MEMORANDUM

To: Defense Department Advisory Committee on Women in the Services (DACOWITS)

From: ICF International, Defense Intelligence Group

Date: June 19, 2012

Re: UPDATE: Gender Gap in the Retention of Service Members

In December 2011, ICF International provided DACOWITS with a summary of the gender gap in the retention of Service members. This request followed the Military Leadership Diversity Commission's (MLDC) March 2011 report, which encouraged DACOWITS to look more closely at this issue. In its December memo, ICF summarized research that had been done on the issue of retention differences between men and women in the military, including a summary of previous DACOWITS reports and recommendations, as well as relevant literature.

Since that time, RAND released additional data on this topic. In addition, the Defense Manpower Data Center (DMDC) provided the Committee with data on military losses in FY 2011, including Service codes detailing the reason for separation. This memo summarizes this new data and provides the Committee with a review of additional reports and literature that have been published since December 2011.

Measuring the Gender Gap in Retention

As reviewed in ICF's 2011 memo, we can hypothesize that, at least in the short term, a gender gap in retention will exist during any given year. A gap is the inevitable result of the contrast in rank and seniority between the two genders. Currently, as has historically been the case, women are disproportionately concentrated in more junior paygrades compared to their male counterparts. This is important because Service members at higher grades and with more service time have higher retention rates due to self-selection and the incentive to stay in as one approaches eligibility for retirement benefits. As a result, when military retention rates are examined by gender at the DoD-wide level (i.e., not controlling for rank or seniority of the Service member) women will be observed leaving at higher rates in any given year. This finding cautions us to look for a more complete explanation of the retention gap, and examine groups of Service members at comparable rank groups and levels of seniority. In doing so, we find there is still more to learn about why women tend not to remain in the military as long as men, on average. The remaining sections of this memo will detail possible explanations for this pattern.

Current Research Explaining the Gender Gap in Retention

In 2012, RAND released a study on women's representation in the military by rank. As expected, among all Service branches, women are most strongly represented in the lower-level ranks (O1 to O3 and E1 to E4).[1] In addition, RAND examined differences in overall career progression including promotion and retention rates of

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[1] Miller, L.L., Kavanagh, J., Lytell, M.C., Jennings, K. & Martin, C. (2012). *The extent of restrictions on the service of Active-Component military women.* Santa Monica, CA: RAND Corporation.

officers, by gender and race/ethnicity.[2] The study used longitudinal data from 1988 to 2010 to examine cohorts of officers as they progressed from the rank of O1 to O6.[3] Statistical procedures were used to control for factors known to influence retention and promotion, including Service branch, deployment experience, marital status, education, occupation group, prior enlisted status, and source of commission. RAND designated non-Hispanic white males as the primary comparison group. Compared to this group, women generally experienced lower rates of promotion and retention in the O1 to O5 ranks. However, women generally had higher promotion rates from O5 to O6 than men, if they remained in the Service long enough to reach that point.

Although the 2012 RAND study did not examine retention and promotion rates among enlisted personnel, the *Annual Report on Status of Female Members of the Armed Forces of the United States: FY 2002-06* provides data on these rates.[4] Promotion rates among senior enlisted personnel (E7-E9) were similar for men and women. In addition, retention rates among enlisted personnel were similar. Enlisted women in the Air Force and Navy had similar rates of retention compared to men at nearly all enlisted ranks. Among Army personnel, retention rates were lower among junior enlisted ranks (E1-E3) for women, but the differences leveled out as the ranks progressed. Trends were less delineated among Marine personnel; the only consistent differences were lower rates of retention among women at the E1 rank and a slightly higher rate of retention for women at the E4 rank. It is not clear why enlisted personnel show fewer trends in rates of retention and promotion than officers, although a decision paper by MLDC in 2011 noted that there are fewer key assignments (i.e., assignments that greatly impact promotion) among enlisted personnel compared to officers because enlisted personnel compete for promotions within their occupational field whereas officers compete across occupational fields.[5]

Within the literature, there is no clear consensus on what factors cause these well-documented gaps in retention, particularly at the officer ranks. One theory with much discussion in recent literature is that the combat exclusion policies within DoD and the Services may play an important role in gaps in retention. Combat exclusion policies differ between Services, with the Army and Marine Corps having the most restrictions. As of FY 2011, the Army and Marine Corps had the lowest percentages of positions open to women, with 66 percent of positions open to women in the Army and 68 percent of positions open to women in the Marine Corps.[6] In contrast, 88 percent of positions in the Navy and 99 percent of positions in the Air Force were open to women. In the Coast Guard, all occupations are open to women.[7]

