

Retention of Female Surface Warfare Officers

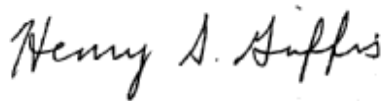
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Approved for distribution:

July 2007

A handwritten signature in black ink that reads "Henry S. Griffis". The signature is written in a cursive style with a large initial 'H'.

Henry S. Griffis, Director
Defense Workforce Analyses Team
Resource Analysis Division

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Executive Summary

The purpose of this study is to document long-term retention behavior in the Surface Warfare Officer (SWO) community from data available in personnel files. The particular focus of the study is to better understand the problem of low female SWO retention and to identify retention patterns mediated by personal characteristics at accession, as well as postaccession circumstances.

We find that the retention rate of female SWOs to Department Head is 10 percentage points lower than that of their male counterparts, and the gap is widening since the repeal of the Combat Exclusion Act (CEA) in 1994. Because a large majority of female Unrestricted Line (URL) officers become SWOs, the Navy's recent increase of female URL officers suggests a decrease in overall SWO retention.

Past work suggests that retention motivators for men and women are similar. Exceptions are that women find it more difficult to balance a Navy career and family life, and they are more likely to report low morale and long hours at sea and in port as reasons to leave the Navy.

This is what we have learned using data assembled from Navy personnel records:

- Female SWO retention to 9 years of service (YOS) has declined by 4 percentage points since the repeal of the CEA of 1994. In contrast, retention of male SWOs has increased by 9 percentage points during that same period.
- Unmarried SWOs, without children, tend to have the lowest retention to 9 YOS. While there are few women who have spouses in the military and who have children, this group had the highest retention rate among women (40 percent). Because unmarried officers are the largest group, however, their low retention rate has the greatest impact on SWO retention as a whole.
- Female U.S. Naval Academy (USNA) graduates are less likely to remain than other female SWOs; Officer Candidate School (OCS) entrants are more likely to be retained.
- SWOs from competitive colleges, those with science or engineering majors, and those who lateral in from other communities have lower retention rates.
- SWOs who lateral out to other communities stay in the Navy longer on average than those who remain SWOs.
- Female SWOs tend to be junior to their male counterparts. This results in fewer female SWOs in leadership positions and a scarcity of female role models.
- Proportionally fewer female SWOs than male SWOs have been screened for leadership positions in recent years, reversing the trend observed before CEA repeal (1994).

These results are consistent with those found in other studies by CNA, the Naval Postgraduate School (NPS), USNA, and others.

Possible *selection policy* interventions coming from this paper could increase the overall SWO retention rate by as much as 10 percentage points. However, this would involve drastically changing the mix of typical sources of entry for officers (i.e., fewer from USNA and Naval Reserve Officers Training Corps (NROTC), and fewer college science majors) and is not considered a reasonable solution to the SWO retention problem.

This research, and the work of others at NPS and USNA, has done due diligence in looking for observable characteristics in Navy personnel records that could explain male/female retention differences that would translate to useful policy alternatives. Selection and classification policy alternatives to improve female SWO retention are not forthcoming from this research.

If selection and classification policies do not provide a solution, where else should the Navy turn? Interviews of SWOs conducted by NPS have suggested that cultural factors and the difficulty to maintain a life-work balance are critical motivators of female SWO retention. The Navy is extending the work of NPS by exploring ways to reduce the life-work balance tension, to eliminate cultural barriers, and to otherwise increase retention.

SWO continuation pay (SWOCP) is one avenue that the Navy has already pursued. The effects, however, are ambiguous. While there has been a rise in retention after the introduction of SWOCP, the patriotic effects of the response to the Global War on Terror (GWOT) may also have contributed to increased retention.

The Navy has proposed pilot programs, such as sabbaticals and other off-on ramps, to ease the difficulty of maintaining a life-work balance. However, the sabbatical and other off-on ramp proposals need broader approval from the Department of Defense (DoD) and the Office of Management and Budget (OMB)—approval that has not been forthcoming. Furthermore, adjustments would need to be made in career paths for those using such an off-on ramp to maintain competitiveness. In addition, changes in the law may be needed to implement the sabbatical/off-on ramp program, depending on how officers will be affiliated with the Navy or Navy Reserve during their time away from active duty.

Purpose of Study



- The purpose of this study is to
 - Document long-term retention trends in the SWO community
 - Limited to information in personnel records and findings from other studies
 - Determine the size of differences between female and male SWO retention and
 - Identify factors mediating differences in male-female retention behavior
 - Identify policies that might increase female SWO retention
- The focus is on the characteristics of those retained, rather than on *why* women don't remain SWOs

This slide states the purpose of this study. Since the basis of our empirical analysis is administrative data, we can only infer possible causes for low retention. We rely on survey data collected by others to possibly explain why female SWOs do not remain in the community.

This study expands on one we conducted earlier [1], by using a larger sample of SWOs and examining several different retention metrics.

Summary and Conclusions



- Female SWO retention lags behind male retention by more than 10 percentage points
- Retention rates for men and women are similarly affected by personal attributes
- Family status is an important determinant of retention
 - Unmarried Servicemembers most likely to leave early in career
 - Female USNA grads less likely to stay than other women
- College background is related to retention
 - Those from competitive colleges and science/engineering majors are less likely to stay
- Selection/classification policy interventions examined could affect *overall* SWO retention by up to 10 percentage points but are impractical; they would change the character of the officer corps
 - Recruit other than science/engineering majors and those from less competitive colleges
 - However, increasing the percentage of female inputs will **lower overall SWO retention** because women attrite at greater rate for all variables considered
- Corporate America faces similar problems retaining female executives
- Past work suggests that retention motivators for SWO men and women are similar
- Interviews and focus groups conducted by the Naval Postgraduate School suggest that the difficulty of maintaining a life-work balance and barriers created by cultural practices within the SWO community are major contributors to low female SWO retention
- On-off ramps, such as sabbaticals, may be one way to improve the life-work balance
 - DoD and OMB acceptance needed
 - Career-path adjustments needed to maintain competitiveness

This slide shows the conclusions of our study.

We note that almost all female URL officers are SWOs. Women are barred by law from the Special Operations, Warfare, and Submarine communities, and there are very few women in the Aviation community. Therefore, questions regarding female URL officers are questions largely for the Surface Warfare community.

SWO retention of women lags that of men by about 10 percentage points, and the gap is widening since the repeal of the Combat Exclusion Act in 1994. This is a serious problem going forward because the percentage of SWOs who are women increases.

Navy data show that single women, who make up the majority of the SWO female community, are less likely to stay SWOs than most of their married counterparts. Female USNA graduates who entered the Navy between 1995 and 1998 are less likely to remain beyond 9 years of service than other female SWOs.

Possible policy interventions coming from this paper could increase the overall SWO retention rate by as much as 10 percentage points. However, this would involve drastically changing the mix of typical sources of entry for officers and is not considered a reasonable solution to the SWO retention problem.

Results of a recent Navy quick poll and interviews of SWOs conducted by NPS suggest that the difficulty of maintaining a life-work balance and barriers created by cultural practices within the SWO community are major reasons that women leave the SWO community. The Navy is now seeking ways to address these problems.

On-off ramps, such as sabbaticals, may be one way of increasing retention by altering the life-work balance. However, DoD and OMB acceptance would be required, as would changes to career paths to maintain competitiveness for promotion.

Methodology



- **Construct cohorts**
 - Time frame: FY 1980–2006
 - Construct longitudinal profile of officers
 - Ever had SWO designator
 - Group by years of service since accession
- **Construct attrition/retention profiles**
 - Gender
 - Accession source
 - Other
- **Estimate effects on retention**
 - Demographics
 - Navy experiences
 - Combat Exclusion Act (pre/post-1994)
 - It may be too soon to observe long-term effects

For purposes of tracking individual officers over time, we constructed 25 cohorts, based on the Active Duty Base Dates (ADBDB) of officers who had ever been SWOs during their naval careers. Each cohort consisted of people commissioned during the same year. Because the number of female SWOs in any one cohort is relatively small, we grouped officers based on their years of service (YOS). This allows us to estimate retention rates based on YOS, as SWO community managers do.

We estimated the effects of demographics and Navy experience variables on retention using statistical (logistic) regression analysis. For analysis purposes, an “observation” consisted of data on a person at a particular YOS, relative to a retention criterion. So, when we estimate the likelihood of a SWO being retained to 9 YOS, that observation would be at the 9-YOS point, or at the particular YOS in which the officer leaves the community.

We wanted to estimate the effect of the CEA on SWO retention. We do this by contrasting retention behavior of those commissioned before and after 1994. However, if the “true” effects of the CEA on decisions to become SWOs involve estimating retention of those entering the pipeline as students (i.e., NROTC and USNA), it may be too soon to observe the long-term effects on these officers. (Those beginning school after 1994 won’t be commissioned until 1998 and won’t reach 9 YOS until 2007.)

In trying to understand retention behavior most relevant to the current environment, most of our analyses focus on the post-1994 cohorts. While providing informative benchmarks, motivation for remaining a SWO may be different for SWOs entering the Service before the repeal of the CEA of 1994.

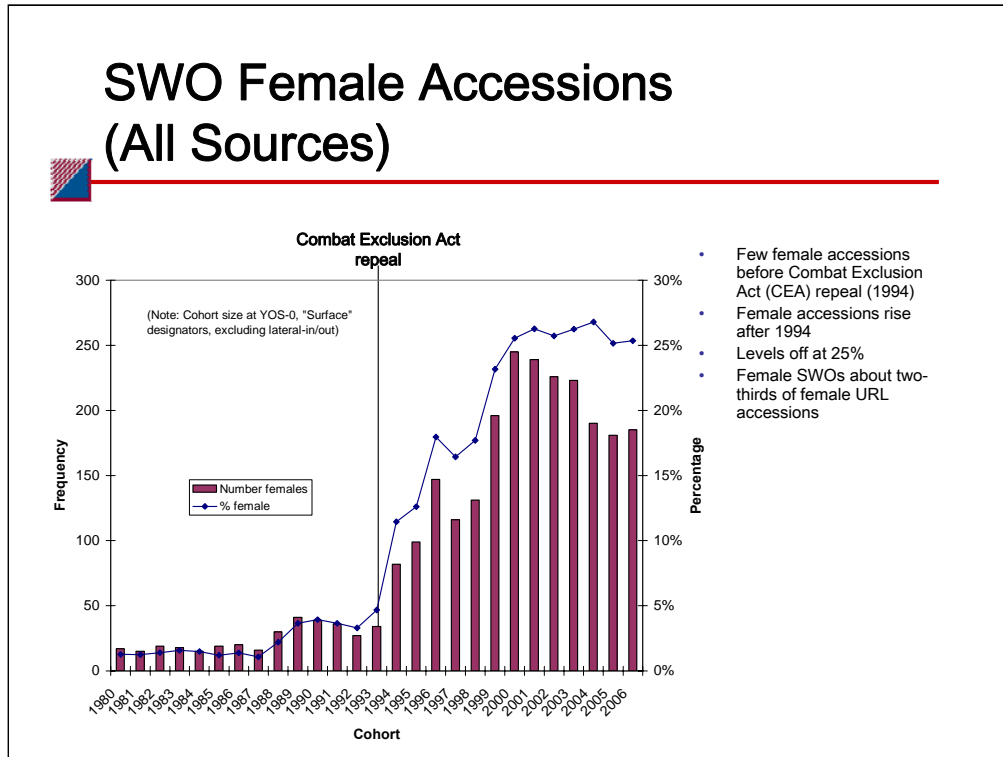
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SWO Accessions

In this section, we show trends in the numbers of SWO accessions and their sources.

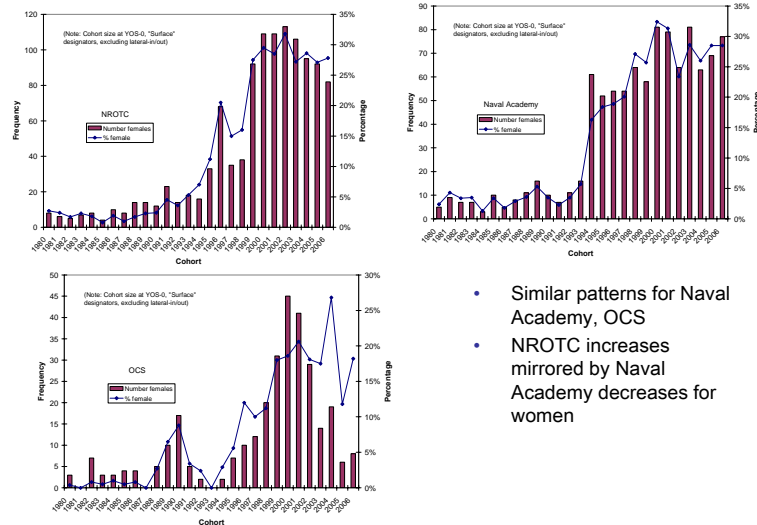
SWO Female Accessions (All Sources)



This is a view of female SWO accessions. Before the repeal of the CEA in 1994, there were fewer than 50 female SWO accessions per year. Thereafter, the proportion of SWO accessions who were women doubled (from 5 to 10 percent). The proportion of female accessions has peaked and remained steady at about 25 percent since 2000.

Currently, there are proportionally more female accessions into SWO (25 percent) than into other URL communities (i.e., 10 percent non-SWO).

Female SWO Accession Sources



The percentages of male and female accessions from each source are shown here. In 1995, immediately following the repeal of the CEA, over 75 percent of female SWOs came from the Naval Academy. This dropped to below 40 percent in 2005. NROTC currently provides the majority of female inputs (51 percent), as well as male inputs (46 percent). Officer Candidate School (OCS) serves mainly as a fill-in source when quotas can't be met from other programs.

