example: year group 1978)

	78 <sup>0</sup>	78 <sup>1</sup>	78 <sup>2</sup>	78 <sup>3</sup>
Cohort size	1,069	68	83	50
YOS(total)				
0-1	95.3	-	-	-
0-2	92.2	97.1	-	-
0-3	86.7	86.8	89.2	-
0-4	74.7	82.3	83.1	86.0
0-5	57.2	57.4	71.1	82.0
0-6	46.0	36.8	54.2	68.0
0-7	38.1	26.5	41.0	56.0
0-8	31.7	20.6	32.5	40.0

**TABLE 6**  
**CONDITIONAL SWO CONTINUATION RATES:**  
**TOTAL YEARS IN COMMUNITY**  
 (Example: year group 1978)

	78 <sup>0</sup>	78 <sup>1</sup>	78 <sup>2</sup>	78 <sup>3</sup>
Cohort size	1,069	68	83	50
<hr/>				
YOS(SWO)				
0-1	95.3	97.1	89.2	86.0
0-2	92.2	86.8	83.1	82.0
0-3	86.7	82.3	71.1	68.0
0-4	74.7	57.4	54.2	56.0
0-5	57.2	36.8	41.0	40.0
0-6	46.0	26.5	32.5	-
0-7	38.1	20.6	-	-
0-8	31.7	-	-	-

Table 7 shows a similar comparison through YOS 5 for year groups 1978 through 1981, and table 8 examines the four year groups through five years in the SWO community.

**TABLE 7**  
**CONTINUATION RATES THROUGH FIVE YEARS OF**  
**SERVICE**  
 (Year group 1978 through year group 1981)

Year group	Cohort				All
	0	1	2	3	
1978	57.2	57.4	71.1	82.0	59.1
1979	55.7	49.2	50.0	53.3	54.8
1980	44.6	48.2	57.1	50.0	45.6
1981	47.9	48.0	62.3	88.0	49.2
Weighted average	51.6	50.0	61.8	73.2	52.4

**TABLE 8**  
**CONTINUATION RATES: FIVE YEARS OF SERVICE IN**  
**SWO**  
 (Year group 1978 through year group 1981)

Year group	Cohort				All
	0	1	2	3	
1978	57.2	36.8	41.0	40.0	54.4
1979	55.7	36.4	27.4	40.0	52.4
1980	44.6	40.0	44.2	N/A	N/A
1981	47.9	33.8	N/A	N/A	N/A
Weighted average	51.6	36.6	N/A	N/A	N/A

## SURFACE WARFARE OFFICER QUALIFICATIONS

SWO trainees are expected to complete their SWO qualifications within two years after beginning their first sea duty assignment. Attainment of the 111x designator is generally a prerequisite for assignment to a shore billet, and officers who do not complete their SWO qualification in their first billet at sea can be expected to be reassigned to a follow-on sea duty assignment. Also, for career progression, selection for the Department Head course requires SWO qualification.

Table 9 shows the number of officers for the year group 1979 Cohort 0 (79<sup>0</sup>) achieving their 111x designator and the total number of 111x in the SWO community in each year of the period from YOS 0-8.

**TABLE 9**  
**SURFACE WARFARE QUALIFICATIONS:**  
**YEAR GROUP 1979 COHORT 0**  
**(Initial cohort size: 1,211)**

YOS	Number of qualified 111x	Number qualifying in year
0	0	0
1	9	9
2	163	155
3	556	419
4	695	221
5	630	34
6	528	15
7	431	1
8	380	0
Total	N/A	854

Comparing table 9 with table 2 reveals that 70.5 percent of the cohort (854 of 1,211) have achieved SWO qualification, but of the 854, only 380 are still in the community after eight YOS and 330 have left the Navy from the SWO community. Thus, 144 attained their qualification and then changed to a non-SWO community.<sup>1</sup>

**TABLE 10**  
**SWO QUALIFICATIONS**  
(Example: year group 1979)

Qualifying In fiscal year	Number qualifying				
	79 <sup>0</sup>	79 <sup>1</sup>	79 <sup>2</sup>	79 <sup>3</sup>	79
1979	0	0	0	0	0
1980	9	1	0	0	10
1981	155	6	1	0	162
1982	419	32	10	3	464
1983	221	23	17	9	270
1984	34	7	5	3	49
1985	15	6	1	6	28
1986	1	0	0	0	1
1987	0	1	0	1	2
Total	854	76	34	22	986
Percent of cohort	70.5	57.6	54.8	73.3	68.7
Average YOS to qualify	3.2	3.6	3.9	4.7	3.3

Table 10 displays SWO qualification data for cohorts 0 through 3 for year group 1979 and for the year group as a whole. The overall qualification rate was 68.7 percent (986 qualifiers from a total year group size of 1,435). The overall rate is dominated by cohort 79<sup>0</sup> for which the rate was 70.5

1. Appendix B provides SWO qualification data similar to table 9 for all cohorts in year groups 1978 through 1981. Appendix B also gives graphical representations of SWO qualifications versus years of service

percent. With the exception of 79<sup>3</sup>, the cohort 79<sup>0</sup> qualification rate was significantly greater than the other cohorts.

The trends for year group 1979 are consistent, on average, for all four year groups examined. SWO qualification summaries for the four year groups are shown in table 11.

**TABLE 11**  
**PERCENT OF COHORT ATTAINING**  
**SWO QUALIFICATIONS**  
 (Summary: year groups 1978 through 1981)

Year group	Cohort				All
	0	1	2	3	
1978	69.9	60.3	65.1	76.0	69.3
1979	70.5	57.6	54.8	73.3	68.7
1980	62.8	66.4	68.8	78.1	63.7
1981	67.4	54.7	70.5	64.0	66.2
Weighted average	67.5	59.2	65.0	73.7	66.8

In the four year groups examined, the vast majority of SWO qualifications occurred between two and five years of service. There is a clear trend, however, as officers in the more recent year groups achieved their SWO qualifications earlier in their careers. For example, among cohort 78<sup>0</sup>, 62.5 percent of SWO qualifications occurred in the first three years of service, while for cohort 81<sup>0</sup>, 81.4 percent of qualifications were in the first three years of service. For year group 1978 as a whole, 57.1 percent of SWO qualifications occurred in YOS 0 through 3, and for year group 1981, 76.1 percent were achieved in YOS 0 through 3.

From year group 1978 through year group 1981, the average time to attain SWO qualifications decreased by one-half year. Table 12 shows this trend. The percentages shown are the number of officers in the year group

who attained SWO qualification in a given year of service divided by the total number of officers in the year group who attained qualification. For example, for year group 1978, 381 officers qualified as Surface Warfare Officers in their third year of service. That total is 42.8 percent of the 890 officers in the year group who qualified during the first eight years of service.

**TABLE 12**  
**TIMING OF SWO QUALIFICATIONS**  
(Percent of qualifiers by years of service)

YOS	Year group			
	1978	1979	1980	1981
0	0.0	0.0	0.1	0.0
1	0.9	1.0	0.5	0.7
2	13.5	16.4	15.1	27.2
3	43.3	47.1	54.8	48.2
4	22.6	27.4	21.9	18.3
5	15.7	5.0	6.0	4.7
6	3.0	2.8	1.4	0.9
7	1.0	0.1	0.2	N/A
8	0.0	0.2	N/A	N/A
Weighted average	3.5	3.3	3.2	3.0

The trend toward earlier SWO qualification among the four year groups took place during a period in which continuation rates dropped. Similarly, attrition among qualified Surface Warfare Officers showed an increase. This point is illustrated by the fact that for year group 1978 the continuation rate of qualified SWOs through YOS 6 was 65.4 percent. This continuation rate is determined as follows:

$$CONTRATE_{0-6} = ACTIVE_6 / NO.QUAL$$

$$CONTRATE_{0-6} = 576 / 881 = 65.4\%$$

where

$ACTIVE_6$  is number of qualified SWOs remaining in community through YOS 6,

$NO.QUAL$  is number from cohort who qualified by YOS 6.<sup>1</sup>

A comparison of continuation rates of qualified SWOs from year groups 1978 through 1981 is provided in table 13.

**TABLE 13**  
**CONTINUATION RATE OF QUALIFIED SWOs:**  
**YOS 0 THROUGH 6**

Category	Year group				Average
	1978	1979	1980	1981	
Total	1,270	1,435	1,550	1,430	1,421
$NO.QUAL$	881	983	985	946	946
$ACTIVE_6$	576	609	570	557	578
$CONT RATE_{0-6}$	65.4	62.0	57.9	58.9	61.1

1. A total of 890 officers from year group 1978 attained their qualifications, but 9 of the 890 qualified after YOS 6.

## DEPARTMENT HEAD SELECTION

Officers can nominally expect to complete their first sea tour at about four YOS and begin their department head tour at approximately seven YOS.<sup>1</sup> By that time, only about 35 percent of the cohort remains in the SWO community.

Table 14 provides a summary for year group 1979 cohorts at five, six, and seven YOS.

**TABLE 14**  
**YEAR GROUP 1979 TRENDS:**  
**FIVE THROUGH SEVEN YOS**

	Cohort				Weighted average
	0	1	2	3	
Initial cohort size	1,211	132	63	30	
At five YOS					
Percent in Navy	73.4	65.2	68.3	60.0	72.1
Percent SWO	55.7	49.2	49.2	53.3	54.8
Percent qualified 111x	52.0	40.2	42.9	33.3	50.1
At six YOS					
Percent in Navy	61.6	54.6	57.1	53.3	60.6
Percent SWO	43.8	36.4	34.9	43.3	42.7
Percent qualified 111x	43.6	35.6	34.9	40.0	42.4
At seven YOS					
Percent in Navy	54.2	49.2	49.2	53.3	53.6
Percent SWO	35.7	28.8	27.0	43.3	34.8
Percent qualified 111x	35.6	28.0	27.0	36.7	34.6

1. See figure 1.

Table 14 shows the percent of officers remaining in the Navy, remaining in the SWO community, and who have attained their SWO qualification. By six YOS, virtually all officers remaining in the community have qualified and are thus eligible for consideration for the Department Head course.

From the longitudinal dataset, selection for the Department Head course is identified in the detailer's remarks. Table 15 shows the results of each year's screening for year group 1979.<sup>1</sup> No officers in year group 1979 were screened prior to FY 1982.

**TABLE 15**  
**DEPARTMENT HEAD SELECTION:**  
**YEAR GROUP 1979 (ALL)**

End of fiscal year	Number of primaries	Number of alternates	Number of graduates
1982	0	1	0
1983	0	3	0
1984	425	136	10
1985	70	8	98
1986	49	2	114
1987	7	0	88
Total	551	150	310

At the end of FY 1984, a total of 787 officers from year group 1979 remained in the community. Of those, 720 were SWO qualified. By FY 1984, 425 had been screened Primary, 140 Alternate (total from OMF 8209, 8309, and 8409), and another 10 had graduated from the Department Head course. The total (575) represents 79.9 percent of the 720 qualified Surface Warfare Officers.

1. To avoid double counting, officers who initially screened "Alternate" but who later screened "Primary" are shown only in the Primary column.