To gain insight into the possible effects of eliminating combat exclusion policies on retention of women in the military, a 2012 RAND study looked at rates of retention and promotion among O3 to O6 officers in open occupations compared to those in occupations partially closed to women.[8] The authors found no statistically significant differences in the rates of *promotion* of women to O4, O5, or O6, but did find differences in the *retention* rates of women in partially closed occupations compared to women in open occupations. Women in

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[2] Asch, B.J, Miller, T. & Malchiodi, A. (2012). *A new look at gender and minority differences in officer career progression in the military.* Santa Monica, CA: RAND Corporation.

[3] Officers entering at a rank above O1 were excluded from the analysis, as these personnel are generally in the professional occupations and thus have different patterns of career progression.

[4] Annual report on status of female members of the armed forces of the United States: FY 2002-06. Prepared for the United States Congress by the Department of Defense Office of Personnel and Readiness, Military Personnel Policy. Presented in chart format by DACOWITS.

[5] Military Leadership Diversity Commission. (2011). *Branching and assignments* [Decision Paper #2]. Arlington, VA: Military Leadership Diversity Commission.

[6] Miller, L.L., Kavanagh, J., Lytell, M.C., Jennings, K. & Martin, C. (2012). *The extent of restrictions on the service of Active-Component military women.* Santa Monica, CA: RAND Corporation.

[7] It is important to note, however, that DoD changed the policy in 2012 to remove the restriction on co-location. This opened additional assignments to women which are not reflected in these percentages, particularly in the Army and Marine Corps.

[8] Asch, B.J, Miller, T. & Malchiodi, A. (2012). *A New look at gender and minority differences in officer career progression in the military.* Santa Monica, CA: RAND Corporation. "Partially closed occupations" were defined as positions in which less than 98 percent of the authorizations were open to women.

partially closed occupations had lower rates of retention at the O3 and O5 levels. It should be noted, however, that these are the same retention periods at which women showed lower rates of retention when collapsed across all occupations.[9]

While the RAND study did not show significant differences in promotion rates of women in open versus partially closed positions, there is other evidence suggesting that the combat exclusion policies are currently affecting the promotion of women Service members. An MLDC decision paper on branching and assignments examined the percentages of officers at each rank who came from combat-related career fields.[10] First, MLDC analyzed the percentage of officers who came from tactical occupations by paygrade and Service. Using data provided by DMDC in 2008, MLDC found that approximately 70 percent of all flag officers, across Services, came from tactical occupations. For reference, only 11 percent of all women officers were in tactical occupations (across all ranks), whereas 41 percent of all men officers occupied tactical occupations. There were higher proportions of flag/general officers (O7-O9) who came from tactical occupations than the proportion of lower level officers who came from tactical occupations. In addition, the percentage of officers that came from these occupations increased as the ranks increased from O7 through O10. Next, MLDC compared the percentages of men in tactical versus non-tactical officer positions and found higher proportions of white male officers in tactical occupations than in non-tactical occupations, and this percentage increased as rank increased. These findings suggest that the closure of these tactical occupations to women likely plays a role in women Service members' chances of promotion at the higher officer ranks.

MLDC also examined differences in the rates of selection to command assignments between men and women.[11] *Command assignments* were identified as key assignments in all of the Services, indicating a competitive advantage for advancement in the officer ranks.[12] MLDC found a gender gap in the selection of men versus women for command assignments within the Army, with higher percentages of men selected than women.[13] Because command positions are key for promotion, this may factor into the gender gap, particularly among the higher officer ranks. Of interest, MLDC found that "[p]articularly in the Army and the Marine Corps, certain key assignments are not open to women because they are classified as involving 'direct ground combat'" (p. 10). These data again suggest that the combat exclusion policies may be preventing women from being selected for command positions, thus hindering their chances for promotion to more officer senior ranks.