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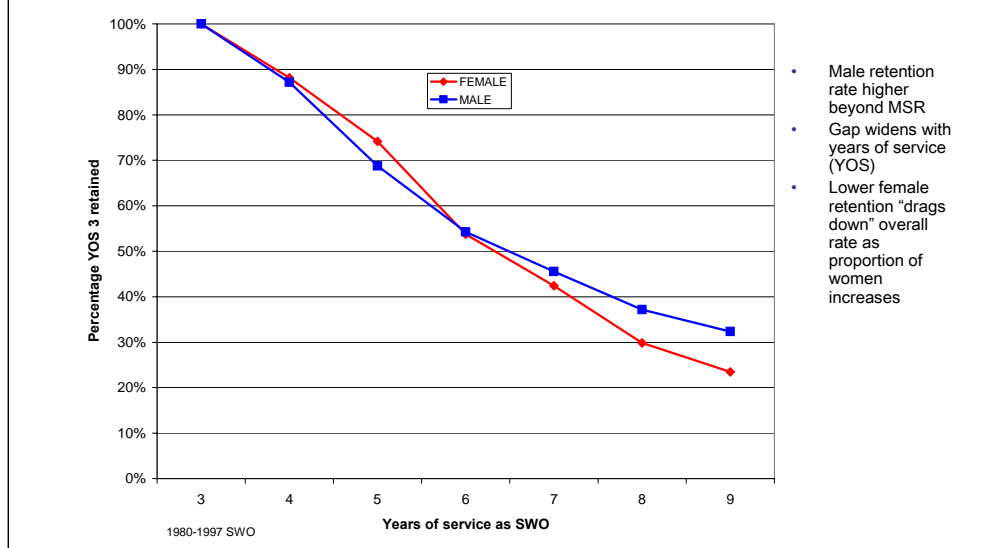
3/9 Retention

SWO retention can be measured in several ways. We use two metrics.

The so-called 3/9 measure, used by SWO community managers, indicates the proportion of SWOs at 3 YOS that are retained to 9 YOS.

We also describe retention in terms of those who stay in the community beyond their minimum service requirement (MSR). We first examine 3/9 retention.

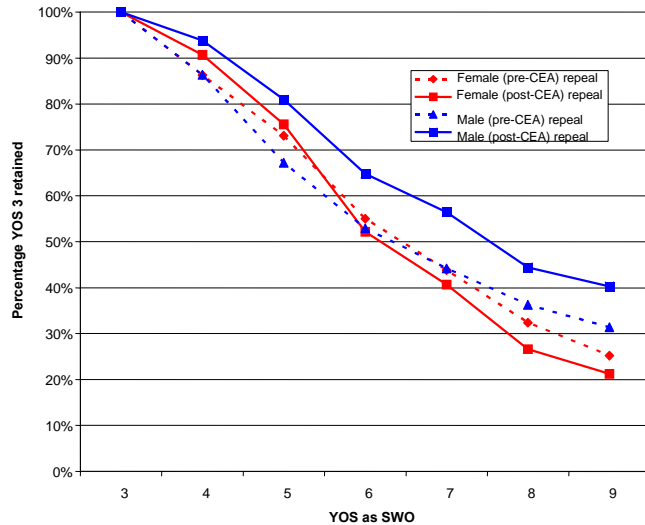
Male SWO Retention Higher Than Female SWO Retention



Retention of female officers is significantly lower than that of male officers. The Navy calculates SWO retention for a particular cohort by dividing the cohort size in YOS 9 by the cohort size in YOS 3. YOS 3 is used as the denominator because people leave and enter the Surface Warfare community before YOS 3 due to either a lack of SWO qualification or failure of training in other URL communities. YOS 9 is used as the numerator because it is the midpoint of a SWO Department Head (DH) tour; the Navy wants to make sure that there are enough officers to fill all of its DH slots at sea.

Combining the FY80–97 cohorts, male SWO retention is 32 percent, while female SWO retention is only 22 percent. This is a problem for the Navy and suggests possible serious SWO retention problems as the fraction of female SWOs increases.

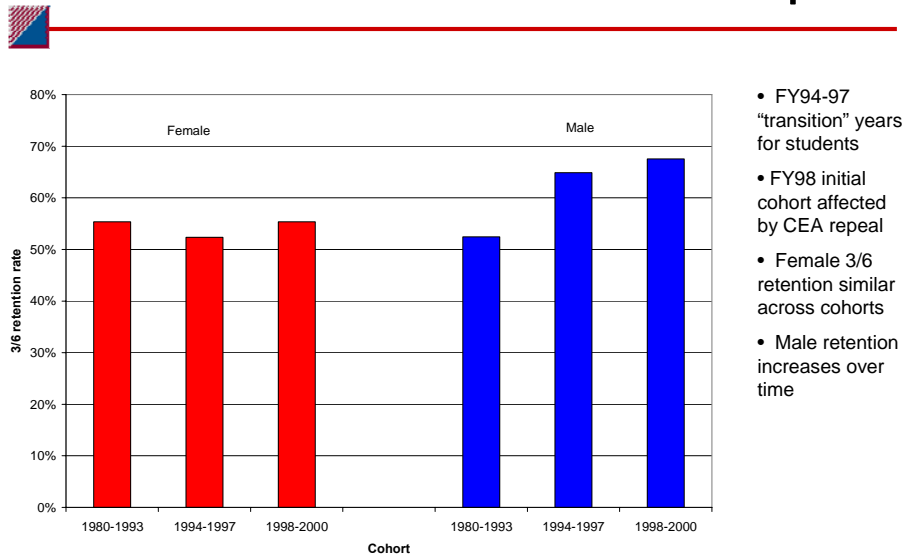
SWO Retention – Pre/Post CEA Repeal



- Retention improves for men accessed after 1994 (+9%)
- Retention declines for women pre/post 1994 (-4%)

Earlier, we showed variation in 3/9 retention rates across cohorts. Here we take an alternate view across time. We combined cohorts based on those commissioned before the repeal of the CEA (1994); similarly, we combined cohorts for those commissioned after that. Retention rates are higher for men (40 vs. 31 percent) commissioned after 1994, but they have declined for women (21 vs. 25 percent). Female retention is less than male retention for both time periods. The gap between male and female SWO 3/9 retention has also widened since 1994 to nearly 20 percentage points.

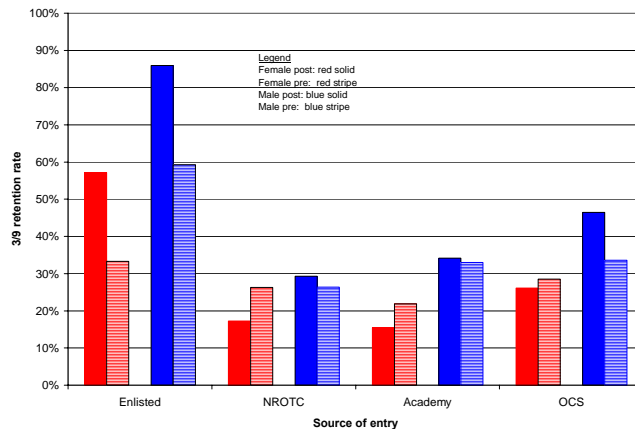
SWO 3/6 Retention and CEA Repeal



The Unrestricted Line gets most of its accessions from NROTC and the Naval Academy. When the CEA was repealed in 1994, many future SWO accessions were still in school and were not commissioned until 1998. Students commissioned during 1994 through 1997 may have been unaware of the future requirement to be URL when entering the Naval Academy or accepting an NROTC scholarship. Thus, these cohorts may have been affected differently by the repeal of the CEA.

We were only able to track the 2000 cohort through 6 years of service. These data show little difference in the 3/6 retention rates for the three female cohort groups.

Pre/Post-CEA 3/9 Retention by SOE



- Male retention greater for all entry sources
- Female Naval Academy grads show poorest retention
- Prior enlisted have highest retention

Source of entry (SOE) into the community affects retention. This graph illustrates 3/9 continuation rates, both before and after the repeal of the CEA, based on the SOE. Those accessed into the SWO community through Enlisted-to-Officer programs clearly have the highest retention rates. Entries through scholarship programs (Naval Academy and NROTC) have the poorest rates. Women entering from the Naval Academy since 1994 have the poorest retention rate (about 15 percent)—down by 7 percentage points for pre-CEA cohorts. Pre/post-CEA differences for men entering through scholarship programs are small compared with differences for women, who show decreased retention rates after the repeal of the CEA.

Factors Underlying 3/9 SWO

Retention

- Focus on post-1994 cohorts
- Identify personal characteristics related to male-female retention differentials
 - Source of entry, education
 - Family status
 - Community related
 - Sea duty
 - Screens
 - Promotion

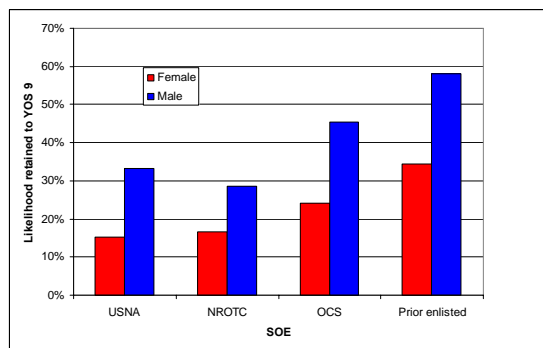
We focus on the post-CEA retention behavior of SWOs. Specifically, the analysis on the next 6 slides (pp. 14–19) is limited to post-1994 cohorts. We believe that factors motivating retention for SWOs from these later cohorts are different from those entering the Navy before CEA, and more likely reflect the characteristics and behavior of near-future cohorts.

We examine factors underlying 3/9 SWO retention. Do officers from different accession sources, with different family composition and SWO work-related experiences, have different retention rates? We also seek to determine if these personal characteristics, or attributes, affect women and men differently. This can be expressed in terms of either the retention probabilities of those with/without the attribute or the likelihood that those retained/not retained have the attribute. For example, we report the retention probability of science/engineering majors. Alternately, we report the likelihood that those retained vs. not retained were science/engineering majors during college. To the extent that there are relatively more science/engineering majors retained than not, this would be an indication that the science/engineering major attribute has a positive effect on retention.

The personal characteristics describing the SWOs can be fixed across YOS, or they can change with the officer's experience and time. An example of a fixed attribute is source of entry. An attribute that can change over YOS is family status. Our analysis compares SWOs who leave before 9 YOS with those who stay to 9 YOS. We measure personal characteristics either at the 9-YOS point or earlier for attributes. This poses a potential problem (introduces some ambiguity) for interpreting the effects on retention of attributes, such as family status, that can change with YOS.

Those who leave the community before 9 YOS are typically younger than those who stay to 9 YOS and are less likely to be married and have children. Therefore, it would be expected that there should be a greater proportion of married officers who are retained to 9 YOS vs. those who leave earlier in their careers. In this case, the role of family status on retention may be ambiguous, in that it is both a consequence of age (those retained to 9 YOS are older) and a motivator for retention for those earlier in their careers.

Source of Entry and Likelihood of Retention From YOS-3 to YOS-9



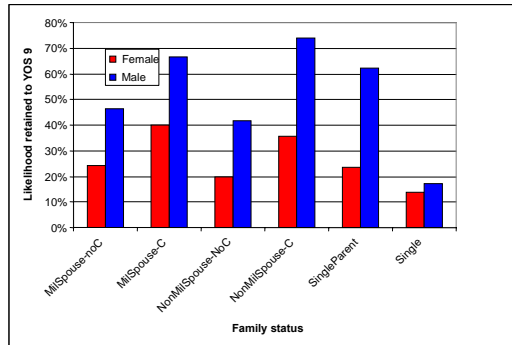
- Male retention higher for all SOEs
- Female USNA graduates have lowest retention
- Male/female difference greatest for USNA SOE (18%)

Note: Average male retention is 40%; average female retention is 21%.

We begin our look at factors influencing retention with the effect of source of entry on post-1994 cohorts.

Male retention 3/9 rates are greater than female retention 3/9 rates regardless of the source of entry. Among women, Naval Academy graduates have the poorest retention rates. Retention rates for men are lowest for NROTC entrants. The greatest differential in retention between men and women (18 percentage points) is related to entering from the Naval Academy. These retention rate differentials are reflected in the SOE loss/stay distributions shown in the graph.

Family Status and Likelihood of Retention to YOS 9 (Post-1994 Cohorts)

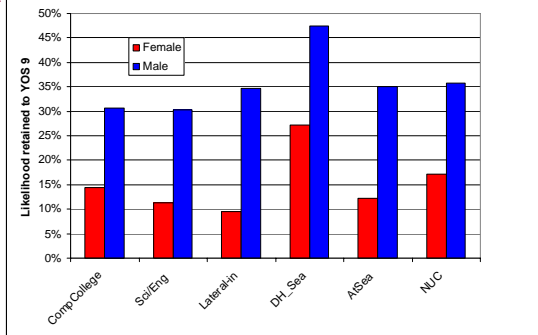


- Male retention exceeds female retention regardless of family status
- Women with children more likely to stay than women without children
- Female retention rate highest for those with military spouses and children

Note: Average male retention is 40%; average female retention is 21%.

Unmarried SWOs, without children, tend to have the lowest retention to 9 YOS. While there are few women who have spouses in the military and have children (about 50 in the cohorts studied), this group had the highest retention rate among women (40 percent). However, because unmarried officers are the largest group, their low retention rate has the greatest impact on SWO retention as a whole.

Effects of Other Characteristics on Retention to YOS 9 (Post-1994 Cohorts)



Men and women affected to different degrees

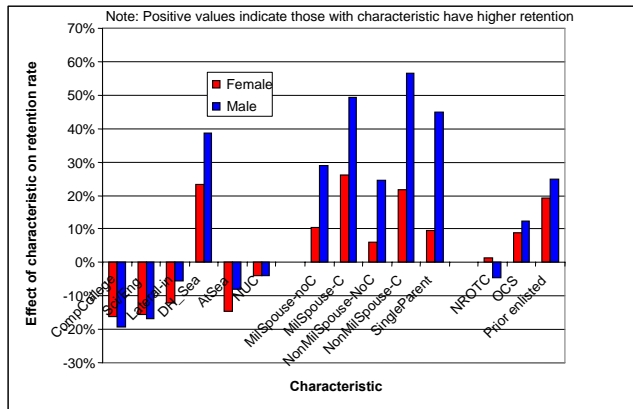
Detractors for women

- Lateral-in from other community
- NUC specialty
- Science/engineering major

Note: Average male retention is 40%; average female retention is 21%.

We also measured how retention rates are related to the other personal characteristics shown above. SWOs from competitive colleges, those who were science or engineering majors, those who lateral in from other communities, and those with a nuclear power specialty have lower retention rates.

Differential Effects of Personal Characteristics on Retention to YOS 9



Comparison groups

- Family status (single)
- SOE (USNA)

Also note that "AtSea" is a dichotomized variable with a value of 1 if the number of months assigned to a "sea" billet, per year of service, is greater than the mean for the cohort as a whole.