By the end of FY 1987, a total of 551 officers had received a Primary screen and 150 had received an Alternate screen. Including the 10 officers who graduated in FY 1984 and who were never counted as Primary or Alternate, 711 of the 787 officers (90.3 percent) in the community at the end of FY 1984 eventually screened for the Department Head course.

Figure 3 displays department head screening/graduation for year groups 1978 through 1981. The numbers shown in this figure represent officers who were either primary (P) selectees, alternate (A) selectees, or graduates (G) of the Department Head course as a percentage of officers in their year groups remaining on active duty in the SWO community.

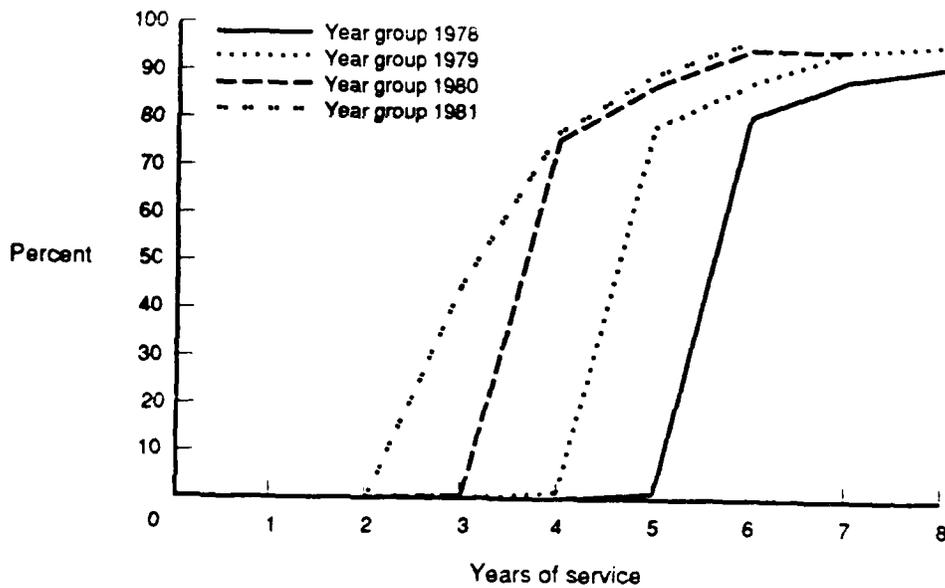


FIG. 3: DEPARTMENT HEAD SELECTION:  
(PERCENT OF REMAINING 111x WHO ARE P, A, OR G)

For example, for year group 1980, the first department head screening occurred at YOS 4. In that year, 455 officers received a Primary screen and another 147 received Alternate screens. No officers in year group 1980 were graduates by the end of YOS 4. At that time, there were 802 officers in the year group who were SWO qualified. Thus, 75.1 percent of eligible officers in the year group had screened for department head by YOS 4. At YOS 5, there were 672 qualified Surface Warfare Officers in the year group. Of the 672, 86.6 percent had screened for department head or had graduated (454 had Primary screens, 84 had Alternate screens, and another 44 had graduated from the Department Head course). The data used to prepare figure 3 is shown in appendix C (table C-1).

It is interesting to note that the more recent year groups have been screened earlier in their careers than previous year groups. Year group 1978 began screening at about YOS 6, while year groups 1979, 1980, and 1981 began screening at YOS 5, 4, and 3, respectively. This trend is consistent with the fact that officers are attaining their SWO qualifications earlier in their careers. Because the trend is now toward screening for the Department Head course before officers reach their end of initial obligated service, a larger proportion of officers screened are leaving the service without attending the course. Earlier selection for department head is consistent with recent officer assignment initiatives to decrease the average number of years of service for officers beginning the Department Head course from 6.2 to 5.5 YOS. In addition, earlier screening for department head may facilitate officer manpower planning to accommodate the Joint Speciality provisions of the Goldwater-Nichols legislation [4]. The increasing percentage of eligible officers selected for department head (decreasing selectivity), which has occurred as department head selection has taken place earlier in officers' careers, is shown in table 16.

**TABLE 16**

**DEPARTMENT HEAD SELECTION:  
TIMING/SELECTIVITY**

	Year group			
	1978	1979	1980	1981
YOS at selection <sup>a</sup>	6-8	5-7	4-6	3-6
Number of 111x <sup>b</sup>	707	863	968	945
Number selected	540	711	819	841
Percent selected	76.4	82.4	84.6	89.0

a. Range of YOS when selections occurred.

b. Number of 111x eligible at the start of the selection period plus number who attain 111x during selection period.

A significant number of officers who screen for the Department Head course leave the Navy without attending the course. Of the 551 officers in year group 1979 who received a Primary screen, 201 had left the community by October 1987. Similarly, 88 of the 150 officers receiving Alternate screens had left the community by October 1987. Officers completing the Department Head course incur additional obligated service. Of the 310 officers in year group 1979 who had completed the course by October 1987, only 7 left the community before FY 1988.

With department head selection occurring earlier in officers' careers, attrition among officers who have been selected has also increased. Table 17 shows this trend for year groups 1978 through 1981. A total of 540 officers in year group 1978 were selected, and 167 (30.9 percent) of those left the service without completing the course. By contrast, of the 819 officers in year group 1980 selected, 349 (42.6 percent) left the service. Because the data on which this analysis is based extend only through the end of FY 1987, year groups 1978 and 1979 were examined through eight years of service, while year groups 1980 and 1981 could be observed for only seven and six years respectively. Thus, the attrition of year group 1978 department head selectees (30.9 percent) was measured through YOS 8, while the attrition of year group 1980 selectees (42.6 percent) was measured through only YOS 7.

**TABLE 17**  
**ATTRITION PRIOR TO DEPARTMENT HEAD COURSE:**  
**YEAR GROUPS 1978 THROUGH 1981**

Year group	Department Head course selectees	Number leaving <sup>a</sup>	Number remaining	Percent attrition	YOS covered
1978	540	167	373	30.9	8
1979	711	279	432	39.2	8
1980	819	349	470	42.6	7
1981	841	294	547	35.0	6

a. Represents selectees who depart service without graduating from the Department Head course.

Finally, attrition figures were compared between officers receiving Primary screening and officers receiving only Alternate department head screening. Table 18 displays this comparison.

**TABLE 18**  
**ATTRITION PRIOR TO DEPARTMENT HEAD COURSE:**  
**COMPARISON OF PRIMARY vs. ALTERNATE**  
**SCREENING;**  
**YEAR GROUPS 1978 THROUGH 1981**

Year group	Number of Primary selectees	Percent attrition (Primary)	Number of Alternate selectees	Percent attrition (Alternate)	YOS covered
1978	444	27.0	96	49.0	8
1979	561	34.0	150	58.7	8
1980	648	35.3	171	70.2	7
1981	655	26.1	186	66.1	6

Table 18 shows the marked difference in attrition between Primary and Alternate selectees. This difference increases significantly from year group

1978 to year group 1981. Attrition of officers who received Alternate selection increased greatly, while attrition among Primary-screened officers showed only a modest increase. This comparison suggests that from year groups 1978 through 1981, Alternate screening ceased to be a reflection of officers' career potential. As stated previously, in 1988, "Alternate" screening was discontinued.

Appendix C contains additional information showing the relationships between the number of officers selected for the Department Head course and the number of qualified Surface Warfare Officers (i.e., eligible for selection) in each of the four year groups examined.

## SUMMARY AND CONCLUSIONS

This study verified the importance of using longitudinal datasets when examining the career progression of groups of officers. In particular, even the relatively basic files as described were extremely useful and permitted detailed analysis of the four year groups, 1978 through 1981.

By selecting year-group cohorts, it was possible to study the movement of officers as they progressed through the SWO community, attained their SWO qualifications, were selected for department head, or left the community (either changed to another community or left the Navy). Establishing subcohorts of officers who initially entered the Navy in a non-SWO community and subsequently laterally transferred into the SWO community provided significant insights into the career path differences that result from joining the SWO community at various years of service. For year groups 1978 through 1981, lateral transfers as a percentage of all officers in the community were fairly consistent (about 15 percent), but the SWO qualification rates, timing of qualification, attrition from the community, department head selection rates, and timing of selection differed from officers who entered the SWO community upon commissioning (cohort 0). These differences were large enough that an accurate description (either an historical accounting or a predictive model) of the SWO community structure must include separation of officers based on years of commissioned service upon entry into the community.

The study revealed that the percentage of officers attaining SWO qualifications declined slightly between year groups 1978 and 1981. Among cohorts 0 through 3, and between year groups, however, there was considerable variation. Timing of SWO qualification showed clear and consistent trends. Between year groups as a whole, years of service to SWO qualification decreased from 3.5 years for year group 1978 to 3.0 years for year group 1981. Within year groups, each additional year of service prior to entry into the SWO community delays attainment of SWO qualification by 0.4 years. This relationship was relatively stable between all cohorts for all year groups. The study showed evidence of decreasing continuation rates of SWO qualified officers. Specifically, the continuation rate for 0 through 6

years of service among qualified officers dropped from 65.4 percent for year group 1978 to 62.0 percent for year group 1979 and again to 57.9 percent for year group 1980. For year group 1981, the continuation rate rose to 58.9 percent. Data are not yet available to establish if the decreasing continuation rate trend has been reversed or if the rate for 1980 was unusually low.

Analysis of department head screening data revealed that, with earlier attainment of SWO qualifications, department head screening is occurring earlier in officers' careers. Screening for year group 1978 began at YOS 6, and one year earlier for each of the next three year groups. At the same time, screening selectivity declined in the sense that increasingly higher percentages of eligible officers were screened from year groups 1978 through 1981. Also, with earlier department head screening, it was found that attrition of department head selectees increased, as 30.9 percent of officers screened in year group 1978 left the Navy without graduating from the Department Head course. The attrition among year group 1979 increased to 39.2 percent. Data suggest that attrition is even higher for year groups 1980 and 1981. Finally, it was seen that the policy of having both Primary and Alternate screening categories was not productive since as many as 70 percent of officers who received Alternate screens (and were not subsequently Primary screened) left the Navy without attending the Department Head course. Department head screening no longer includes the "Alternate" category.

The results described above provide valuable insights into the Surface Warfare community structure for the four year groups examined. Summary statistics provided from this study should enhance the insights of manpower managers and assist them in formulating meaningful long-range plans. Perhaps more importantly, a number of community management models already exist, but the potential value of all models is critically dependent upon the validity of input parameters and the confidence users of the models have in those parameters. This study has been directed at addressing those issues.

It is suggested that as Officer Master Files are produced at the end of each fiscal year, the results of this study should be updated annually. Such

a procedure will ensure that the data are current, will enable manpower planners to gain a better appreciation of trends over time, and will provide valuable feedback on implementing or modifying policy.

## REFERENCES

- [1] Department of the Navy, *U. S. Navy Unrestricted Line Officer Career Planning Guidebook*, 1986 Edition
- [2] CNA Research Memorandum 86-163, *Enlisted Master Record Tracking File*, by George R. Corliss, Kevin B. Garvey, and Aline O. Quester, Jul 1986 (27860163)<sup>1</sup>
- [3] CNA Research Memorandum, *Determining Continuation Rates for Pilots From the Officer Master File*, by Donald J. Cymrot, Patricia E. Byrnes, and Joseph T. Schertler, Jun 1988 (27880090)
- [4] Public Law 99-433, *Goldwater-Nichols Department of Defense Reorganization Act of 1986*, Oct. 1, 1986

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1. Numbers in parentheses are CNA internal control numbers.