These results must be interpreted with caution. While they highlight interesting, and often concerning, patterns between genders, these findings do not tell us what effect opening up combat arms positions to females would actually have on retention and promotion rates for women. Further, the combat exclusion policy is not the only factor that may influence whether or not women enter combat occupations. As MLDC noted in an issue paper on racial/ethnic and gender diversity among officers, factors such as occupational preferences, officer merit, and source of commissioning also influenced the lower retention and promotion rates of women and racial/ethnic minority officers in the combat fields.[14] No survey of the occupational preferences of women in the military has examined preferences for combat fields, as most of these positions are not currently open to women. However, MLDC examined the preferences for combat field occupations among racial/ethnic minorities. The data suggest that officers in the combat fields tend to be non-Hispanic white males in part because higher percentages of non-

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[9] Asch, B.J, Miller, T. & Malchiodi, A. (2012). *A new look at gender and minority differences in officer career progression in the military.* Santa Monica, CA: RAND Corporation.

[10] Military Leadership Diversity Commission. (2011). *Branching and assignments* [Decision Paper #2]. Arlington, VA: Military Leadership Diversity Commission.

[11] Ibid.

[12] Command assignments usually begin at the O3 rank for those in the Army and Marine Corps, while they typically begin at the O5 rank in the Navy, Air Force, and Coast Guard.

[13] Differences in the selection rates for the other Services were not as extensively examined because the number of women eligible for selection to command assignments was less than 65 women within each Service at the O5 level and less than 30 women within each Service at the O6 level.

[14] Military Leadership Diversity Commission. (2010). *Military occupations and implications for racial/ethnic and gender diversity: Officers* [Issue Paper #23]. Arlington, VA: Military Leadership Diversity Commission.

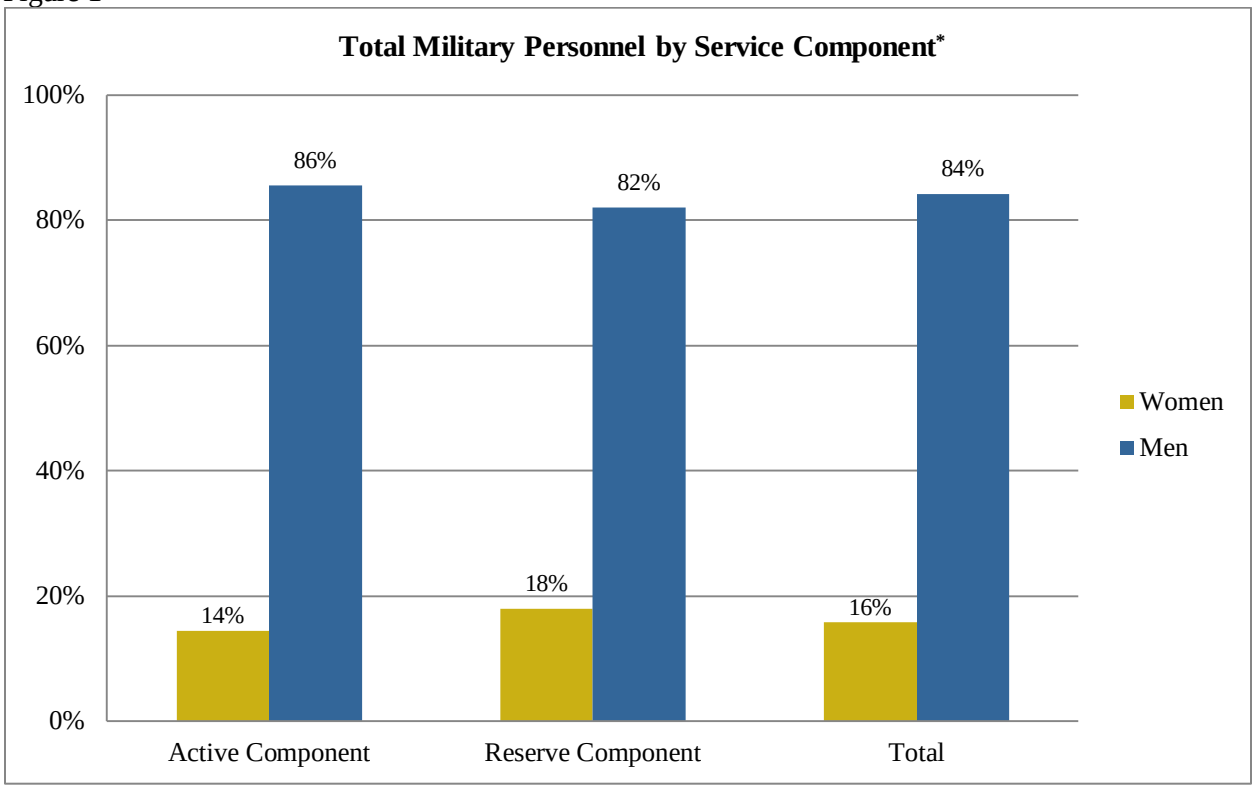
Hispanic white males prefer tactical occupations. MLDC also found that officers of all races/ethnicities received assignments in their preferred occupations at comparable rates. Thus, for racial/ethnic minorities, the lower percentages of occupied combat occupations represent their occupational preferences rather than selection bias on behalf of the military. It is not known if the same phenomena would occur for women should all combat exclusion policies be lifted.