Net effects are shown as the difference in retention rates for those with and without the characteristic. Typically, a 2-percent differential was statistically significant ($p < .05$). Negative values indicate that having the characteristic leads to lower retention. For example, the retention rate for women from a competitive college is 17 percentage points lower than for those coming from a noncompetitive college.

"AtSea" is a dichotomized variable with a value of 1 if the number of months assigned to a "sea" billet, per year of service, is greater than the mean for the cohort as a whole. This metric was chosen to place it on a common scale (0/1) with the other characteristics under study. The mean value is about 8 months per YOS. Two months separates those retained and not retained to 9 YOS. While this difference was statistically significant, the actual time at sea over 9 YOS could be as much as 18 months.

These data show only one characteristic affecting men and women differently. Men from NROTC have lower retention than the comparison group (USNA), whereas women entering from NROTC have about the same retention rate as women from the USNA. Note that the comparison groups are arbitrarily chosen. Other comparison groups could produce different "net" effects. The base retention rates for each of the SOE and Family Status subcategories were shown on the previous slides, and alternate comparisons can be constructed visually from these charts.



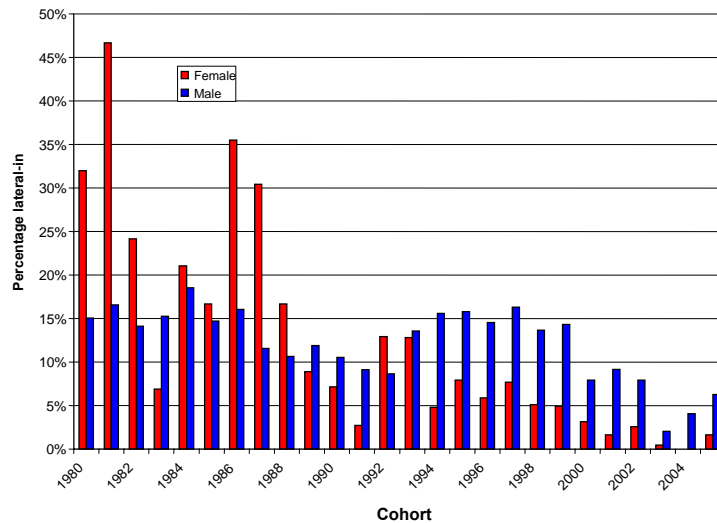
Lateral Transfers

The ranks of the SWO community grow due to officers who lateral in from other communities. One reason for such flows could be aviators not completing training they need to fulfill their minimum service requirement (MSR) obligation. Others become SWOs for a host of reasons.

SWOs may also leave the community to join others within the Navy. This can occur for a variety of reasons. We refer to such SWO losses as lateral-outs.

In this section, we examine the degree to which lateral transfers occur. We also present data that show retention rates of lateral-outs in their receiving communities.

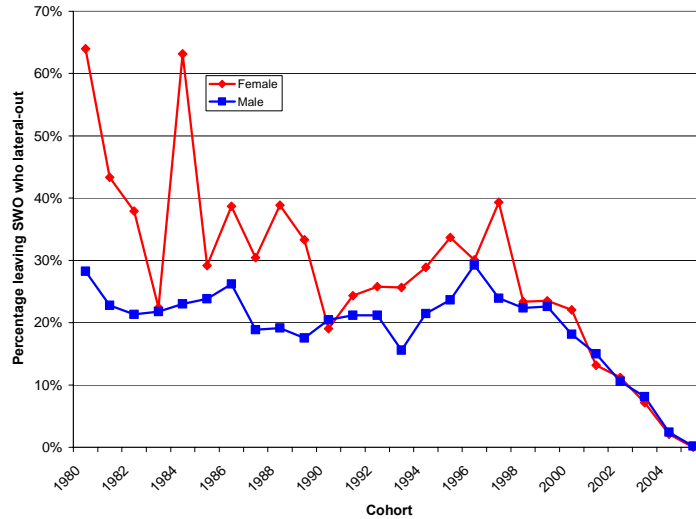
SWO Lateral-ins



We first examine the incidence of lateral-ins. The cohorts shown above are based on those entering the Navy during the year indicated, either as SWOs or subsequent lateral-ins to the SWO community.

Before the repeal of the CEA, a greater percentage of female than male SWOs were lateral-ins. The percentage of women who lateral in has dropped off precipitously in recent years (2003 to the present).

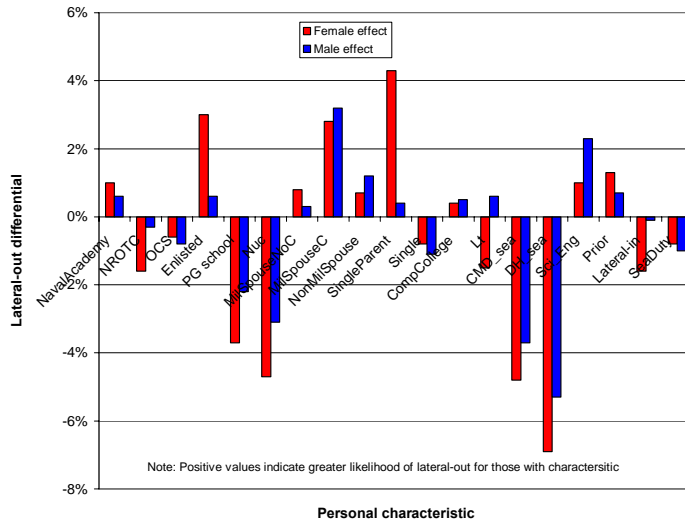
Lateral-outs



This slide shows the percentages of male and female SWOs who lateral out. While the percentages seem to drop off for later cohorts, this is an artifact of the age of the cohorts. That is, lateral-outs tend to occur after several YOS, and many of those in the newer cohorts may lateral out at some later time.

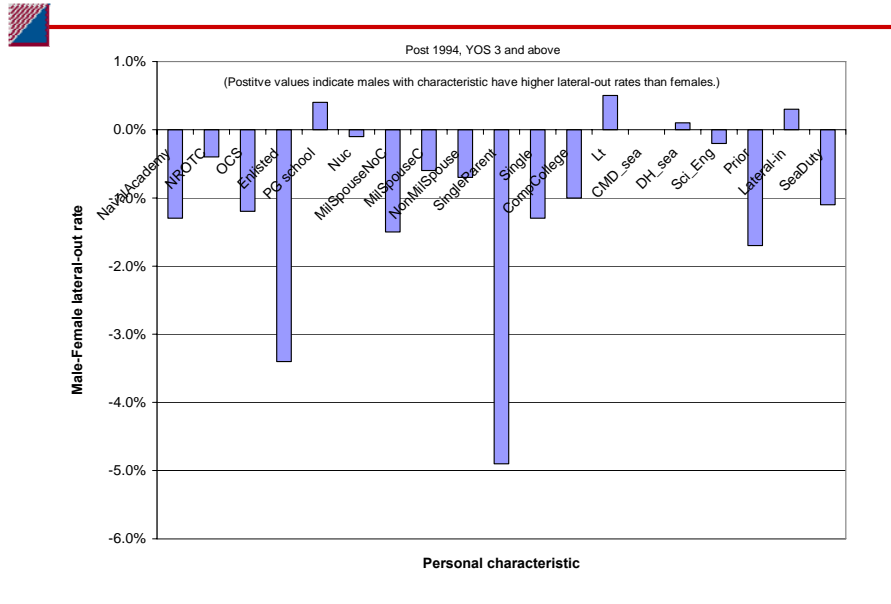
In recent years (from 1998 on), men and women show similar lateral-out patterns.

Effects of Personal Characteristics on SWO Lateral Transfers (Post-CEA Cohorts (YOS 3+))



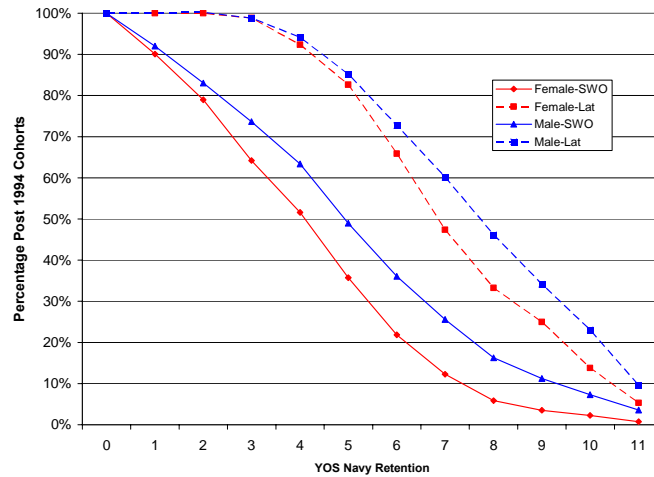
The “effect” of a personal characteristic on the propensity to lateral out is the difference in the lateral-out rate for those with and without the characteristic. A positive effect is an indication that those with the characteristic (e.g., being a single parent) are more likely to lateral out than those without the characteristic. The data suggest that the lateral transfer rates for women who are single parents is 4 percent higher than for women who are not single parents. Effects of 2 percentage points or greater are generally statistically significant.

Lateral-out Rate Differentials



Here we show the differences between men and women in lateral-out rates associated with their personal characteristics. Single women from post-1994 cohorts are observed to lateral out at a significantly higher rate than men (5-percent difference). The gender difference in lateral-out rates for women who went to Naval Postgraduate School was also significantly greater than that of men (3-percent difference).

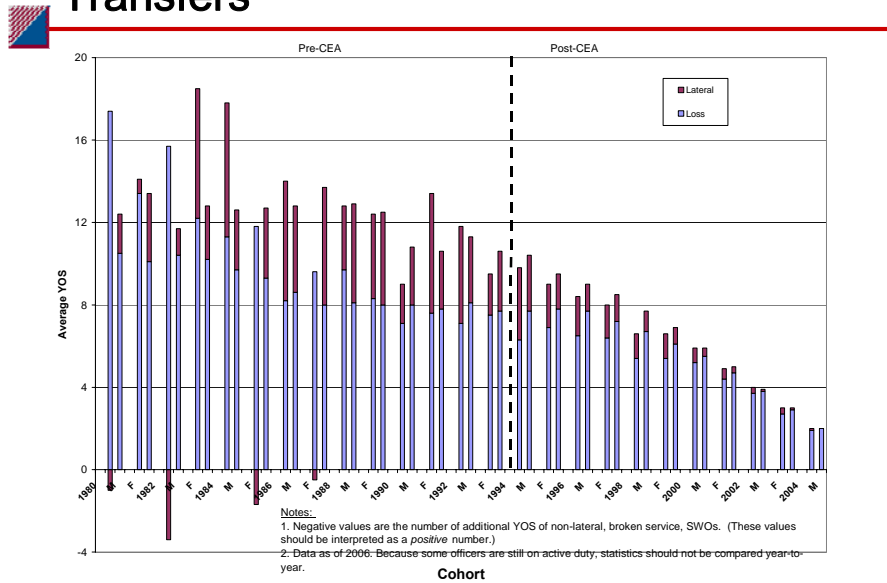
Navy Retention for SWO Lateral-outs



Those who lateral out of the SWO community are gains to another community. Here we compare the retention rates of these former SWOs in their “new” communities with those who remain SWOs. The comparison is for those commissioned after 1994.

These data suggest that lateral transfers have significantly higher retention rates—more than double those of SWOs at the 9-YOS point. Male/female differences in retention rates are about the same for lateral transfers, in comparison to those remaining SWOs until they leave the Navy.

Incremental YOS of SWO Lateral Transfers



Here, we focus on how long lateral-outs remain in the Navy. The data indicate that lateral-outs tend to remain in the Navy longer than those remaining SWOs (those in the “loss” group). Average YOS across cohorts for lateral-outs are shown in the next slide.

As shown above, lateral-outs tend to remain in the Navy, on average, about a year longer than those who remain SWOs until they attrite. Note that these data are subject to the “age of cohort” constraint described earlier. Therefore, it is appropriate to compare men/women and laterals/non-laterals within the same period, but not across time periods.

Average YOS of Lateral Transfers

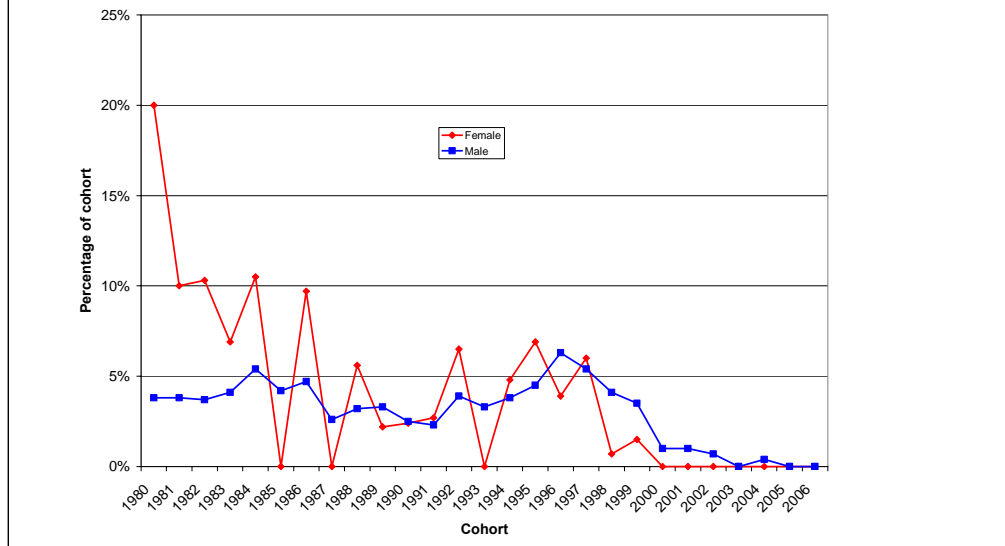


Period	Female		Male	
	Lateral-out	Non-lateral	Lateral-out	Non-lateral
1980-1994	15.6	13.1	15.4	12.6
1995+	7.3	4.9	8.0	6.1
All	11.3	7.3	14.2	11.3

- Lateral-outs tend to stay in the Navy longer
- Men (lateral/non-lateral) tend to stay longer than women

Average YOS across cohorts for lateral-outs are shown in this slide.

Percentage of Cohorts That Lateral out After Having Lateraled in



Some officers were observed to lateral into the SWO community, only to lateral out at some later time. Since 1994, about 5 percent of both male and female cohorts were observed to behave in this manner.