**APPENDIX A**  
**MOVEMENT OF OFFICERS INTO AND OUT OF**  
**THE SURFACE WARFARE COMMUNITY**

**APPENDIX A**  
**MOVEMENT OF OFFICERS INTO AND OUT OF**  
**THE SURFACE WARFARE COMMUNITY**

This appendix contains tables showing summary statistics of cohorts 0 through 3 for year groups 1978 through 1981. These tables display the movement of officers into and out of the Surface Warfare Community. Cohorts are subdivided into two groups:

- SWO active: those officers who are on active duty and are in the SWO community regardless of their SWO qualification status
- Non-SWO active: those officers in the cohort who are on active duty and are not in the SWO community. Such officers may have started in the SWO community and transferred to non-SWO or started as non-SWO (i.e., are in cohorts 1 through 3), transferred to SWO, and then returned to a non-SWO community.

These tables also show the numbers of officers who have left the Navy and what community status they held when they left (e.g., leaving from a non-SWO community, leaving as a qualified Surface Warfare Officer, or leaving as a SWO trainee).

Finally, this appendix contains graphs for each cohort in each year group showing the percentage of officers in each cohort and each year group who remain in the SWO community, are on active duty in a non-SWO community, or have left the Navy, regardless of the community from which they left.

**TABLE A-1**  
**SUMMARY STATISTICS**  
**YG 78<sup>0</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
78	1069	0	0	0	0	0
79	1019	8	49	1	0	0
80	986	120	72	0	9	1
81	927	456	118	1	12	0
82	799	559	163	24	49	10
83	612	565	201	42	74	33
84	492	483	192	90	19	20
85	407	405	189	68	1	19
86	339	336	193	48	0	16
TOTAL	N/A	N/A	N/A	274	164	99

**TABLE A-2**  
**SUMMARY STATISTICS**  
**YG 78<sup>1</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
78	0	0	68	0	0	0
79	68	0	0	0	0	0
80	66	3	2	0	0	0
81	59	17	9	0	0	0
82	56	25	10	1	0	1
83	39	29	20	1	4	2
84	25	21	15	10	2	7
85	18	18	14	4	2	2
86	14	14	13	4	0	1
TOTAL	N/A	N/A	N/A	20	8	13

**TABLE A-3**  
**SUMMARY STATISTICS**  
**YG 78<sup>2</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
78	0	0	83	0	0	0
79	0	0	83	0	0	0
80	83	3	0	0	0	0
81	74	14	9	0	0	0
82	69	36	8	0	5	1
83	59	48	14	1	3	0
84	45	43	14	5	5	4
85	34	34	12	10	0	3
86	27	27	12	6	0	1
<b>TOTAL</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>22</b>	<b>13</b>	<b>9</b>

**TABLE A-4**  
**SUMMARY STATISTICS**  
**YG 78<sup>3</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
78	0	0	50	0	0	0
79	0	0	50	0	0	0
80	0	0	50	0	0	0
81	32	9	18	0	0	0
82	43	17	7	0	0	0
83	41	30	5	0	4	0
84	34	29	5	4	3	0
85	28	25	6	4	1	0
86	20	18	8	5	1	0
<b>TOTAL</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>13</b>	<b>9</b>	<b>0</b>

NOTE: This table reflects the 50 officers in year group 1978 who entered the SWO community after 1 Oct 1980.

**TABLE A-5**  
**SUMMARY STATISTICS**  
**(YG 78 - ALL)**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
78	1069	0	201	0	0	0
79	1087	8	182	1	0	0
80	1135	126	124	0	9	1
81	1092	496	154	1	12	0
82	967	637	188	25	54	12
83	751	672	240	44	85	35
84	596	576	227	109	29	31
85	487	482	224	87	4	24
86	400	395	226	63	1	18
<b>TOTAL</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>329</b>	<b>194</b>	<b>121</b>

NOTE: These numbers represent all of year group 1978.

**TABLE A-6**  
**SUMMARY STATISTICS**  
**YG 79<sup>0</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
79	1211	0	0	0	0	0
80	1173	9	37	0	1	0
81	1104	163	100	0	6	0
82	1038	556	152	1	12	1
83	826	695	229	34	89	12
84	675	630	224	79	44	32
85	530	528	216	94	21	39
86	432	431	225	76	2	11
87	380	380	216	46	0	15
<b>TOTAL</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>330</b>	<b>175</b>	<b>110</b>

NOTE: Cohort 0 includes all officers in year group 1979 who entered the SWO community in FY 1979.

**TABLE A-7**  
**SUMMARY STATISTICS**  
**YG 79<sup>1</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
79	0	0	132	0	0	0
80	132	1	0	0	0	0
81	112	6	18	0	2	0
82	101	37	26	0	2	1
83	75	52	28	3	14	7
84	65	53	21	4	4	9
85	48	47	24	8	4	2
86	38	37	27	5	0	2
87	33	33	25	4	0	3
<b>TOTAL</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>24</b>	<b>26</b>	<b>24</b>

NOTE: Cohort 1 includes all officers in year group 1979 who entered the SWO community in FY 1980.

**TABLE A-8**  
**SUMMARY STATISTICS**  
**YG 79<sup>2</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
79	0	0	62	0	0	0
80	0	0	62	0	0	0
81	62	1	0	0	0	0
82	58	11	3	0	1	0
83	44	26	8	2	7	0
84	31	27	12	1	6	2
85	22	22	14	5	1	1
86	17	17	14	4	0	1
87	16	16	11	1	0	3
TOTAL	N/A	N/A	N/A	13	15	7

NOTE: Cohort 2 includes all officers in year group 1979 who entered the SWO community in FY 1981.

**TABLE A-9**  
**SUMMARY STATISTICS**  
**YG 79<sup>3</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
79	0	0	30	0	0	0
80	0	0	30	0	0	0
81	0	0	30	0	0	0
82	20	3	10	0	0	0
83	19	10	7	0	4	1
84	16	10	5	2	1	1
85	13	12	5	3	0	0
86	13	11	4	1	0	0
87	12	9	3	2	0	0
TOTAL	N/A	N/A	N/A	8	5	2

NOTE: This table reflects the 30 officers in year group 1979 who entered the SWO community after 1 Oct 1981.

**TABLE A-10**  
**SUMMARY STATISTICS**  
**(YG 79 - ALL)**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
79	1211	0	224	0	0	0
80	1305	10	129	0	1	0
81	1278	170	148	0	8	0
82	1217	607	191	1	15	2
83	964	783	272	39	114	20
84	787	720	262	86	55	44
85	613	609	259	110	26	42
86	500	496	270	86	2	14
87	441	438	255	53	0	21
<b>TOTAL</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>375</b>	<b>221</b>	<b>143</b>

NOTE: These numbers represent all of year group 1979.

**TABLE A-11**  
**SUMMARY STATISTICS**  
**YG 80<sup>0</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
80	1331	1	0	0	0	0
81	1232	4	94	0	5	0
82	1181	140	121	0	19	5
83	1050	621	179	2	65	6
84	833	704	252	46	85	13
85	594	570	229	131	68	63
86	482	475	212	74	11	44
87	403	401	211	56	5	19
<b>TOTAL</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>309</b>	<b>258</b>	<b>150</b>

**TABLE A-12**  
**SUMMARY STATISTICS**  
**YG 80<sup>1</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
80	0	0	110	0	0	0
81	110	1	0	0	0	0
82	103	10	5	0	2	0
83	91	35	10	2	5	0
84	74	50	17	2	8	0
85	53	49	23	6	7	2
86	44	43	16	8	0	8
87	33	32	17	10	0	0
<b>TOTAL</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>28</b>	<b>22</b>	<b>10</b>

**TABLE A-13**  
**SUMMARY STATISTICS**  
**YG 80<sup>2</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
80	0	0	77	0	0	0
81	0	0	77	0	0	0
82	77	4	0	0	0	0
83	73	13	0	0	4	0
84	59	36	5	2	7	0
85	44	38	4	7	5	4
86	37	36	6	2	3	0
87	34	34	6	2	1	0
TOTAL	N/A	N/A	N/A	13	20	4

**TABLE A-14**  
**SUMMARY STATISTICS**  
**YG 80<sup>3</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
80	0	0	32	0	0	0
81	0	0	32	0	0	0
82	0	0	32	0	0	0
83	21	8	11	0	0	0
84	19	12	8	1	4	0
85	16	15	8	2	1	1
86	16	16	4	3	0	0
87	16	16	4	0	0	0
TOTAL	N/A	N/A	N/A	6	5	1

NOTE: This table reflects the 32 officers in year group 1980 who entered the SWO community after 1 Oct 1982.

**TABLE A-15**  
**SUMMARY STATISTICS**  
**(YG 80 - ALL)**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
80	1331	1	219	0	0	0
81	1341	5	204	0	5	0
82	1362	154	158	0	20	5
83	1236	677	200	4	74	6
84	985	800	282	51	105	13
85	707	672	263	146	81	70
86	579	570	238	87	14	52
87	486	483	238	68	6	19
TOTAL	N/A	N/A	N/A	356	305	165

NOTE: These numbers represent all of year group 1980.

**TABLE A-16**  
**SUMMARY STATISTICS**  
**YG 81<sup>0</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
81	1196	0	0	0	0	0
82	1145	5	36	0	15	0
83	1071	246	61	0	46	3
84	965	621	105	14	42	6
85	739	665	155	57	101	18
86	573	565	138	98	45	40
87	469	467	151	72	4	15
TOTAL	N/A	N/A	N/A	241	253	82

**TABLE A-17**  
**SUMMARY STATISTICS**  
**YG 81<sup>1</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
81	0	0	148	0	0	0
82	148	2	0	0	0	0
83	138	14	5	0	5	0
84	129	46	7	0	7	0
85	98	64	14	2	21	1
86	71	61	14	10	12	5
87	50	49	14	11	6	4
TOTAL	N/A	N/A	N/A	23	51	10

**TABLE A-18**  
**SUMMARY STATISTICS**  
**YG 81<sup>2</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
81	0	0	61	0	0	0
82	0	0	61	0	0	0
83	61	3	0	0	0	0
84	57	13	2	1	1	0
85	44	26	4	2	8	1
86	38	36	3	2	4	1
87	27	27	4	8	1	1
TOTAL	N/A	N/A	N/A	13	14	3

**TABLE A-19**  
**SUMMARY STATISTICS**  
**YG 81<sup>3</sup>**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
81	0	0	25	0	0	0
82	0	0	25	0	0	0
83	0	0	25	0	0	0
84	19	2	6	0	0	0
85	24	9	1	0	0	0
86	22	11	0	1	2	0
87	17	14	2	0	3	0
TOTAL	N/A	N/A	N/A	1	5	0

NOTE: This table reflects the 25 officers in year group 1981 who entered the SWO community after 1 Oct 1983.