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Retention Beyond MSR

An alternate measure of SWO retention is staying in the community past one's minimum service requirement.¹ We estimate such retention rates for SWOs commissioned from 1980 to 2001. We measured retention both at the MSR point and at 1 year after MSR. We found that many SWOs left the Navy between these two points, particularly those who had not yet completed a duty assignment at MSR. Therefore, MSR+1 year seemed a more appropriate retention metric.

For analysis purposes, we codified MSR retention behavior as follows:

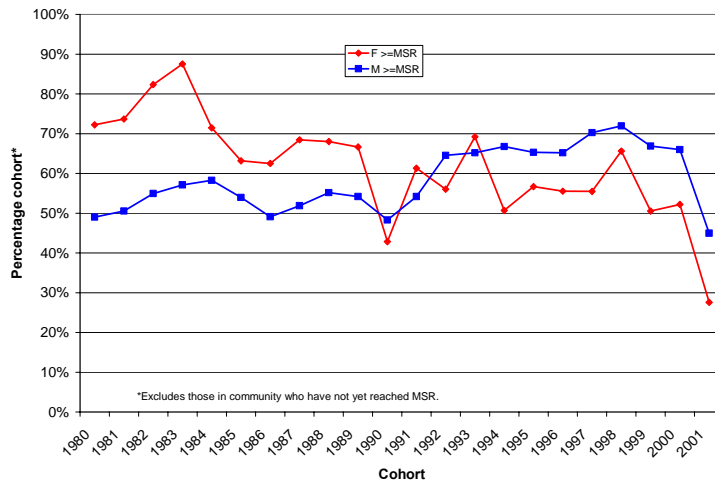
- Leave anytime before MSR,
- Leave immediately after MSR, or
- Stay at least 1 year beyond MSR.

We focus on estimating MSR retention rates for men and women, and identifying personal characteristics that predict retention behavior. We use data from the post-CEA period as the basis for studying the influence of personal characteristics. (The rationale for using data from this time period is that new cohorts are more likely to be motivated and to behave like those commissioned after the repeal of the CEA of 1994.)

Please note that, for several reasons, these retention rates are not directly comparable to the 3/9 retention values reported earlier. First, MSR is typically reached after 4 or 5 years. Therefore, the likelihood of retention to 5 years should be higher than that to 9 YOS. Second, the base for the 3/9 retention metric is the cohort size at 3 YOS. The base for our MSR statistic is date of designation, usually within the first YOS. We use this earlier time to include early losses for purposes of identifying correlates of this behavior.

¹ MSR is typically not reached until 4 or 5 YOS, depending on source of entry.

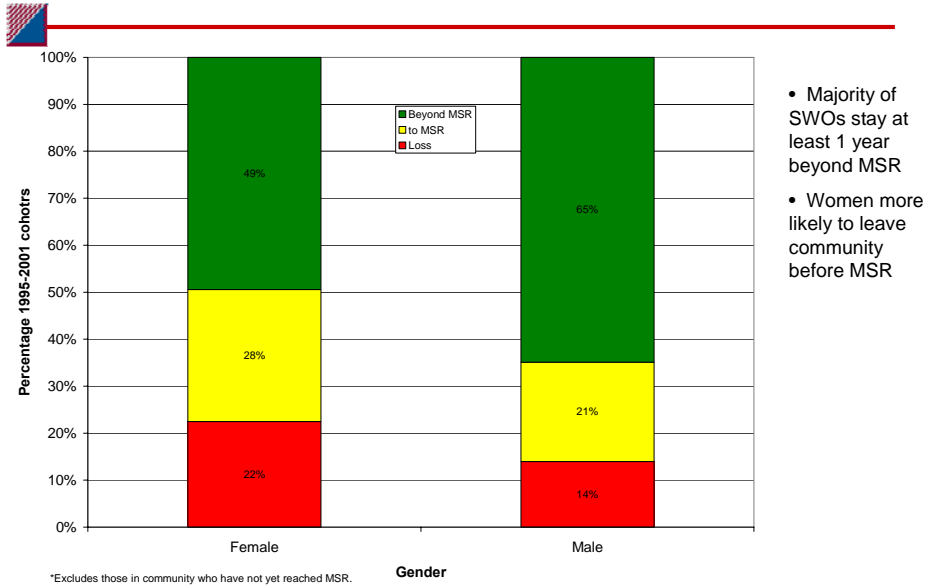
Community Retention to and Beyond MSR



- Downward trend for retention beyond MSR after 1998
- Similar pattern for men and women

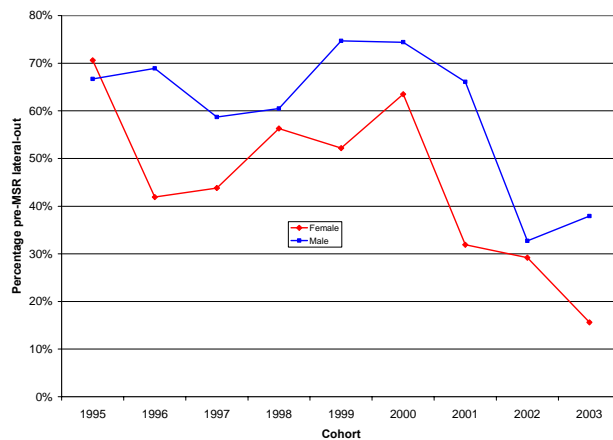
MSR+1 rates were fairly consistent from 1994 to 1998, but they show a marked decrease in the last few years. Retention rates for women are at least 10 percentage points lower than those for men for most years.

MSR Retention Summary (Post-CEA)



This slide summarizes the MSR retention statistics for the post-CEA cohorts through 2001. Most SWOs stay to at least the MSR point, but more women tend to leave before MSR (22 percent of women and 14 percent of men).

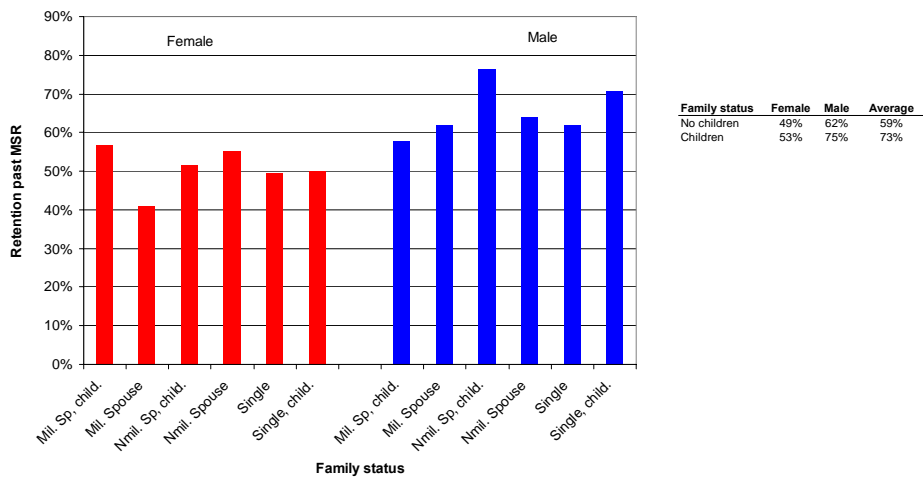
Lateral-out Before MSR (Post-CEA)



- Male SWOs more likely to lateral-out than female SWOs
- Trend shows that lateral-out as percentage of SWOs not reaching MSR is declining

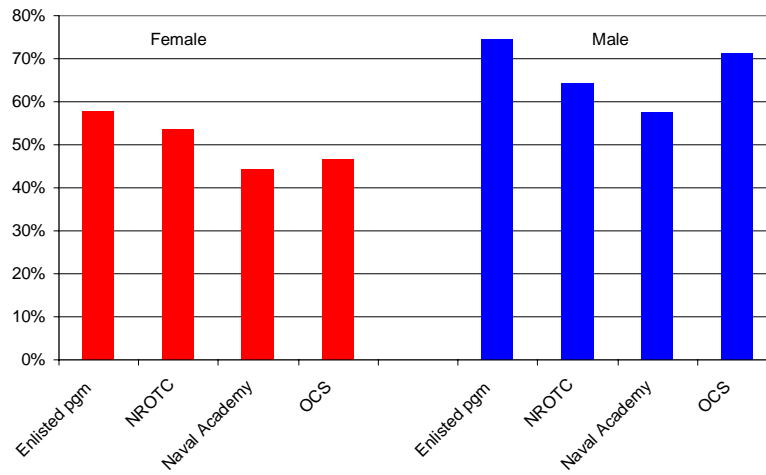
The main reason for those leaving the SWO community before MSR is not attrition from the Navy but lateral transfer to some other community. However, the trend for these lateral transfers has declined since 2000. A higher percentage of men than women usually lateral out before MSR (57 percent vs. 38 percent).

Family Status and SWO Retention Past MSR



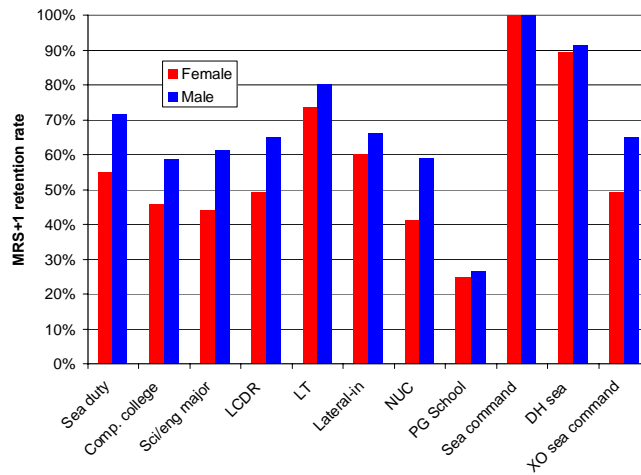
Family status has a strong influence on retention beyond MSR. Those with children are more likely to stay beyond MSR than those who don't have children (73 percent vs. 59 percent). This effect is more prevalent among men.

Effect of Entry Source and Retention to and Beyond MSR



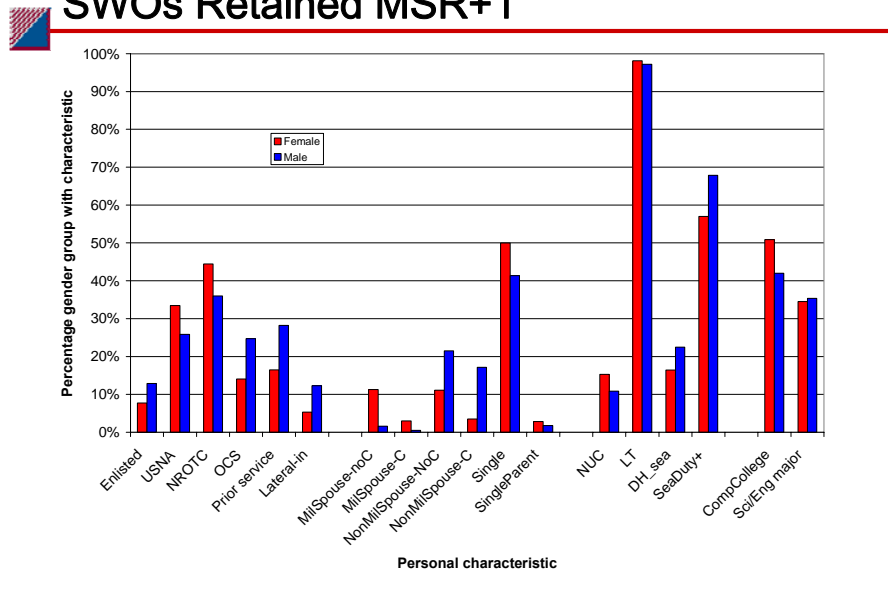
Those entering through scholarship programs (Naval Academy and NROTC) are the least likely to remain beyond MSR.

Personal Characteristics Affecting Retention Beyond MSR



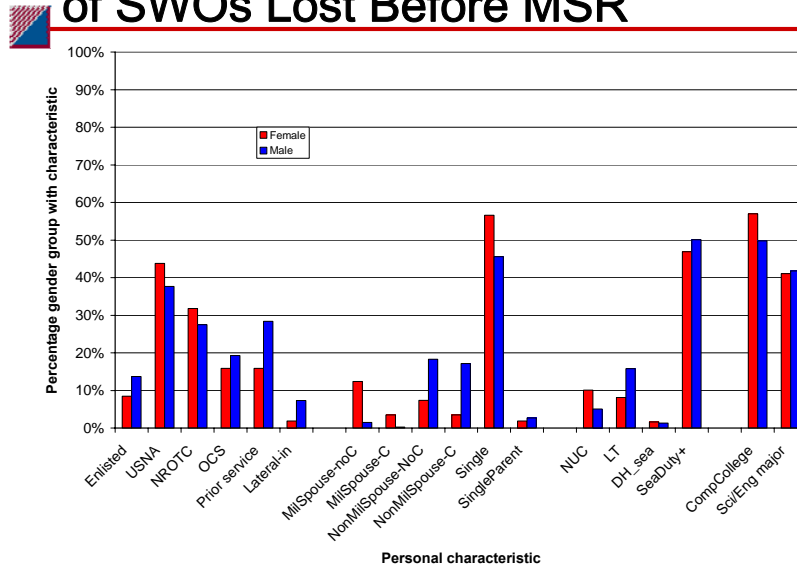
The data suggest that both men and women “high performers” (i.e., those who have been screened for command and promoted to O3 and beyond) are more likely to remain beyond MSR.

Likelihood of Personal Characteristics of SWOs Retained MSR+1



This slide shows the distribution of personal characteristics of those retained beyond MSR.

Likelihood of Personal Characteristics of SWOs Lost Before MSR



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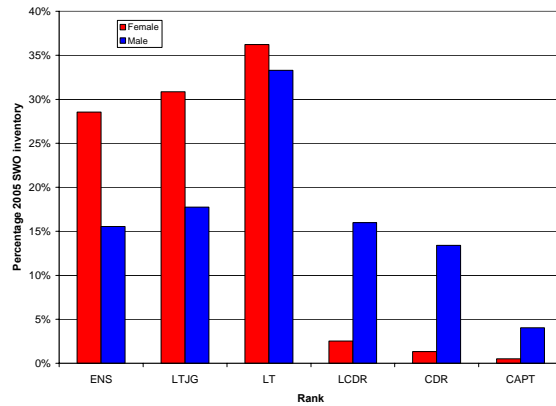


Opportunities

We now turn to gender differences in achievement. This includes promotion and screens for command, as well as other leadership positions in the SWO community.

The aim of the analysis was to identify any differences in the promotion or screening rates between men and women. We recognize that there are many factors that contribute to such achievements. While we may not be able to explain differences, or suggest that male/female differences constitute a bias, we discuss their possible implications.

Rank Distributions—2005 SWO Inventory

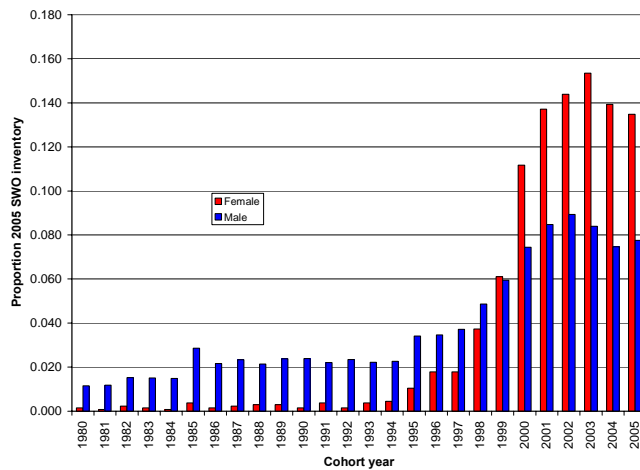


- Senior ranks male dominated
- Males generally more experienced

Gender	Average YOS
Male	8.1
Female	3.6

Here we show the SWO inventory as of 2005. During that year there were 1,342 female and 6,949 male SWOs. Female SWOs tend to be more “junior,” and less experienced, than male SWOs. That is, there are proportionally more women in the ranks (LT and below) with fewer years of service. Contributing to the gender differences in the current rank distribution are the small number of female accessions in years before the repeal of the CEA, along with the low retention rates of these women. There were an average of 3 female SWOs retained in the 2005 inventory from each of the pre-CEA cohorts. This is in contrast to an average 140 men from these same cohorts.

SWO Seniority



- Proportionally more female SWOs are from 1999+ cohorts
- Distribution the result of greater male retention from “early” cohorts

This graph shows the cohorts that make up the 2005 SWO inventory. The seniority of men in the current (as of 2005) SWO inventory is explained by the higher retention rates for men and the smaller accession cohorts in earlier years.

Rank Distribution of 2005 SWO Inventory by YOS (% in Each Rank at YOS)



Pre-CEA

Post-CEA

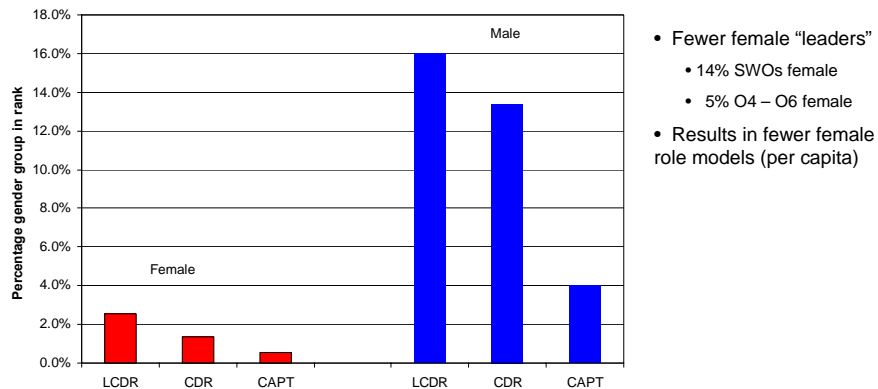
yos	female					male				
	O1&O2	O3	O4	O5	O6	O1&O2	O3	O4	O5	O6
0	100%					100%				
1	100%					100%				
2	100%					100%				
3	100%					99%				
4	12%	88%				16%	84%			
5	1%	99%				2%	98%			
6		100%					100%			
7		100%					100%			
8		99%	1%				100%			
9		93%	7%				98%	2%		
10		27%	73%				41%	59%		
11		5%	95%				18%	82%		
12		3%	97%				7%	93%		
13			95%	5%			1%	99%		
14			89%	11%			1%	99%	1%	
15			50%	50%			0%	62%	38%	
16			17%	83%			0%	29%	71%	
17			10%	90%			0%	22%	78%	
18			6%	94%			0%	17%	83%	
19			3%	94%	3%		0%	15%	85%	
20				85%	15%		0%	13%	85%	2%
21				47%	53%		0%	1%	82%	17%
22				20%	80%		0%	0%	41%	59%
23				13%	88%		0%	0%	32%	67%
24					100%		0%	0%	24%	75%
25							0%	0%	22%	78%
26							0%	0%	21%	79%

yos	female			male		
	O1&O2	O3	O4	O1&O2	O3	O4
0	100%			100%		
1	100%			100%		
2	100%			100%		
3	100%			100%		
4	8%	92%		6%	94%	
5	1%	99%		1%	99%	
6		100%		1%	99%	
7		100%			100%	
8	1%	99%			99%	1%
9		98%	2%		83%	17%
10		14%	86%		10%	90%
11			100%		9%	91%

- Women promote to senior ranks in fewer years

This table shows the male and female SWO rank distribution of the 2005 inventory, based on YOS. The data suggest that women from the pre-CEA cohorts tend to promote faster (in fewer YOS) than men. It is not clear whether this trend will persist in the post-CEA cohorts.

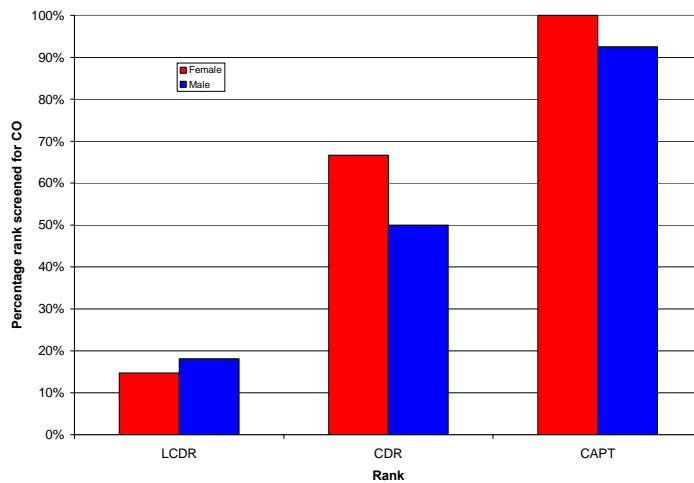
Female SWOs Represented in Senior Paygrades (2005 Inventory)



A consequence of this imbalance between the current SWO inventory having proportionally more women in the junior ranks, and fewer women in senior ranks, is fewer senior female officers per female junior officer. That is, 14 percent of the current inventory are women, and only 5 percent of senior SWOs are women. By contrast, 33 percent of men are in the senior ranks. This results in fewer women in leadership positions per female officer. To the extent that women use other women as role models, this distribution would put a strain on the supply of such role models.

In addition, given the small numbers of these senior female SWOs—and the small number of women SWOs in general—the number of women in senior positions at any given naval activity would tend to be small. This situation would likely result in many activities staffed with female officers having no female role models.

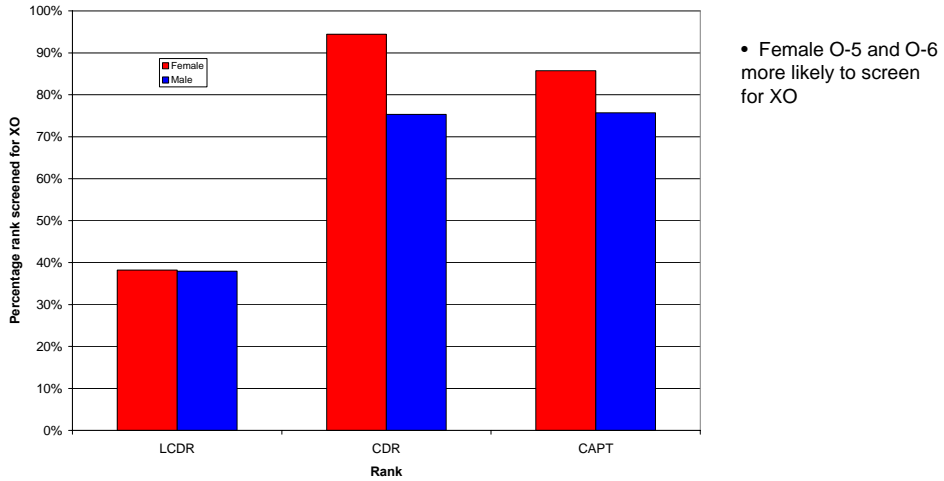
SWOs That Have Been Screened for CO (2005 Inventory)



- Female O-5 and O-6 more likely to screen for CO

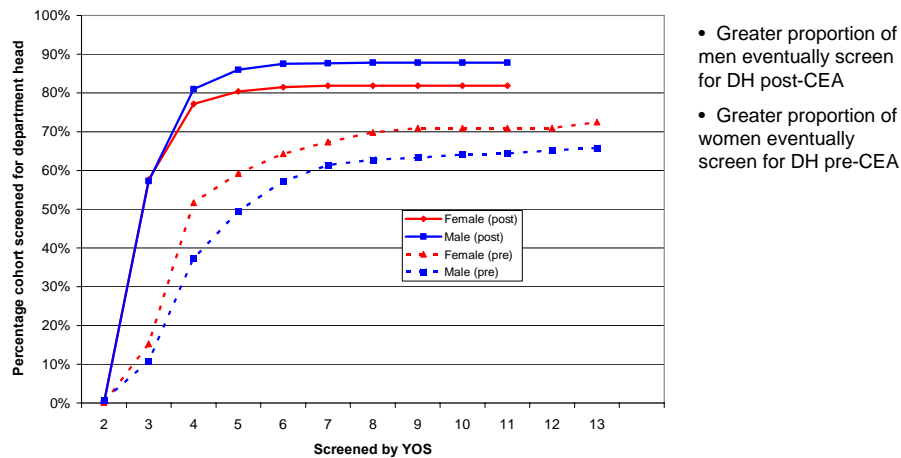
As shown in this slide, female O5s are more likely to screen for command than their male counterparts.

SWOs That Have Been Screened for XO (2005 inventory)



Female SWOs are also more likely than male SWOs to screen for executive officer.

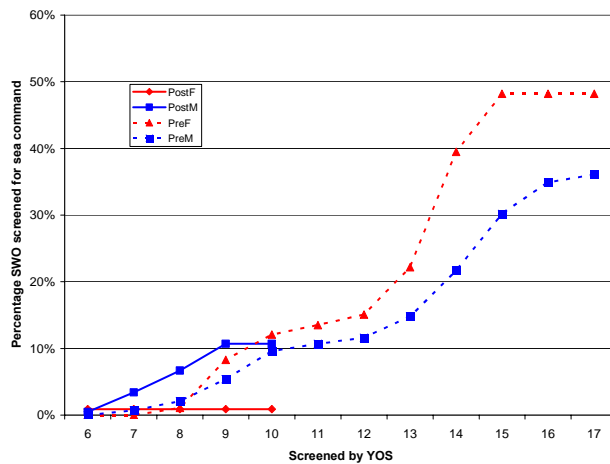
SWO Department Head Screens Before and After 1994



An alternate view of time to DH screen is offered here. Before 1995, a greater proportion of women were screened for DH for those with the same YOS. This trend was reversed in the post-CEA cohorts. The gender differential is about 8 percent for those in the same cohort group.

Note that the cohort sizes of female SWOs before 1995 were typically fewer than 25 women per year. Coupled with the attrition of these cohorts over time, that left few women eligible for DH screen at the 4-YOS point where most DH screens took place. Consequently, the denominators of the percentages shown for the pre-CEA women are quite small relative to that of the men. (See backup slides for cohort sizes by YOS data.) This phenomenon of the shrinking female SWO inventory, with increased YOS, will also affect those women screening for more senior positions, where the screens shown in subsequent slides are done at greater YOS.

Screens for Sea Command

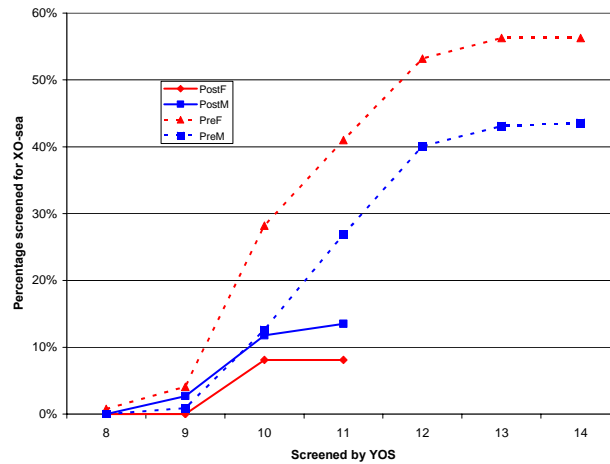


- Greater proportion of men eventually screen for CO post-CEA
 - Few women screen for CO
- Greater proportion of women eventually screen for CO pre-CEA

Few women (only one, in fact) from the post-CEA cohorts screened for command. By contrast, 10 percent of men were screened during this same period.

During the pre-CEA period, a greater percentage of women screened for command, at a given YOS.

XO Sea Screens



- Greater proportion of men eventually screen for XO post-CEA
- Greater proportion of women eventually screen for XO pre-CEA

A similar pattern is seen for XO screens, except more women screened for XO after the repeal of the CEA, in comparison with CO screens shown in the previous slide.

In conclusion, historically, we see:

- Fewer women, after 1994, screening for senior positions than in the pre-CEA years. During the earlier time period, women screened on average about 1 year quicker than men.
- There were too few women screening for senior positions in the later years for a meaningful comparison with men.
- SWOs have taken a shorter time to screen for Department Head since 1994.



Policy Simulations

In this section, we examine selection policies that might influence SWO retention. In particular, we look at the potential results of manipulating the composition of incoming SWO cohorts.

Selection Policies Affecting SWO Retention



- Policy variables
 - Source of entry
 - Naval Academy has lowest female retention, largest female input
 - College major
 - Math, science, and engineering majors less likely to stay
 - College ranking
 - Male graduates of competitive¹ colleges less likely to stay
- Sensitivity analysis
 - Vary distribution by source/college major/college ranking
 - Vary percentage of women

¹ Based on college ranking in Peterson's Guide.