**TABLE A-20**  
**SUMMARY STATISTICS**  
**(YG 81 - ALL)**

END OF FY	ACTIVE			ATTRITES		
	ALL SWO	111x	NON- SWO	111x	116x	NON- SWO
81	1196	0	234	0	0	0
82	1293	7	122	0	15	0
83	1270	263	91	0	51	3
84	1170	682	120	15	50	6
85	905	764	174	61	130	20
86	704	673	155	111	63	46
87	563	557	171	91	14	20
TOTAL	N/A	N/A	N/A	278	323	95

NOTE: These numbers represent all of year group 1981.

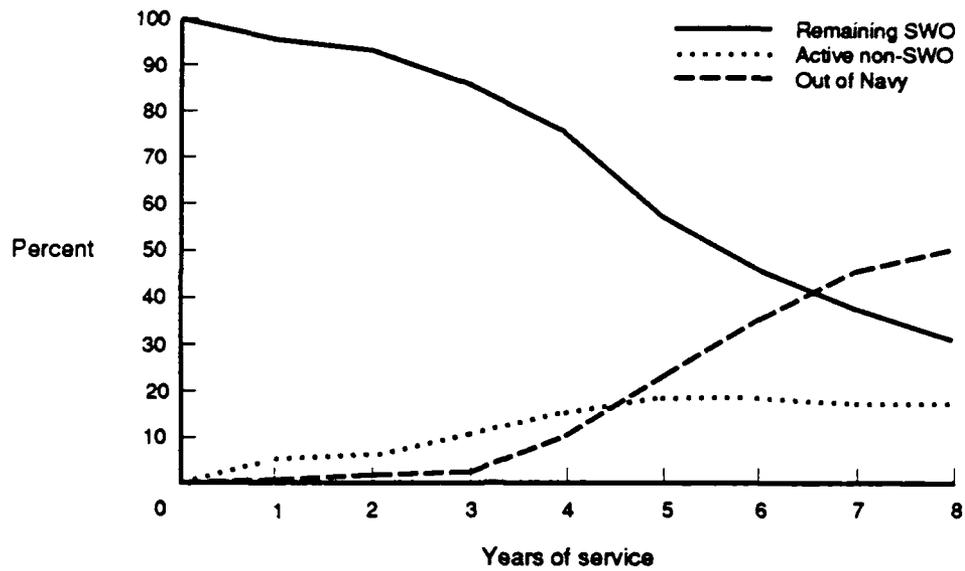


FIG. A-1: YEAR GROUP 1978 COHORT 0

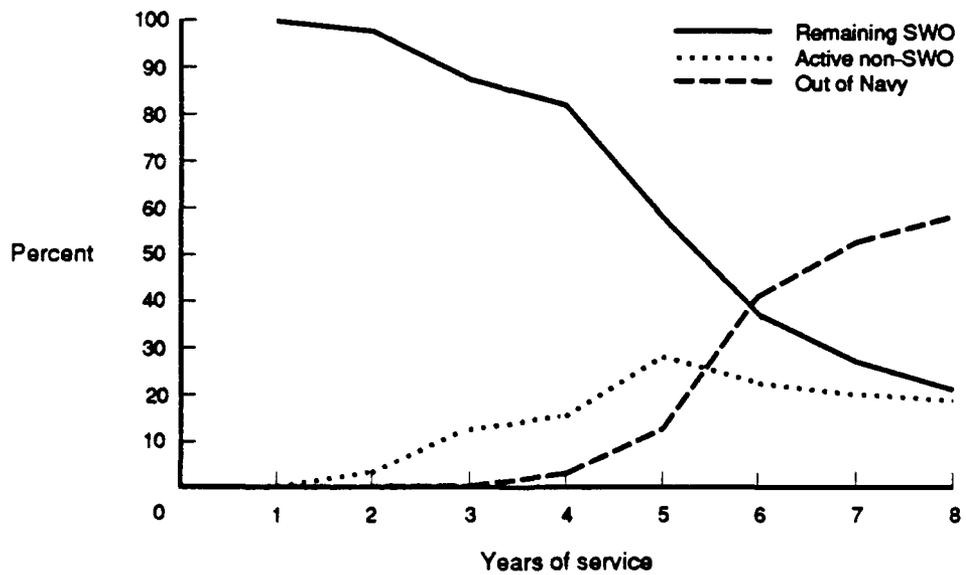


FIG. A-2: YEAR GROUP 1978 COHORT 1

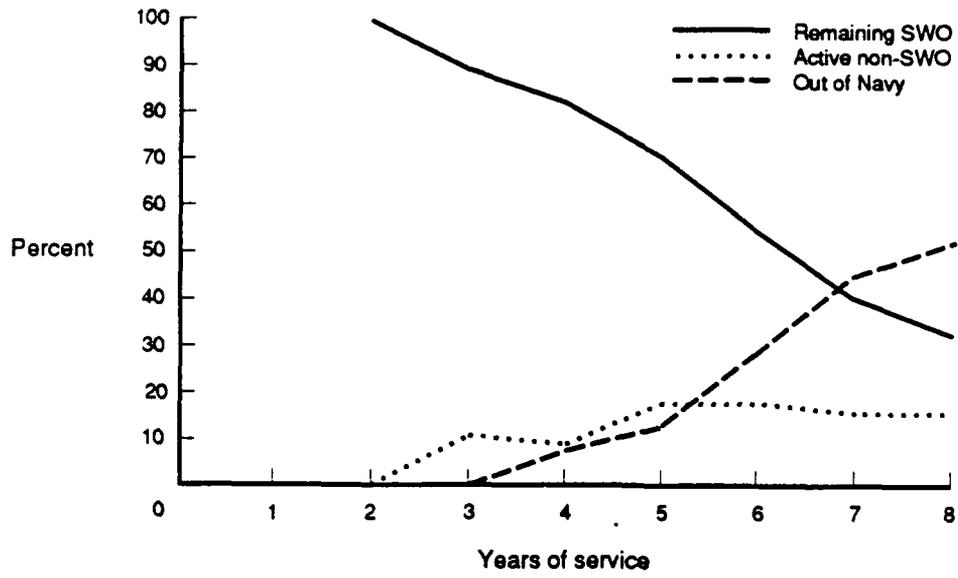


FIG. A-3: YEAR GROUP 1978 COHORT 2

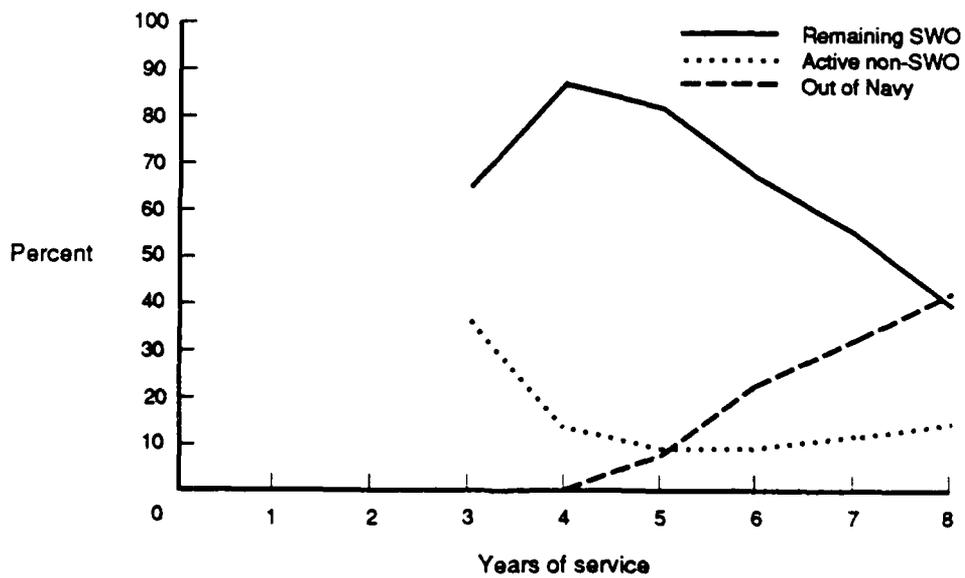


FIG. A-4: YEAR GROUP 1978 COHORT 3

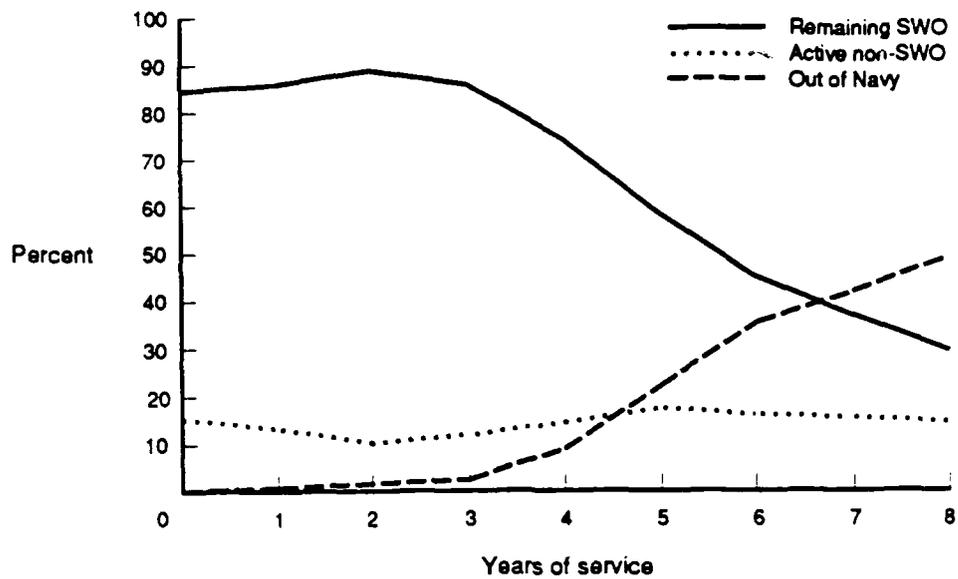


FIG. A-5: YEAR GROUP 1978-ALL

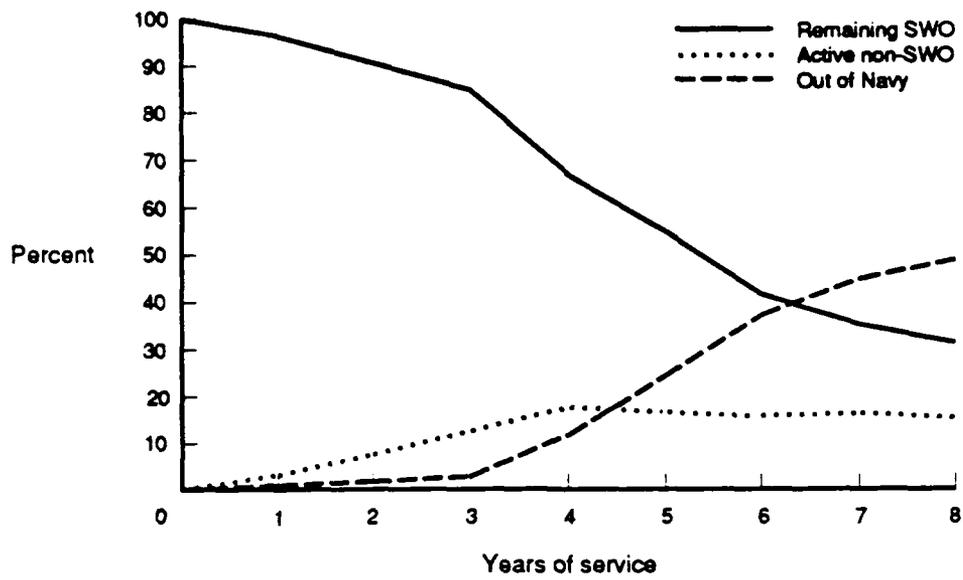


FIG. A-6: YEAR GROUP 1979 COHORT 0

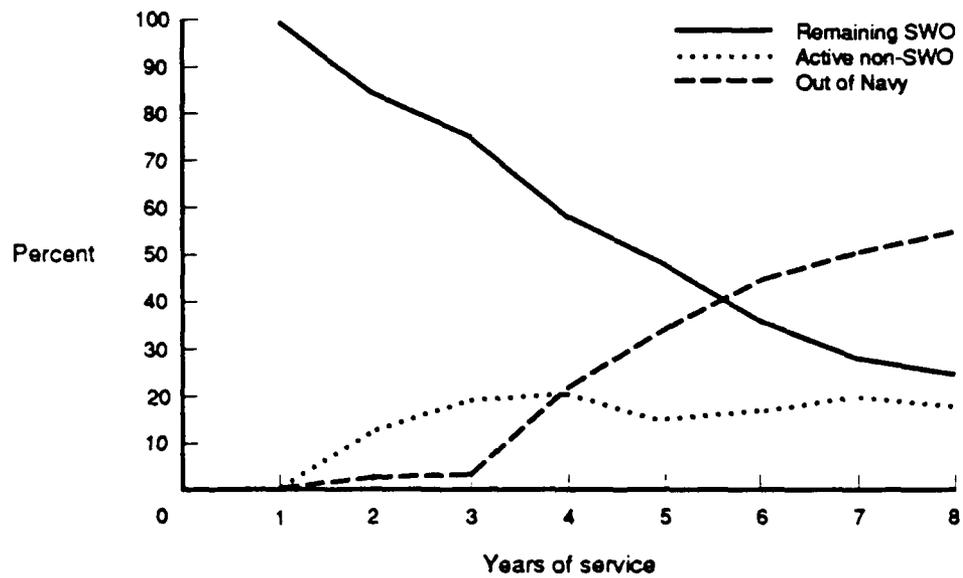


FIG. A-7: YEAR GROUP 1979 COHORT 1

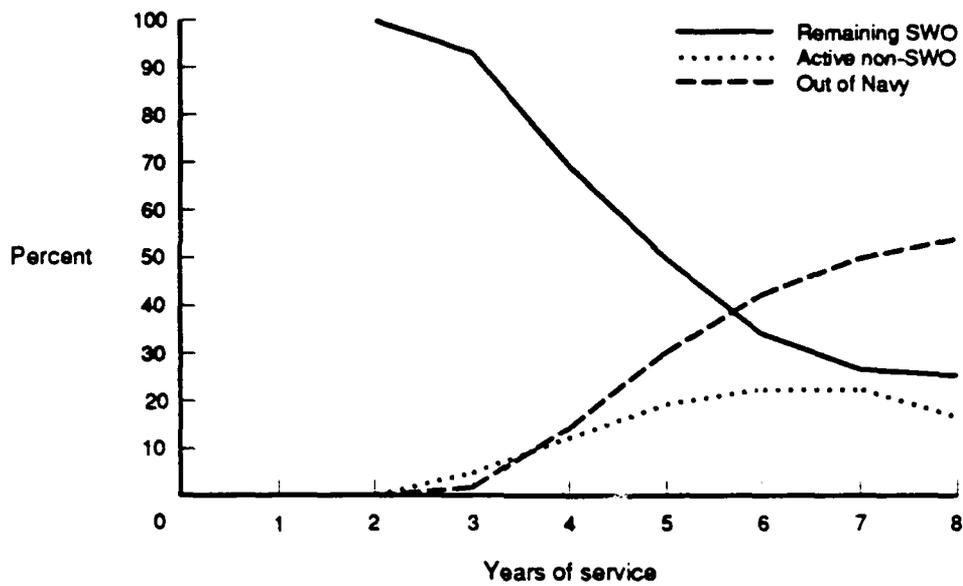


FIG. A-8: YEAR GROUP 1979 COHORT 2

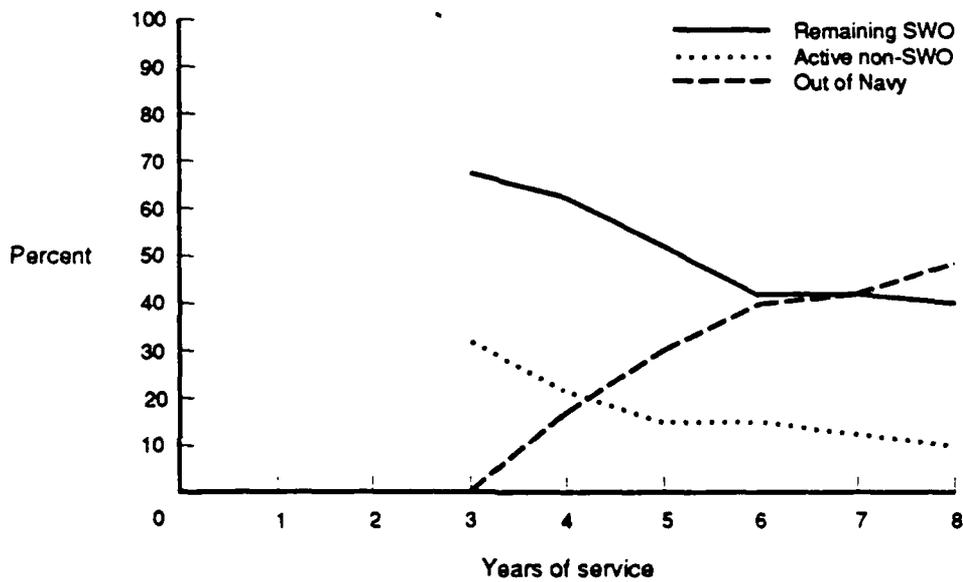


FIG. A-9: YEAR GROUP 1979 COHORT 3

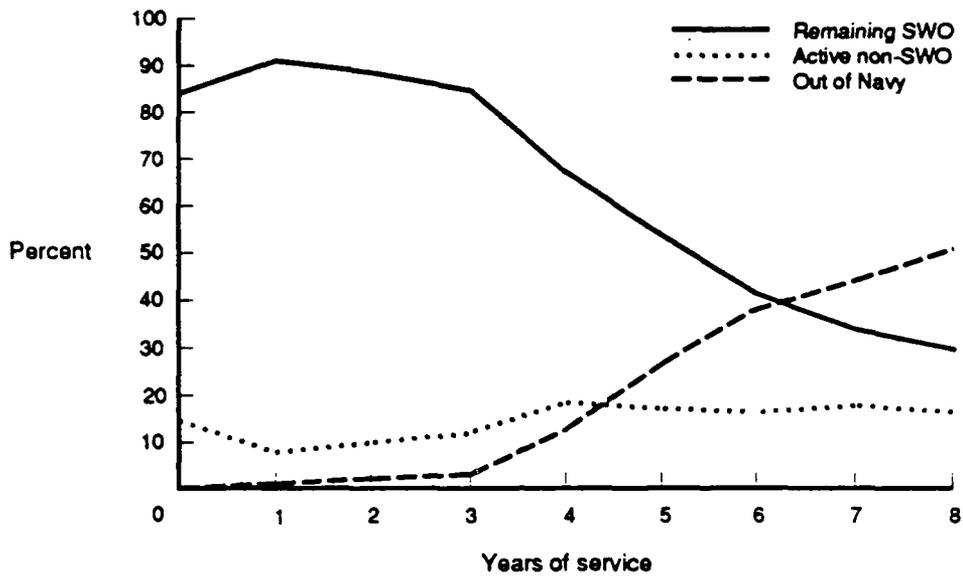


FIG. A-10: YEAR GROUP 1979-ALL

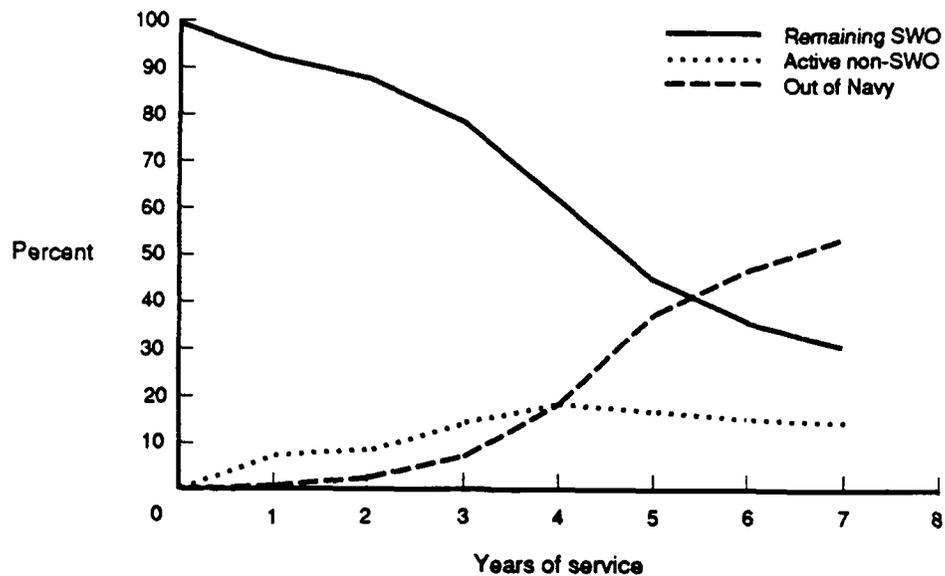


FIG. A-11: YEAR GROUP 1980 COHORT 0