Three of the variables we looked at involve selection of people into the SWO community and could be manipulated by Navy policy-makers to affect SWO retention. However, since the retention effects of these variables are small, not many additional SWOs might be retained through a change in policy. Policy-makers must also consider whether the Navy wants to increase overall SWO retention or just that of women. Does it want to increase just the number of women who are SWOs, the proportion of senior female SWOs relative to other women, or the proportion of senior female SWOs relative to all SWOs? Policies cannot be tailored to specifically benefit women at the expense of men (for example, giving only women a bonus for staying beyond the minimum service requirement).

The source-of-entry mix and the other variables shown on the slide are three possibilities for increasing some aspect of female SWO retention. We did a sensitivity analysis to estimate the maximum effect on retention of varying the input distribution of SOE, varying college majors, and limiting input based on competitiveness of college. We also looked at increasing the proportion of entrants to the SWO pipeline who are women while decreasing the number of men (to hold cohort size constant). The results are shown on the next slides.

Estimated Effects of Policy Interventions (Retention to YOS 9)



- Base
 - Current policy, with 23% female input (YOS 0), 32% all SWOs, and 18% of women survive past YOS 9
- SOE distribution
 - All OCS (both men and women) with 23% female input, produces greatest number of survivors, 36% overall, 20% women
- College major
 - Selection based on other than science majors could raise percentage of female SWOs retained to 25% (7% increase)
- College ranking
 - Recruiting SWOs from noncompetitive colleges could increase the number of men and women surviving past YOS 9 by 8 percentage points
- Gender distribution
 - Increasing percentage female inputs will *lower overall SWO retention* because women attrite at greater rate for all variables considered

We constructed a simple model to estimate the number of SWOs from an entry cohort of 1,000 who would be retained in the community past 9 or more YOS. Survival probabilities were based on those observed in the 1995–1997 post-CEA cohorts used in our earlier analyses. The distribution of the policy variables is based on the characteristics of the 1995–2005 cohorts.

Currently, female SWO accessions are about 23 percent. The panel, “Base Data,” shows the SOE input distribution for men and women. Applying the survival probabilities to this cohort would result in 41 of the 230 women, and 279 of the 770 men, surviving past YOS 9.

Using SOE distribution, college major, and college ranking as independent variables, and retention as the dependent variable, we estimated SWO retention rates under a variety of conditions.

Manipulating the SOE distribution in several ways would increase the number of female survivors to at most 46, if *all* were to come from OCS (an increase in the resulting representation of women from 13 to 14 percent). Having all women come from OCS is, of course, an unlikely scenario, but it does illustrate the point that manipulating the SOE distribution is not a “magic bullet.”

Selection policy can also be used to control input from different academic disciplines. Again, only small increases in the number of female survivors would result, even for the most extreme cases (all liberal arts majors, none from the sciences). As before, increasing the overall proportion of female entrants would serve to decrease the overall SWO retention rate (survival past 9 YOS).

Varying the distribution of college ranking would have the greatest impact of the policies examined to increase retention of both men and women. Recruiting SWOs from *only* non-competitive colleges would produce a 7-percent increase in female retention and an 8-percent increase in the percentage of SWOs that are women. However, we question the advisability of such a policy because it promotes a negative image of the community.

Each of the policies we examined would not operate in a vacuum. The nature/demographics of the SWO population would change, which could have an even more dramatic effect on the community (*viz.*, retention, morale, performance).

Effect of Alternate SOE Distribution



Base data

SOE Dist	Female	Male
NROTC	37.1%	36.4%
NA	43.7%	35.0%
OCS	7.9%	15.6%
Other	10.8%	12.9%
ALL	23%	77%

p(survive to YOS-9)	Female	Male
NROTC	0.144	0.271
NA	0.137	0.305
OCS	0.200	0.406
Other	0.444	0.723

Examples (1,000 input)

p(female)=	0.23				0.50			
	# surv9							
Example	F	M	Total	% female	F	M	Total	% female
Base	41	279	320	13%	89	128	217	41%
All NROTC (F only)	33	279	312	11%	72	128	200	36%
ALL OCS (F only)	46	279	325	14%	100	128	228	44%
All NROTC (ALL)	33	208	241	14%	72	96	168	43%
ALL OCS (ALL)	46	313	359	13%	100	144	244	41%
ALL NA (ALL)	31	235	266	12%	68	108	176	39%

These are the data used to estimate the sensitivity of retention to manipulations in the source-of-entry (SOE) distributions of SWO cohorts. An extreme scenario with all entrants coming from OCS could raise overall retention of women to 9 YOS to 20 percent (a 2-percent increase) and to 36 percent overall (a 4-percent increase).

Effect of Varying College Ranking



Base Data

College type	Female	Male	p(survive to YOS-9)	Female	Male
Non-competitive college	39%	46%	Non-competitive college	0.250	0.444
Competitive college	61%	54%	Competitive college	0.134	0.294

Examples (1,000 input)

p(female)=	0.23				p(female)= 0.50			
	# surv9							
Examples	F	M	Total	% female	F	M	Total	% female
Base	41	279	320	13%	90	128	218	41%
Non-competitive (F only)	58	279	336	17%	125	128	253	49%
Non-competitive (ALL)	58	342	399	14%	125	157	282	44%

These are the data used to estimate the sensitivity of retention to manipulations in the college ranking distributions of SWO cohorts. An extreme scenario with all entrants coming from noncompetitive colleges could raise overall retention of women to 9 YOS to 30 percent—an 11-percent increase.

Effect of Varying College Major



Base Data

College major	Female	Male	p(survive to YOS-9)	Female	Male
Science	44%	43%	Science	0.094	0.293
Non-science	56%	57%	Non-science	0.246	0.415

Examples (1,000 input)

<i>p(female)=</i>	0.23				0.50			
	# surv9				# surv9			
<i>Examples</i>	F	M	Total	% female	F	M	Total	% female
Base	41	279	320	13%	90	128	218	41%
Non-science (F only)	57	279	335	17%	123	128	251	49%
Non-science (ALL)	57	319	376	15%	123	147	270	46%

These are the data used to estimate the sensitivity of retention to manipulations in the college major (science and engineering vs. other majors) distributions of SWO cohorts. An extreme scenario with all entrants coming from other than science programs could raise overall retention of women to 9 YOS to 25 percent—a 7-percent increase.

How Practical Are These Policy Changes?



- Examples serve as illustrations of extremes to show maximum effect (*but are not very practical*)
- To increase *percentage* of women among *ALL retained* past YOS 9
 - Increase number of women at entry (decrease number of men)
 - Gains only where female retention rate greater under new policy
 - Male losses would result in fewer SWOs overall
 - Change SOE distribution
 - Recruit more from OCS
 - Recruit more from noncompetitive colleges; fewer science/engineering majors
- Could change character/culture of SWO community and Officer Corps
- Policies can only be *indirectly* aimed at women
 - Discrimination issues
 - Use of policy open to all, but would be favored by women
- Should the Navy recruit officers on the basis of retention in particular communities?

So, the previous examples were illustrations of extremes. There is an almost infinite mix of combinations of SOE, college major, and college ranking that could be tried to influence female SWO retention. We made no attempt to optimize the mix of inputs based on these variables. As described in the slide, however, each one does have some effect and perhaps should be considered.

The Navy cannot use a selection policy to increase female SWO retention that would be considered gender discriminatory. Therefore, policies are needed that would indirectly favor women—that is, policies that are open to both sexes but *favored* by women. This is difficult to apply to the selection process.

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Literature Review

We were only able to touch on some of the demographic and experiential factors in the administrative data available to us in the Officer Master File (OMF). There are other domains, covered by other data sources affecting SWO retention, such as cultural issues, attitudes, and perceptions. We look to the research literature for evidence of these effects.

We found four pertinent studies and summarize their results in this section.

In 2003, the Navy Personnel Research Studies and Technology (NPRST) laboratory conducted a “quick poll” survey of a representative sample of male and female SWOs, asking them about their Navy career intentions and the factors influencing their desire to either remain SWOs or leave the community.

Another study on SWO retention was done in 2007 by the Naval Postgraduate School (NPS). The study used a two-pronged approach to estimate SWO retention rates from historical data supplied by CNA, identified personal characteristics related to SWO retention rates, and used a series of structured interviews of “successful” SWOs to get at motivations to remain in the community.

The RAND Corporation also did a study to identify the possible impact of offering a sabbatical as a means of increasing SWO retention.

Finally, we looked at the results of an NPS Master’s thesis that used the results of a series of interviews with SWOs to draw some conclusions about retention.

Literature Review—Factors Motivating Female SWO Retention



- Motivators
 - Factors influencing career motivation in general
 - Employment and pay
 - The work itself
 - The work environment
 - Policy tools for possibly improving retention
 - Sabbaticals
 - Bonuses
 - Educational benefit
 - Geographical stability
 - Detractors of retention hard to affect by policy
 - Military culture
 - Family separation (deployments, long work hours)
- Information sources
 - DoD/USN-sponsored technical reports
 - Refereed journals (not much SWO-related)
 - Popular press (unscientific)

A literature review was conducted to identify factors motivating female SWO retention. We reviewed information on the subject when possible. Because this is a narrow topic, however, we expanded our search to include female officer motivations for retention to the Navy as a whole and across all the branches of the military. A list of references pertaining to retention of women in the military appears at the end of this document.

The literature search uncovered aspects of life as a SWO that detract from retention. We separate these into things that could be affected by changes in Navy policy and those that would be very difficult to affect. We focus our findings from the search on four studies of SWO retention.

In 2003, the NPRST laboratory did a quick-poll survey [2] that asked SWOs about their perceptions of various aspects of working in a mixed gender environment. These aspects included morale, job satisfaction, and factors influencing retention.

A study by NPS used a two-pronged approach to estimate SWO retention rates: (1) historical data supplied by CNA to identify personal characteristics related to SWO retention and (2) a series of structured interviews of “successful” SWOs to get at motivations to remain in the community [3].

RAND [4] did a study on one factor that could influence retention—sabbaticals; it is also an item in the quick-poll survey and is touched on by the NPS survey protocol. We also found a recent Master’s thesis done at NPS that focused on female SWOs’ attitudes about Navy life [5]. Although based on a small sample of SWO interviews, the findings were consistent with those in the other surveys.

On the next slide, we look at a general list of factors affecting SWO retention that emerge from the literature. This is followed by details from the studies mentioned above.

SWO Community – Female Officers



Reasons To Leave

- Work schedule
 - Time away from home
 - Unexpected deployments
 - Uncertainty of schedule
 - Lack of personal time
 - Long times at sea
 - Long hours in port
 - Back-to-back sea tours
 - Standing overnight duty
- Family separation
 - Navy career
 - Unexpected deployments
 - PCS moves
- Poor morale
 - Male-dominated culture
- Lack of female role models

Reasons To Stay

- Guaranteed educational benefit after Department Head (DH) tour
- Geographical stability after DH tour
- Increasing SWO Continuation Pay (SWOCP)
- Sabbatical (with pay and benefits)

Taken as a whole, the literature has identified a host of reasons that motivate SWO retention. The list of reasons to leave the Navy, and of dissatisfaction with life in the SWO community, is longer than the list of reasons to stay. Few policy-related recommendations about how to deal with the work-related factors were found. Many of the detractors had to do with the work schedule, such as long work hours and time away from home leading to family separation.

Surveys and other studies suggest that women perceive the SWO community as having a male-dominated culture. This leads to morale issues that result in many women leaving the community.

Because there are so few women in leadership positions in the SWO community, there are few role models for the younger female officers. This leads to uncertainty about career potential.

Studies have focused on factors that could be manipulated through Navy policy to affect female SWO retention. These center on positive motivators for retention, such as bonus pay and sabbaticals.

We now turn to the NPRST quick-poll survey findings.

Summary of NPRST Quick-Poll SWO Survey Results



- Women were less likely than men (38% vs. 65%) to report intentions to remain in the Navy at their next decision point
- Loyalty, patriotism, benefits, job security and educational benefits were top reasons for *both* men and women to stay in the Navy
- Most of the reasons reported by *both men and women* for leaving the Navy related to time away from family
 - **Women were more likely than men to report morale and long hours at sea as reasons to leave**
 - **Difficult to ameliorate through policy change**
- Potential for change through Navy policy
 - SWOCP approaching \$100K would be strong incentive to remain for both men and women
 - While more women (49%) than men (35%) were interested in **sabbatical leave** as an incentive, it was still **ranked last** for both groups
 - **Guaranteed education, geographic stability, SWOCP, and guaranteed lateral transfer ranked higher for both men and women**

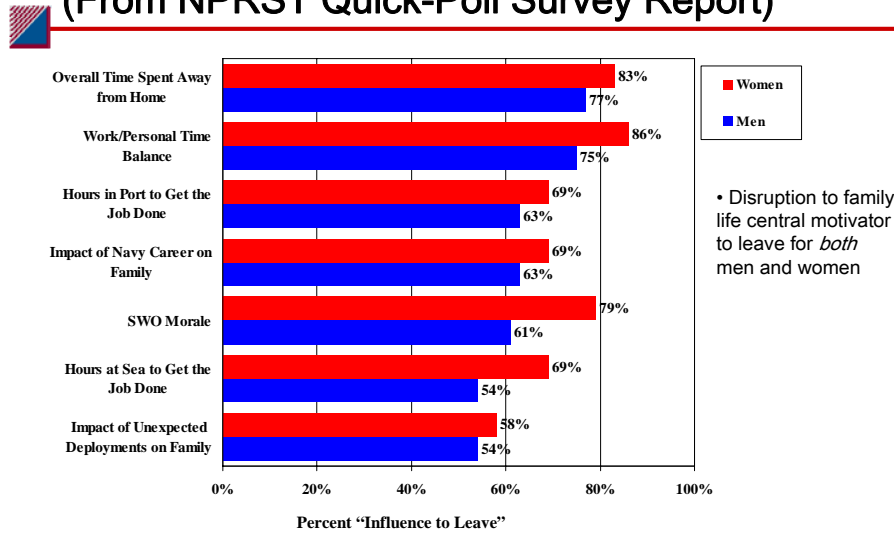
The NPRST quick poll focused specifically on the SWO community. This poll targeted questions at gender-specific motivations to continue a career in the Navy or within this community.

The Surface Warfare community had a total of 1,212 female officers during 2003, making up 14.6 percent of this community, which reflects the Navy at large, where women constitute 14.7 percent of the Navy as a whole.