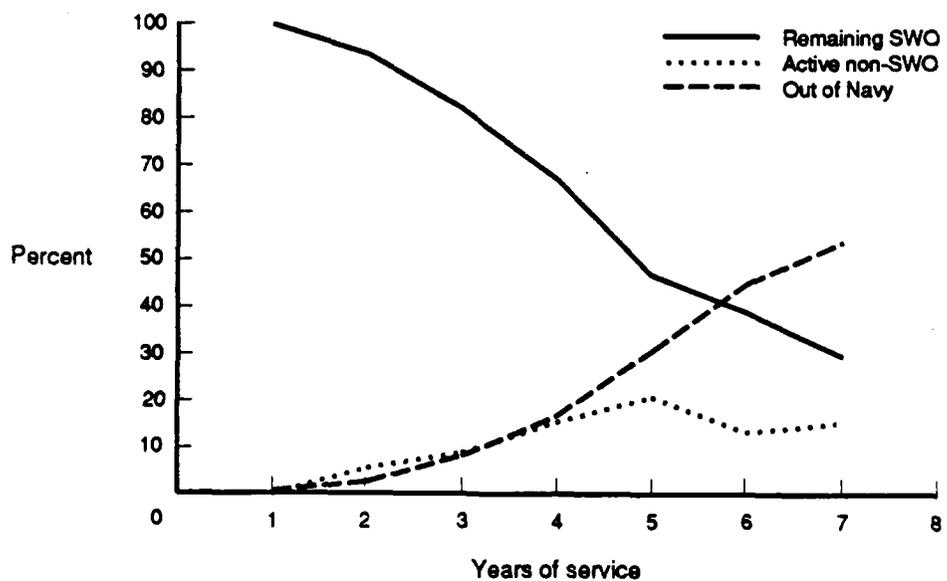


FIG. A-12: YEAR GROUP 1980 COHORT 1

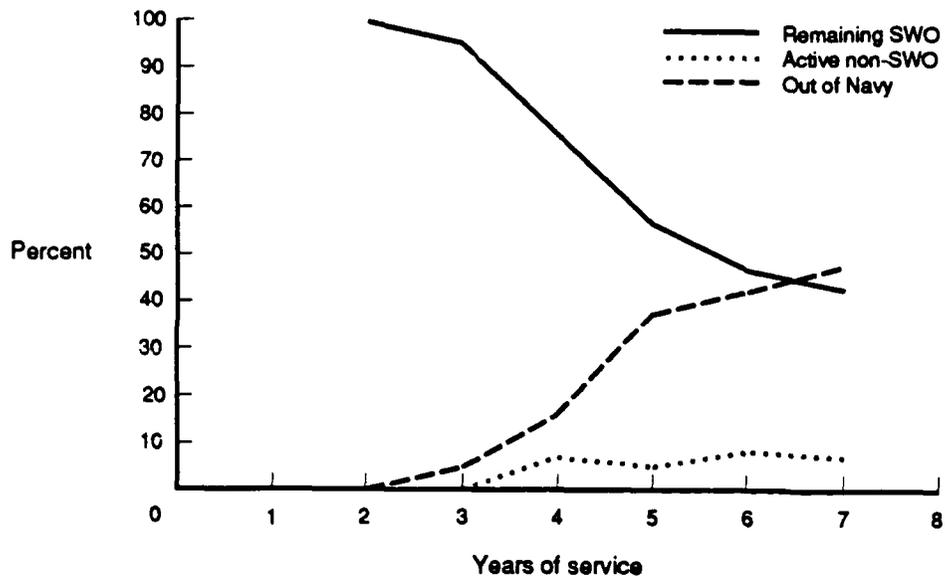


FIG. A-13: YEAR GROUP 1980 COHORT 2

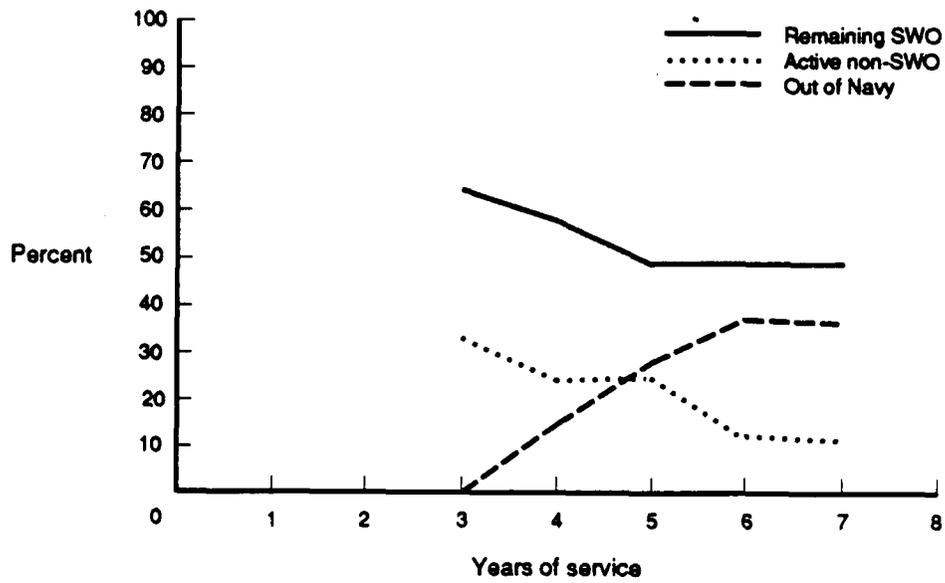


FIG. A-14: YEAR GROUP 1980 COHORT 3

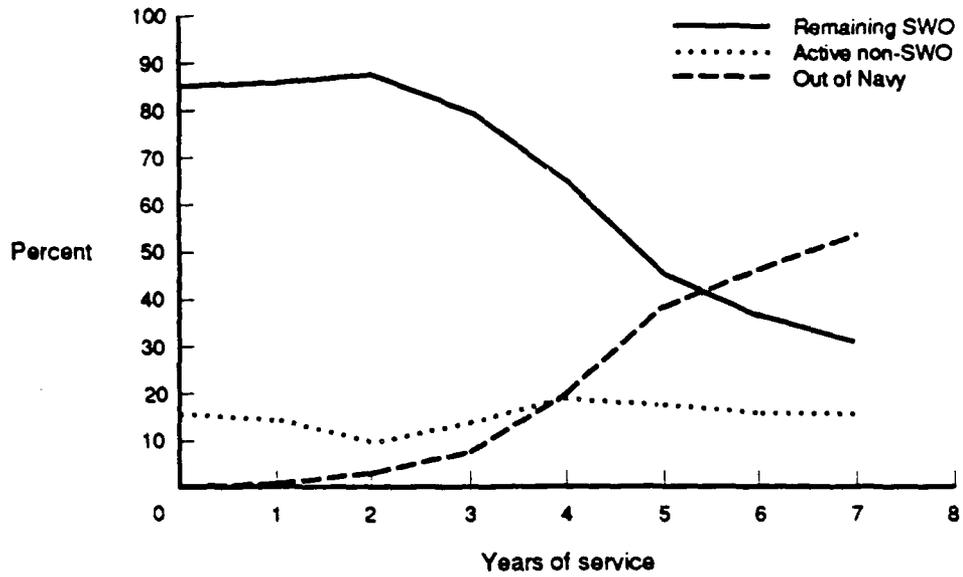


FIG. A-15: YEAR GROUP 1980-ALL

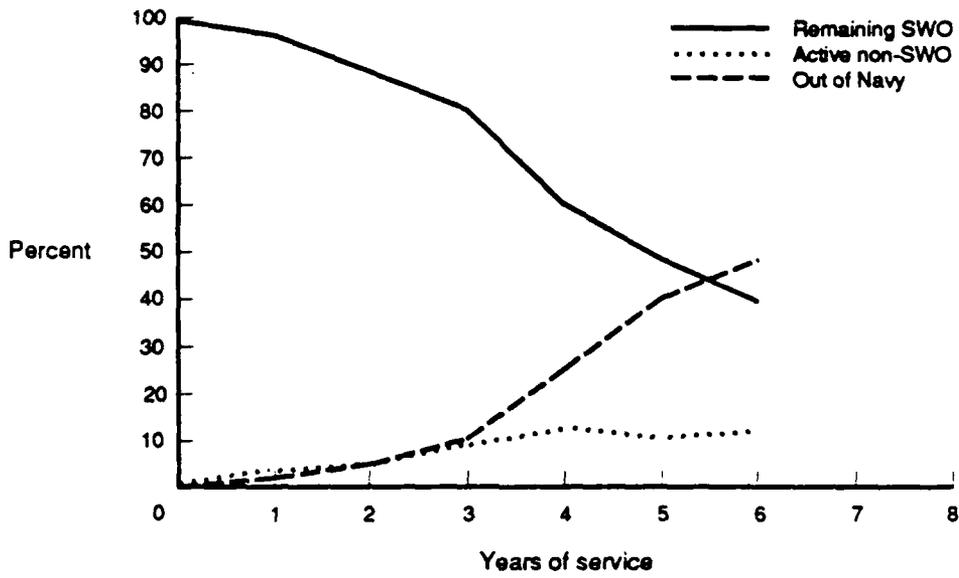


FIG. A-16: YEAR GROUP 1981 COHORT 0

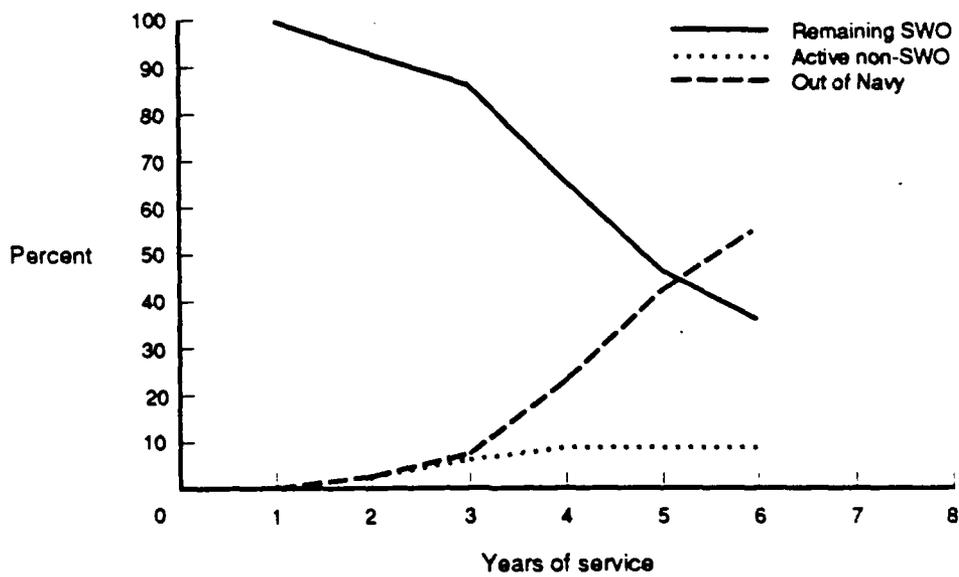


FIG. A-17: YEAR GROUP 1981 COHORT 1

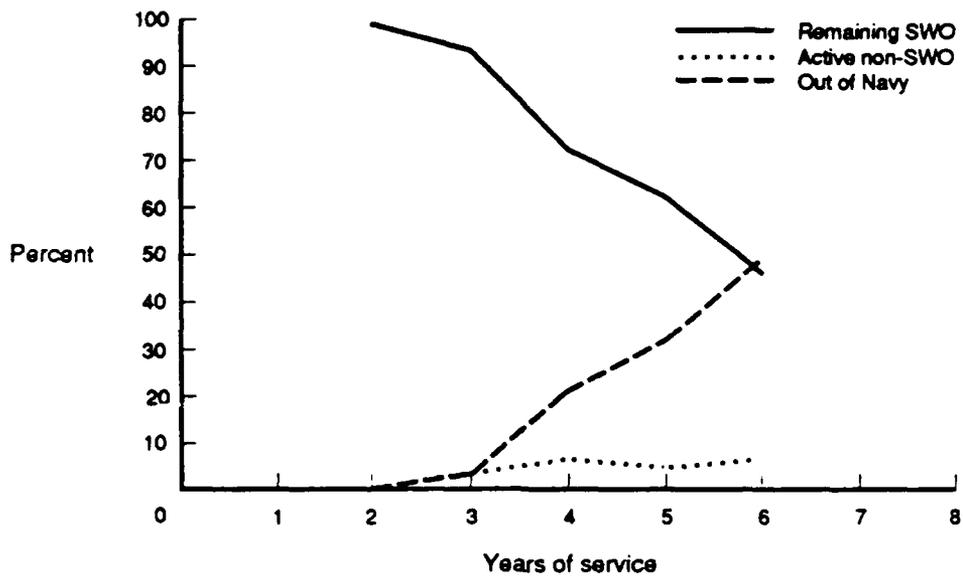


FIG. A-18: YEAR GROUP 1981 COHORT 2

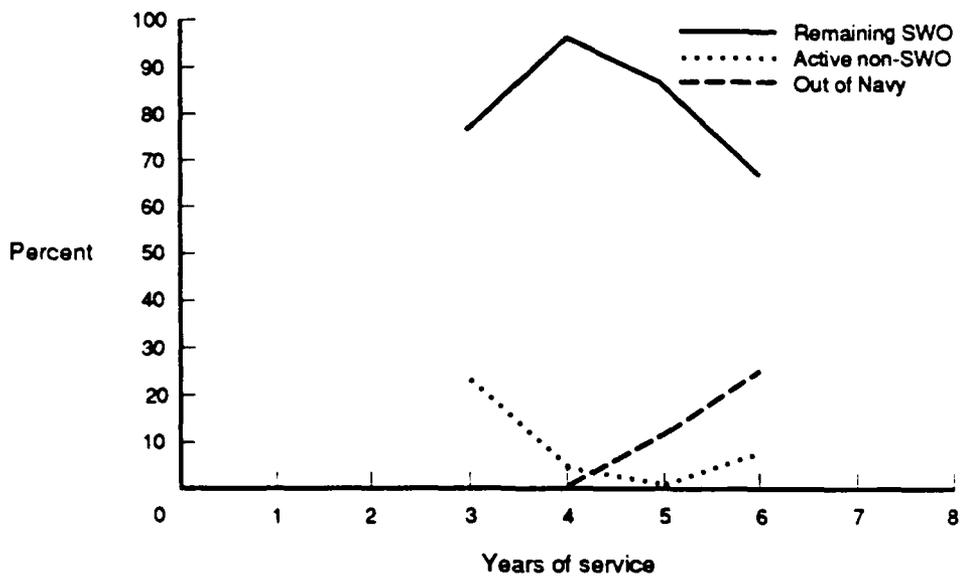


FIG. A-19: YEAR GROUP 1981 COHORT 3

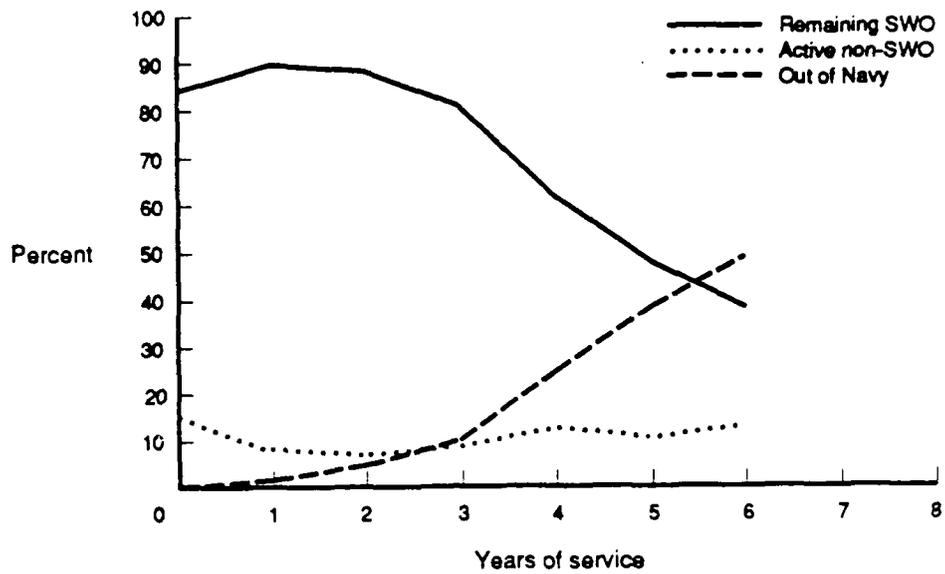
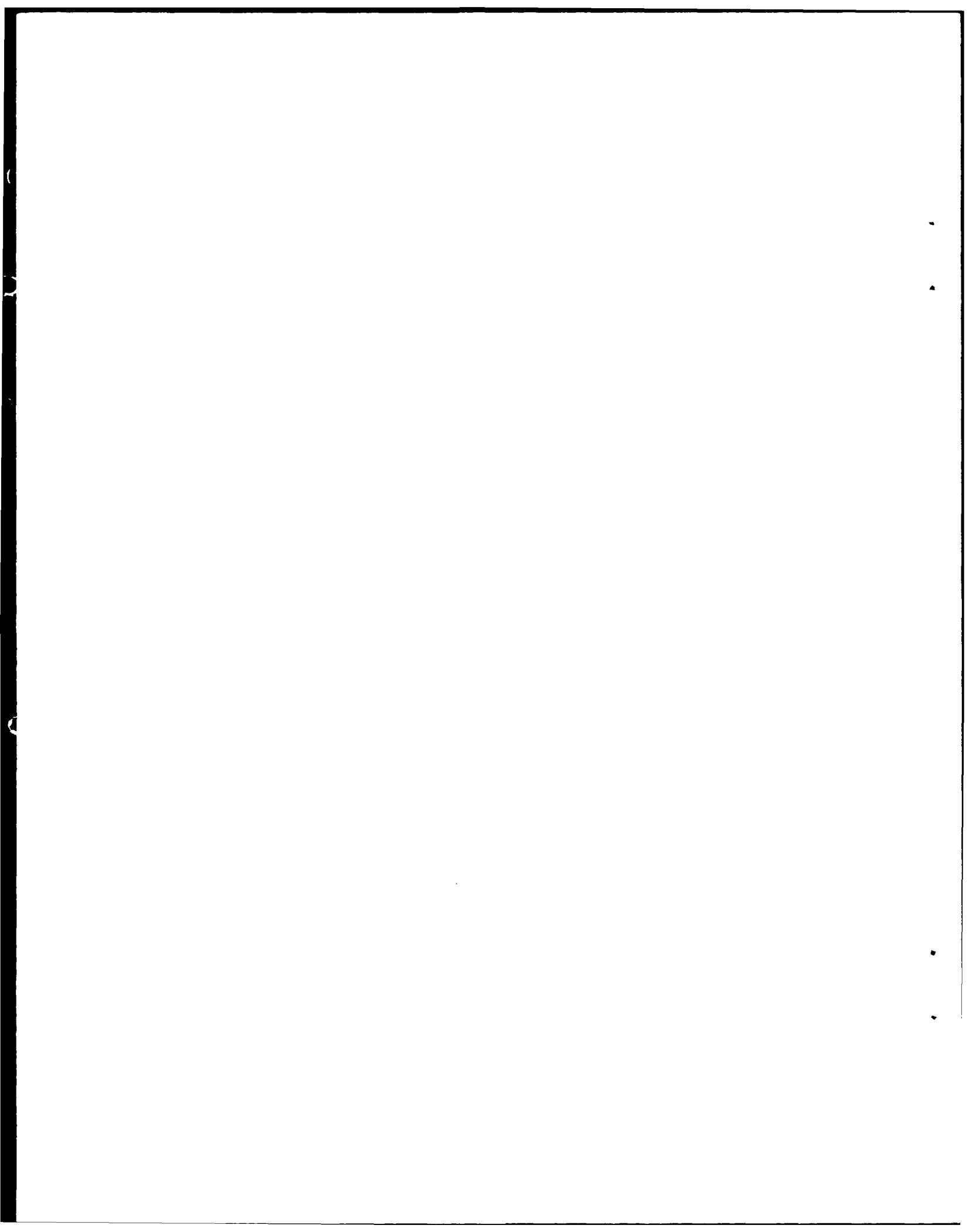


FIG. A-20: YEAR GROUP 1981-ALL

**APPENDIX B**  
**SURFACE WARFARE OFFICER QUALIFICATIONS**



## APPENDIX B

### SURFACE WARFARE OFFICER QUALIFICATIONS

This appendix contains tables showing statistics of Surface Warfare Officer qualifications for cohorts 0 through 3 for year groups 1978 through 1981. These tables display the number of officers who achieve their qualification versus the number of years of service. Also shown are the number of qualified SWOs in the cohort who remain on active duty.