The survey results indicated that “more than half of men SWOs are likely to continue at their next decision point while less than half of women indicated that they are unlikely to continue.” Although there are differences in what incentives would sway their decision to stay or leave, the top reasons to stay in the Navy were loyalty, patriotism, job security, and educational benefits. The reasons men leave were similar; time away from family was a major factor. The top two reasons for leaving the Navy were morale and hours at sea to get the job done. Women were more interested in a year-long sabbatical. In fact, women who would take a sabbatical expressed lower intentions to leave the Navy than men.

The reasons for staying in the Service were the same for men and women, and the ranking of incentives for staying in the Service were identical. The recommendations from this study are as follows: expand the graduate education voucher, increase the SWOCP to \$80,000, and obtain legislative support for leave-of-absence program, as well as for reduced in-port workload/hours, geographic stability after DH tours, and guaranteed lateral transfer after DH tours.

Top Reasons for Wanting to Leave the Navy (From NPRST Quick-Poll Survey Report)



This slide, which shows the relative importance of motivators for wanting to leave the SWO community, was taken directly from a briefing by NPRST. Difficulty in balancing an arduous work schedule (both in port and while deployed), the effect on family separation, and poor morale were the most important reasons women gave for wanting to leave the SWO community. Men gave similar reasons for wanting to leave.

Potential Impact of SWOCP on Staying Through DH Tour (From NPRST Quick-Poll Survey Report)

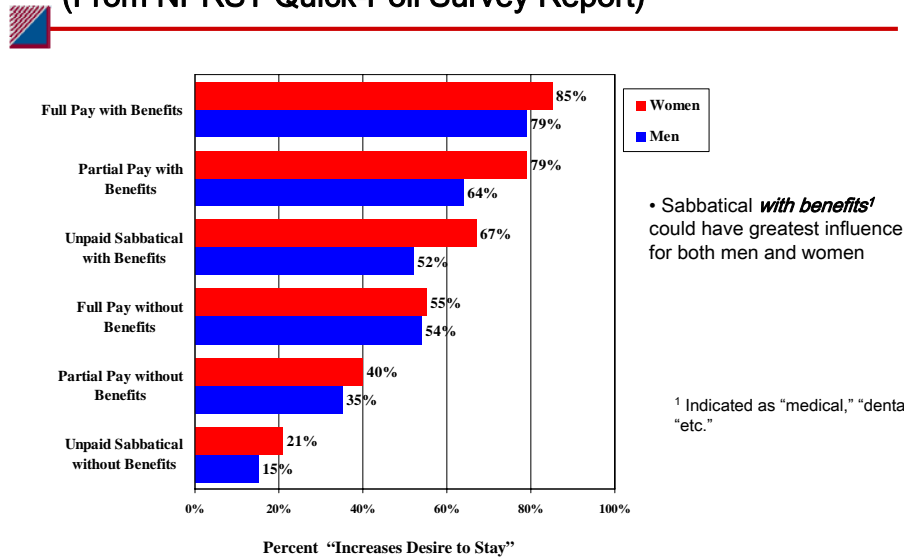


Bonus	Males influenced to stay	Females influenced to stay
\$60K	55%	37%
\$70K	64%	45%
\$80K	75%	59%
\$90K	81%	66%
\$100K	85%	72%

- Large bonus would influence female retention
- But more so for males

The bonus given to SWOs for remaining on active duty after MSR (SWOCP), is a major policy tool for SWO career retention. SWOCP was asked about in two ways. On one form of the survey, people typed in actual values. The average was \$87,900, but it was a little over \$100,000 for O1s and O2s. In the other form of the survey, SWOs were asked to indicate how much of an influence SWOCP would be at \$60,000, \$70,000, \$80,000, \$90,000, and \$100,000. The perceived influence grew with the size of the bonus. The link between stated intentions and what people would actually do is strong but imperfect. And, of course, the SWOCP would be paid unnecessarily to many people who would stay anyway, but it does appear that it would be effective.

Potential Impact of Sabbatical Program on Retention (From NPRST Quick-Poll Survey Report)



SWOs were asked how various sabbatical options would affect their willingness to remain in the community. Of the various options, full pay with benefits was the most attractive. However, the need for the Navy to maintain benefits (e.g., health care) during the sabbatical was crucial for the sabbatical to be a feasible incentive for both men and women.

Sabbatical Leave Options (RAND Study)



- Options for SWO sabbaticals
 - Facilitated Return-to-Service Program
 - Return to service as Department Heads
 - Performance based
 - Adjusts the clock
 - Eliminates “red tape”
 - Limited use expected
 - Highest return on investment (ROI)
 - Leave-of-Absence Program (LOA)
 - 1 year of leave without pay
 - Subsequent DH tour commitment
 - Eligible for SWOCP upon return from LOA
 - Sets the officer 1 year behind his or her year group
 - Small, but positive ROI (high Navy costs)
 - Personal Leave Program
 - Two 3-month breaks between duty stations
 - All SWOs eligible; many takers expected
 - Negative ROI
 - Increase in the Navy’s Individual Account (IA)
- Sabbaticals are viewed as unfavorable by leadership during wartime

RAND looked at various sabbatical program options as policy tools to motivate SWO retention. Extended leave programs are already authorized by law. They are not widely used because of required “payback” (2 months of service for each month of leave), and they interfere with career progression, making participants less competitive with their peers. RAND looked at three types of sabbatical programs and focused on ROI generated by increased retention that avoids pipeline costs of replacing attrites. Details of the programs are summarized above.

Return-to-service programs are already in limited use. This version would eliminate much of the red tape that presumably limits its use. It would provide the greatest ROI because of minimal costs to the Navy. Not many takers are expected. (Perhaps the reasons potential candidates left the Navy would not be addressed by the program.)

The other programs are expected to have lower, or negative, ROI—either because of the higher costs to the Navy or smaller effects on savings due to limited retention gains. Personnel disruptions and potential for affecting morale of others not selected for these merit-based programs were identified as issues.

RAND’s conclusions follow:

Program size, duration, and cost must be in balance to achieve the desired affects on retention. For instance, if costs are high, the program should be smaller and offer shorter leaves. With such programs, however, personnel managers must weigh whether the retention needed for favorable ROI can be achieved from a small group of participants taking a short leave. Further, large programs offering full compensation and long leaves may be too costly (if not substituted for other funded programs), but those providing only basic pay or benefits and short leaves may still be feasible despite their size.

Despite the potential for some sabbatical programs to produce positive ROI and increased SWO retention, sabbaticals are not currently favored by Navy leadership mainly because extended leave for personal reasons is inappropriate when we are at war. The return-to-service program, however, does not seem consistent with that objection.

PG School Thesis—Factors Affecting the Retention Decisions of Female Surface Warfare Officers

(Elizabeth A. Clifton, March 2003)



-
- Data obtained from in-depth interviews conducted with 12 female senior officers and 15 female junior officers
 - The most common negative factors influencing female junior officers to leave the Navy are
 - Quality-of-life issues
 - Lack of confidence in senior leadership
 - Family concerns
 - The main reasons female senior officers stayed in the Navy were
 - Job satisfaction
 - Love for being out at sea and ship driving
 - Commitment to taking advantage of the opportunities offered to them and forging a path for the women who followed

Despite the small sample, this study also provides evidence that quality-of-life issues play a big part in the decision of female SWOs to leave the Navy. It also identified lack of confidence in senior leadership as a main reason for wanting to leave the Navy. The female junior officers interviewed did not feel that their superiors listened to their concerns or that their superiors appreciated them. Furthermore, they were disappointed with the lack of female role models in the community. In contrast to the attitudes and perceptions of the junior officers, the female senior officers did feel, over the course of their careers, that they had received appropriate recognition and were able to find female role models in the community.

NPS Study Conclusion



- Within the Navy, retention rates for SWOs are lower than in any other observed community, and retention of women is lower than retention of men in these communities.
- Across the Services, retention is higher for men than for women in almost all grades, years of service, presence or absence of dependents, occupational categories, race-ethnicity groups, marital status, educational levels, and sources of commissions.

Taking a broad-brush look at retention of women in the Armed Forces, the study concluded that the SWO community is not unique in finding lower retention rates for women. This is a problem for the Services in general.

Effect of the Repeal of the Combat Exclusion Law



- Accessions from the college scholarship commissioning programs were not allowed to enter the Restricted Line.
- This policy change increased the number of women in the Surface Warfare Community.
 - But, these women are (a) less likely to stay in the Navy than the women who entered before that point in time and (b) less likely to stay than their male counterparts.

These conclusions from the NPS study mirror our own.

NPS Study Methodology



- Analysis of CNA-provided administrative data to identify trends in retention
- Interviews of “successful” SWOs
 - Success defined as retention in community beyond 8 YOS
 - Both men (21 interviewees) and women (57 interviewees)
- Successful SWOs were asked to speculate about the motivations of those who left the community
 - No attempt to gather data from those NOT retained

NPS used many of the same historical administrative data as we did to estimate retention trends and the effects of personal characteristics on retention rates. The study sought to understand the motivations for officers to remain in and leave the SWO community. Interviews of a small sample of people considered by NPS to be “successful” SWOs were used to gain these insights. Success was based on the SWOs who remained in the community after a Department Head tour. Unfortunately, the study did not include interviews of “unsuccessful” SWOs (those who left early in their careers). Rather, the successful interviewees were asked to speculate as to the motivations of early attrites.

SWOCP Effects



- Introduction of the SWOCP in 1999 is related to both an increase in retention and an increase in lateral transfers for both men and women
- Thus, the apparent correlation between the SWOCP and SWO continuation does not prove causation
 - NPS speculates that the Global War on Terror, rather than the monetary bonus, accounts for the rise in retention
 - This speculation not substantiated by discussions with surveyed SWOs

A main focus of the NPS study was to explain the trends in SWO retention as a result of several changes that occurred during recent years. These were the introduction of SWO continuation pay (SWOCP) in 1999 and the Global War on Terror (GWOT). The study authors speculate that the GWOT inspired patriotism, leading to increased retention. Because the increase in retention rates was accompanied by an increase in lateral transfers out of the SWO community, the NPS study was not able to disentangle the effects of these factors on SWO retention rates.

Factors Underlying SWO Retention Beyond 8 YOS



- Factors that help women succeed in the SWO community are, for the most part, the same factors that help SWO men succeed
- Those retained were passionate about their work
 - They love driving ships, being challenged, and leading Sailors
 - They value the camaraderie of being a SWO
 - They have had mentors who have influenced and helped them greatly
 - They are mentally tough and thick-skinned
 - Most were motivated by the challenge of succeeding in a difficult environment

The interviews—summarized above—suggested motivations to remain SWOs that were similar to those uncovered by the NPRST study.

Dissatisfiers



- Most of the factors that dissatisfy women also dissatisfy men
 - However, the impact appears to be greater on women
- Factors center on work–life balance
 - In general, SWOs do not mind deployment, but they are frustrated by what they see as unnecessary port and shore-tour work hours, unpredictable schedules, and the general inability to have a “normal” life when not deployed

Both male and female SWOs felt that it was difficult to maintain a satisfactory work-life balance because of the demands of the job. Again, like the NPRST study, women were affected to a greater extent by the demands of the job. Perceptions have not changed much between 2003 and 2006.

Additional Dissatisfiers



- **Inflexibility of SWO duty and the SWO career path conflict with family roles**
 - Job assignments, required for advancement, put stress on family roles
 - Some women, wanting to be successful in both roles, are conflicted
- **Barriers created by cultural practices of the SWO community**
 - Women report being seen as a “liability” because they might get pregnant
 - The small number of women on any ship makes them more “visible,” so poor and good performance both get blown out of proportion
 - Some men in leadership positions don’t give the women they lead the support they need to be effective

The interviews suggested other dissatisfiers. Many women wanted to be successful both as SWOs and in their family roles. The long-term requirements to be a successful SWO (i.e., numerous “ticket-punching” sea duty assignments) leave insufficient time to devote to family life. This dissonance results in personal conflict—a desire to be successful in incompatible roles.

Another dissatisfier is related to unwarranted cultural practices by some male SWOs. While it is difficult to change cultural bias, sensitivity training might be a way to deal with these issues.

Retention Incentives



- SWOCP did not influence retention decisions
 - Bonus seen as a sign of recognition that the Navy valued their work
- Homesteading the most favored option for increasing retention
 - Concern that homesteading would hurt promotion potential
- Men and women viewed sabbatical or off-on ramps as very positive
 - Seen to adversely affect careers
- XO-CO fleet up with shore tour between Department Head and XO tours seen by some as a good time to start a family
 - Most were concerned about the possibility of Individual Augmentation during a shore tour
- Passing GI benefits to children was suggested

The interviews tried to get at the effects of retention incentives. Surprisingly, the SWOCP was not a major influence on retention decisions. Many of the other incentives discussed, such as homesteading and sabbaticals, were felt to have adverse impacts on careers. These perceptions suggest that the rigid requirements for a successful career make it difficult to employ such incentives.

Civilian Parallels



- Most corporations are having trouble retaining women
- Seeking work–life balance is a “universal” issue
- Similar issues in employing retention incentives
 - Sabbatical or a flexible work option perceived to jeopardize career progression
- Women are more likely to experience gaps in employment
 - Find it easier than SWOs to reenter the workforce
- Women pushed out by workplace inflexibility
- Nonmilitary organizations can recruit management from like organizations
 - SWO community cannot

Retention issues for women are also evident in the civilian workforce. The rigidity of the rules for following a civilian career path poses similar difficulties for employing incentives to retain women. The Navy is not unique in its difficulty in using incentives for retaining women.

Work–life balance is a common issue for most working women. However, reentering the workforce is somewhat easier for civilian women who take a sabbatical to raise a family than it is for SWOs.

The nonmilitary organizations can recruit middle and upper-level executives from other organizations. As the NPS study points out, however,

Unlike corporate and government organizations that may benefit from the personnel losses of other organizations—to bring in talented and experienced leaders from the outside—the Navy does not benefit because the skill of an experienced SWO is not out there waiting to come in at the middle or senior level.



Backup slides

YOS Distribution of Female SWO Cohorts



Cohort	YOS					
	0-4	5-9	10-14	15-19	20-24	25+
1980	86	44	29	24	12	4
1981	77	56	35	24	9	0
1982	86	58	47	39	21	0
1983	79	46	21	15	8	0
1984	64	28	15	15	5	0
1985	83	48	25	25	9	0
1986	100	51	16	10	2	0
1987	87	53	22	15	0	0
1988	119	55	21	16	0	0
1989	163	79	22	12	0	0
1990	160	44	15	4	0	0
1991	147	72	38	5	0	0
1992	108	37	10	0	0	0
1993	126	66	22	0	0	0
1994	337	128	17	0	0	0
1995	420	183	27	0	0	0
1996	625	261	23	0	0	0
1997	524	214	0	0	0	0
1998	620	262	0	0	0	0
1999	933	254	0	0	0	0
2000	1,158	272	0	0	0	0
2001	1,131	142	0	0	0	0
2002	1,043	0	0	0	0	0
2003	817	0	0	0	0	0
2004	557	0	0	0	0	0
2005	365	0	0	0	0	0
2006	185	0	0	0	0	0

Shown here is the distribution of the sizes of the 1980-2006 SWO female cohorts, grouped by years of service (YOS). YOS are further grouped into 5-year intervals.

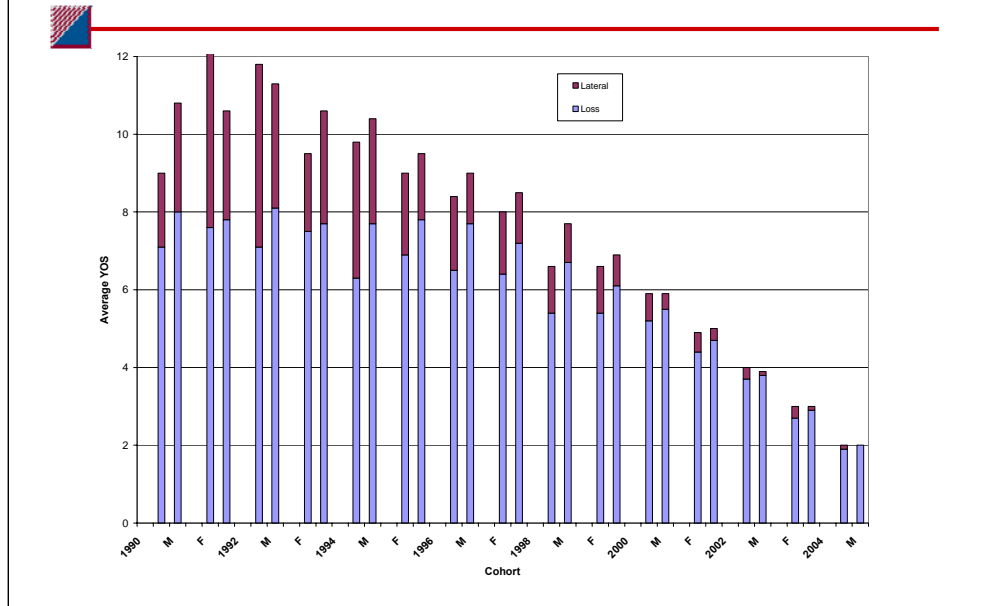
YOS Distribution of Male SWO Cohorts



Cohort	YOS					
	0-4	5-9	10-14	15-19	20-24	25+
1980	5,649	2,588	1,612	1,027	570	148
1981	5,286	2,591	1,605	1,013	538	65
1982	5,873	3,081	1,922	1,332	692	0
1983	4,939	2,554	1,398	934	476	0
1984	4,611	2,290	1,181	856	342	0
1985	6,871	3,077	1,454	1,094	345	0
1986	6,364	2,578	1,048	786	139	0
1987	6,584	2,698	1,111	831	0	0
1988	5,696	2,401	963	605	0	0
1989	4,840	2,168	995	497	0	0
1990	4,144	1,780	914	328	0	0
1991	3,929	1,781	832	148	0	0
1992	3,236	1,684	854	0	0	0
1993	2,980	1,600	640	0	0	0
1994	2,885	1,551	463	0	0	0
1995	3,227	1,834	475	0	0	0
1996	3,217	1,821	232	0	0	0
1997	2,976	1,767	0	0	0	0
1998	2,999	1,531	0	0	0	0
1999	3,312	1,289	0	0	0	0
2000	3,495	990	0	0	0	0
2001	3,320	516	0	0	0	0
2002	3,193	0	0	0	0	0
2003	2,393	0	0	0	0	0
2004	1,564	0	0	0	0	0
2005	1,113	0	0	0	0	0
2006	545	0	0	0	0	0

Shown here is the distribution of the sizes of the 1980-2006 SWO male cohorts, grouped by years of service (YOS). YOS are further grouped into 5-year intervals.

Incremental YOS of SWO Lateral Transfers



Here, we compare retention in the Navy of SWOs who lateral out to other communities with those remaining SWOs until they leave the Navy. Again, there is a bias in these longevity statistics due to the age of the cohorts. The patterns, however, are obvious. For any given cohort, lateral-outs tend to remain in the Navy longer than those who don't lateral out.

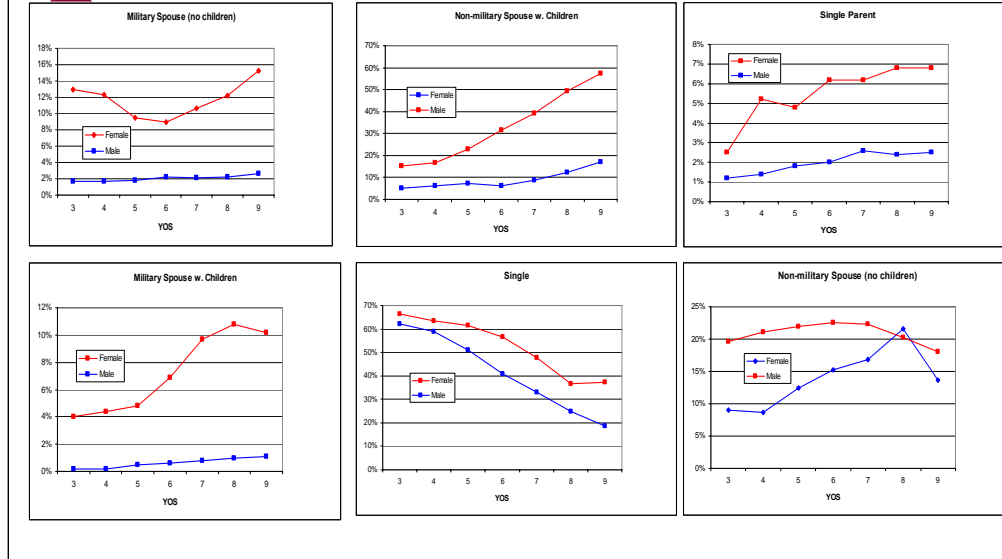
Likelihood of Personal Characteristics



Characteristic	Female		Male	
	Loss	Stay	Loss	Stay
Prior service	19%	39%	21%	44%
Enlisted	5%	27%	3%	24%
USNA	47%	32%	37%	28%
NROTC	40%	31%	44%	27%
OCS	8%	10%	15%	20%
MilSpouse-noC	12%	15%	2%	3%
MilSpouse-C	4%	10%	0%	1%
NonMilSpouse-noC	10%	14%	26%	18%
NonMilSpouse-C	8%	17%	13%	57%
Single	60%	37%	57%	19%
SingleParent	6%	7%	1%	3%
CompCollege	67%	44%	63%	43%
Nuc	15%	12%	14%	12%
Sci/Eng major	45%	22%	53%	36%
DH_sea	67%	95%	68%	95%
SeaDuty+	47%	25%	51%	43%
Lateral-in	8%	3%	17%	14%
PG school	0%	15%	0%	28%

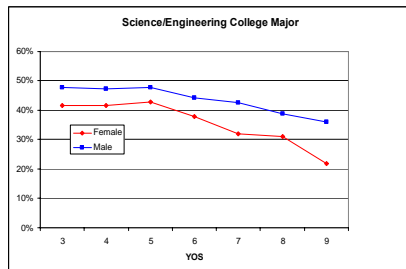
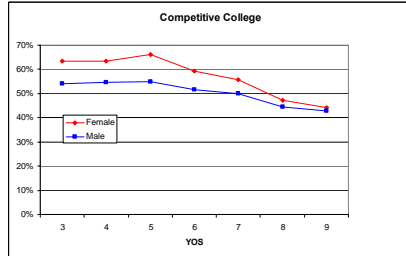
This slide shows the distribution of personal characteristics of male and female SWOs who leave the community between 3 and 8 YOS, and those staying beyond 8 YOS.

Family Status 3/9 Profiles (Proportion of Women/Men With Given Family Status)



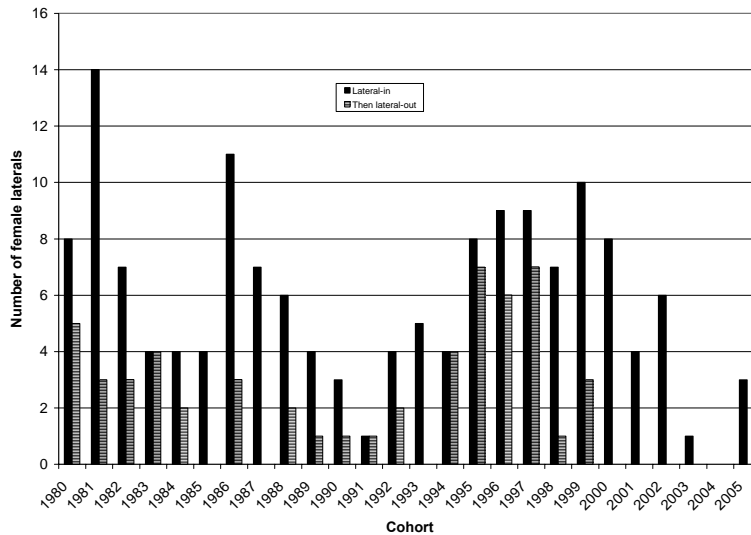
These are the distributions, over YOS, for the six “family status” categories used in the study. A greater proportion of women have children, and the proportion of women with children increases with YOS to a greater extent than for men.

College Background 3/9 Profiles (Proportion of Women/Men With College Attribute)



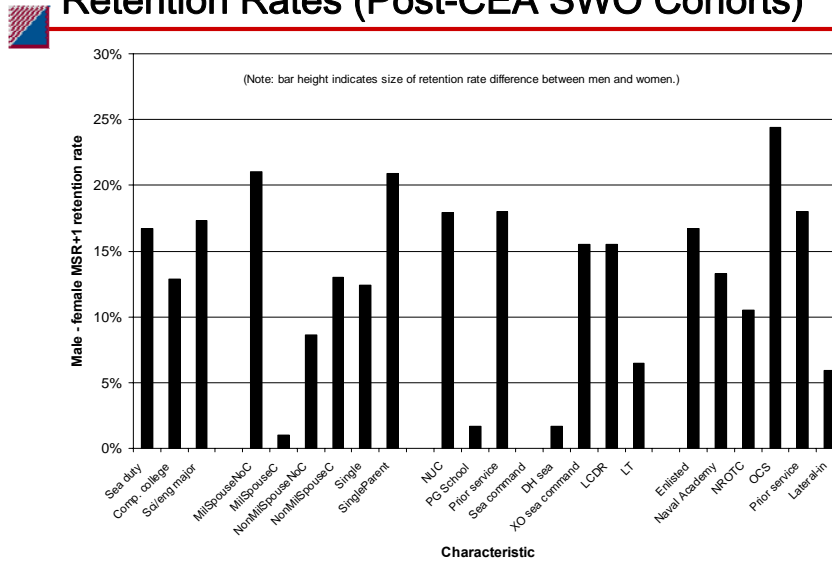
As the cohorts age, those remaining contain smaller proportions with science and engineering backgrounds. This effect is greater for women.

Women Who Lateral in and Then Lateral out



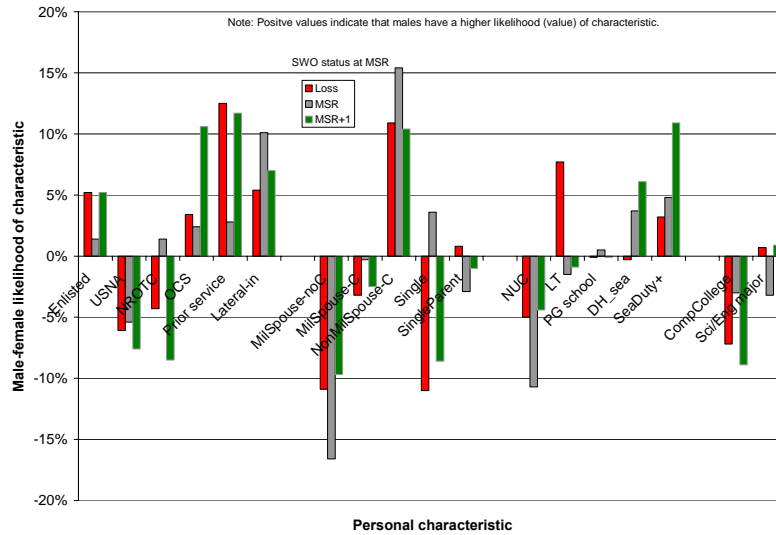
This slide shows historical trends of lateral transfers for women. It focuses on lateral-outs who previously lateral in.

Characteristics at Time of MSR+1 and Retention Rates (Post-CEA SWO Cohorts)



This slide shows MSR+1 retention as the difference between the rates for men and women. In most cases, retention rates for men exceed those of women for the characteristics shown.

Likelihood of Personal Characteristic at MSR



Shown here are the differences in male/female demographics of SWOs with respect to their MSR dates. Positive values indicate that a greater proportion of men than women have the characteristic. Losses are those who leave the community before MSR. The “MSR” category contains those who leave within 11 months of MSR, and the “MSR+1” group are those who remain more than 1 year beyond MSR.



References

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- [2] Roland J. Yardley et al. *An Analysis of Sabbatical Leaves for Navy Surface Warfare Officers*, Apr 2003 (RAND Annotated Briefing, DB-418-NAVY)
- [3] Carol Newell, Kimberly Whittam, and Zannette Uriell. "CNP Quick Poll, SWO Community, Continuation Intentions," 7 Jul 2004 (Navy Personnel, Research, Studies, and Technology (PERS-014))
- [4] Alice M. Crawford et al. "Successful Women in the US Navy Surface Warfare Community: Is the Navy Losing in the War for Talent?" 2007 (Naval Postgraduate School of Business and Public Policy)
- [5] E. Clifton. "Factors Affecting the Retention Decisions of Female Surface Warfare Officers," 2003 (Naval Postgraduate School Master's thesis)

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