Following the tables are graphs showing the percent of all officers in each cohort who become qualified SWOs by years of service. For example, figure B-1 shows that 46 percent of all officers in cohort 0 who ever attained their SWO qualification qualified in their third year of service.

**TABLE B-1**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 0 - YEARGROUP 1978**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	8	8
2	120	113
3	456	346
4	559	157
5	565	102
6	483	17
7	405	4
8	336	0
<b>TOTAL</b>	N/A	747

**TABLE B-2**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 1 - YEARGROUP 1978**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	0	0
2	3	3
3	17	15
4	25	11
5	29	7
6	21	4
7	18	1
8	14	0
<b>TOTAL</b>	N/A	41

**TABLE B-3**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 2 - YEARGROUP 1978**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	0	0
2	3	3
3	14	11
4	36	23
5	48	14
6	43	1
7	34	2
8	27	0
TOTAL	N/A	54

**TABLE B-4**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 3 - YEARGROUP 1978**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	0	0
2	0	0
3	9	9
4	17	8
5	30	25
6	29	4
7	25	2
8	18	0
TOTAL	N/A	48

**TABLE B-5**  
**SURFACE WARFARE QUALIFICATIONS**  
**YEARGROUP 1978 - ALL**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	8	8
2	126	119
3	496	381
4	637	199
5	672	148
6	576	26
7	482	9
8	395	0
<b>TOTAL</b>	<b>N/A</b>	<b>890</b>



**FIG. B-1: YEAR GROUP 1978 SWO QUALIFICATIONS**

**TABLE B-6**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 0 - YEARGROUP 1979**  
 Cohort size: 1,211

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	9	9
2	163	155
3	556	419
4	695	221
5	630	34
6	528	15
7	431	1
8	380	0
TOTAL	N/A	854

**TABLE B-7**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 1 - YEARGROUP 1979**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	1	1
2	6	6
3	37	32
4	52	23
5	53	7
6	47	6
7	37	0
8	33	1
TOTAL	N/A	76

**TABLE B-8**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 2 - YEARGROUP 1979**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	0	0
2	1	1
3	11	10
4	26	17
5	27	5
6	22	1
7	17	0
8	16	0
TOTAL	N/A	34

**TABLE B-9**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 3 - YEARGROUP 1979**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	0	0
2	0	0
3	20	3
4	19	9
5	16	3
6	13	6
7	13	0
8	12	1
TOTAL	N/A	22

NOTE: The above statistics represent the 30 officers in year group 1979 entering the SWO community after FY 1981.

**TABLE B-10**  
**SURFACE WARFARE QUALIFICATIONS**  
**YEARGROUP 1979 - ALL**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	10	10
2	170	162
3	607	464
4	783	270
5	720	49
6	609	28
7	496	1
8	438	2
TOTAL	N/A	986



**FIG. B-2: YEAR GROUP 1979 SWO QUALIFICATIONS**

**TABLE B-11**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 0 - YEARGROUP 1980**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	1	1
1	4	4
2	140	136
3	621	494
4	704	166
5	570	29
6	475	5
7	401	1
<b>TOTAL</b>	N/A	836

**TABLE B-12**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 1 - YEARGROUP 1980**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	1	1
2	10	9
3	35	30
4	50	20
5	49	9
6	43	3
7	32	1
<b>TOTAL</b>	N/A	73

**TABLE B-13**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 2 - YEARGROUP 1980**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	0	0
2	4	4
3	13	9
4	36	25
5	38	13
6	36	2
7	34	0
TOTAL	N/A	53

**TABLE B-14**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 3 - YEARGROUP 1980**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	0	0
2	0	0
3	8	8
4	12	5
5	15	8
6	16	4
7	16	0
TOTAL	N/A	25

**TABLE B-15**  
**SURFACE WARFARE QUALIFICATIONS**  
**YEARGROUP 1980 - ALL**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	1	1
1	5	5
2	154	149
3	677	541
4	802	216
5	672	59
6	570	14
7	483	2
TOTAL	N/A	987



**FIG. B-3: YEAR GROUP 1980 SWO QUALIFICATIONS**

**TABLE B-16**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 0 - YEARGROUP 1981**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	5	5
2	246	241
3	621	410
4	665	129
5	565	19
6	467	2
<b>TOTAL</b>	N/A	806

**TABLE B-17**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 1 - YEARGROUP 1981**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	2	2
2	14	13
3	46	33
4	64	22
5	61	9
6	49	2
<b>TOTAL</b>	N/A	81

**TABLE B-18**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 2 - YEARGROUP 1981**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	0	0
2	3	3
3	13	11
4	26	15
5	36	12
6	27	2
<b>TOTAL</b>	<b>N/A</b>	<b>43</b>

**TABLE B-19**  
**SURFACE WARFARE QUALIFICATIONS**  
**COHORT 3 - YEARGROUP 1981**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	0	0
2	0	0
3	2	2
4	9	7
5	11	4
6	14	3
<b>TOTAL</b>	<b>N/A</b>	<b>16</b>

**TABLE B-20**  
**SURFACE WARFARE QUALIFICATIONS**  
**YEARGROUP 1981 - ALL**

YOS	NUMBER 111x	NUMBER QUAL IN YEAR
0	0	0
1	7	7
2	263	257
3	682	456
4	764	173
5	673	44
6	557	9
TOTAL	N/A	946



**FIG. B-4: YEAR GROUP 1981 SWO QUALIFICATIONS**

**TABLE B-21**  
**YEAR GROUP 1979 SWO QUALIFICATION**  
 (Percent qualified by years of service)

Cohort	0	1	2	3	4	5	6	7	8
0	0.0	1.0	18.2	49.1	25.9	4.0	1.8	0.1	0.0
1	0.0	1.3	7.9	42.1	30.3	9.2	7.9	0.0	1.3
2	0.0	0.0	2.9	29.4	50.0	14.7	2.9	0.0	0.0
3	0.0	0.0	0.0	13.6	40.9	13.6	27.3	0.0	4.5
Weighted average	0.0	1.0	16.4	47.1	27.4	5.0	2.8	0.1	0.2

NOTE: Figures represent percentage of all qualifiers in cohort who attain SWO qualification in year of service shown.

APPENDIX C  
DEPARTMENT HEAD SELECTION

## APPENDIX C

### DEPARTMENT HEAD SELECTION

This appendix contains a table and four graphs for year groups 1978 through 1981 showing, by years of service, the number of qualified Surface Warfare Officers (111x) and the number of officers who have received Primary or Alternate selection for the Department Head course or who have graduated from the course. These figures demonstrate the trend for recent year groups to receive such selection earlier in their careers.

Table C-1

DEPARTMENT HEAD SELECTION  
SUMMARY YEARGROUPS 1978 - 1981

YOS	YG	NUMBER 111x	PRI SCREEN	ALT SCREEN	GRADS	TOTAL	PCT OF 111x
3	78	496	0	0	0	0	00.0
	79	607	0	1	0	1	00.2
	80	677	0	0	0	0	00.0
	81	682	218	91	0	309	45.3
4	78	637	0	0	0	0	00.0
	79	783	0	3	0	3	00.4
	80	802	455	147	0	602	75.1
	81	764	466	122	14	602	78.8
5	78	672	0	4	0	4	00.6
	79	720	425	140	10	575	79.9
	80	672	454	84	44	582	86.6
	81	673	486	80	43	609	90.5
6	78	576	355	88	27	470	81.6
	79	609	337	93	107	537	88.2
	80	570	358	62	125	545	95.6
	81	557	366	63	116	545	97.8
7	78	482	171	64	196	431	89.4
	79	496	182	77	219	478	96.4
	80	483	153	51	258	462	95.6
	81	N/A					
8	78	395	46	49	269	364	92.2
	79	438	50	72	305	427	97.5
	80	N/A					
	81	N/A					

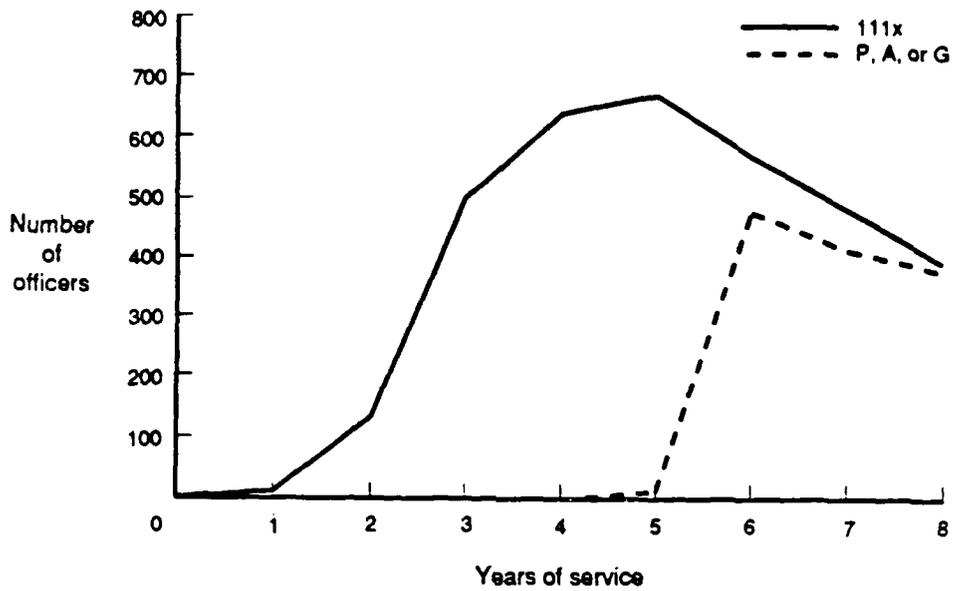


FIG. C-1: DEPARTMENT HEAD SELECTION-YEAR GROUP 1978

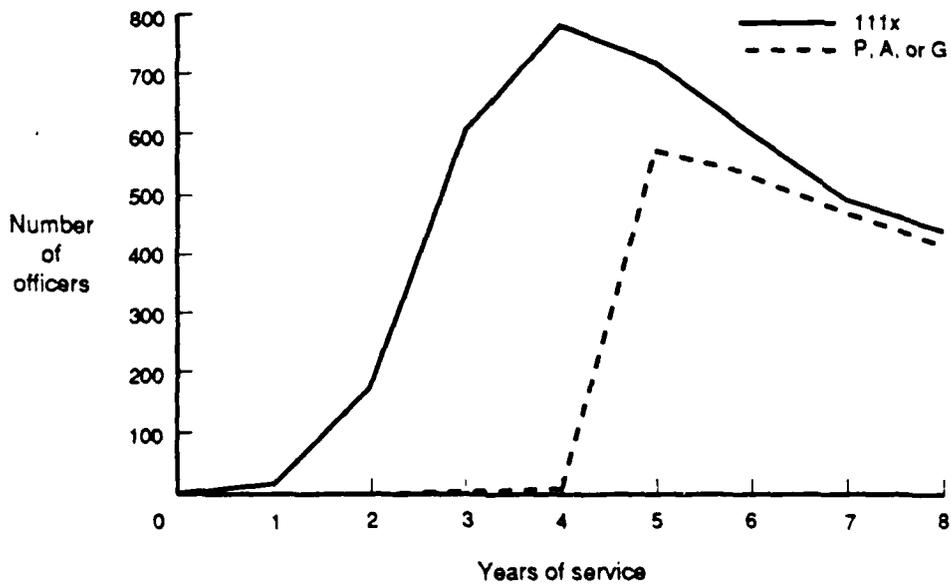


FIG. C-2: DEPARTMENT HEAD SELECTION-YEAR GROUP 1979

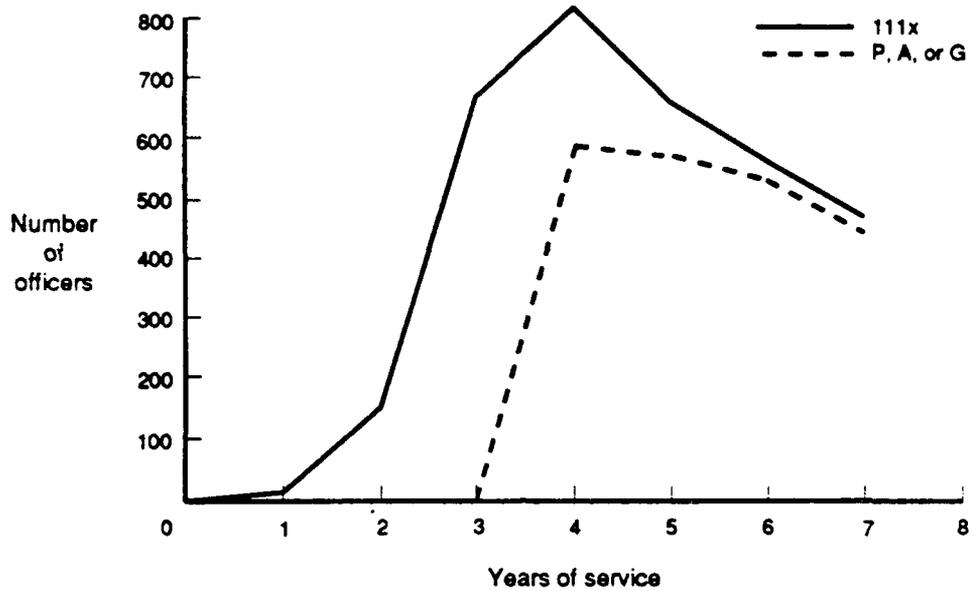


FIG. C-3: DEPARTMENT HEAD SELECTION--YEAR GROUP 1980



FIG. C-4: DEPARTMENT HEAD SELECTION--YEAR GROUP 1981