Current Rates of Separation in the Military: A Review of DMDC Data

In June 2012, at the request of DACOWITS, DMDC provided ICF with data on military personnel strength and losses for FY 2011. These data were broken out across several variables, including gender, Service component, paygrade, race/ethnicity, marital status, and parental status. Additionally, DMDC provided data, in the form of InterService Separation Codes (ISCs), detailing the primary reason for separations from the Service.

It is helpful to gain some context by reviewing the military's personnel/strength with respect to gender. Across the military, men far outnumber women, comprising well over three-quarters of the total force (84%). Comparatively, women are found in higher proportion within the Reserve Component (see Figure 1) versus the Active Component.

Figure 1



Source: Defense Manpower Data Center
* Includes Coast Guard and Coast Guard Reserve

A straightforward look at separation rates from the most recent complete year, demonstrates the magnitude of the gender gap in retention.[15] Among all military members, women separated from the military at a rate of 12.3 percent, compared to 10.4 percent for men. The gender gap existed, though not at identical rates, for both the Active and Reserve Components.

Figure 2

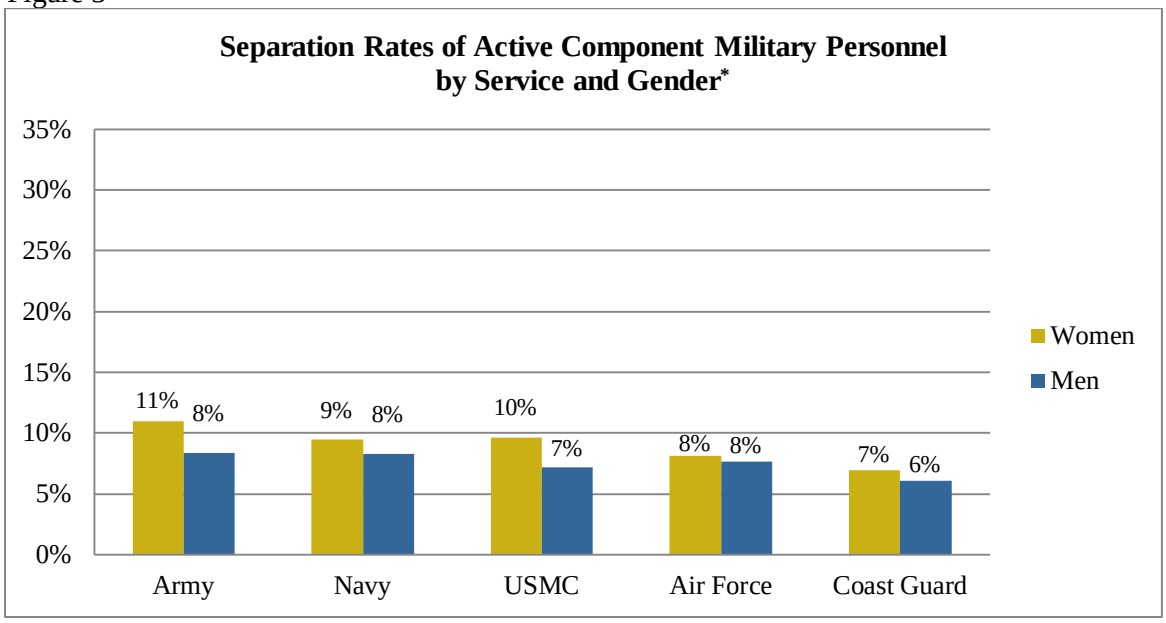
FY 2011 Separation Rates

	Active Component*	Reserve Component**	Total
Women	9.6%	15.9%	12.3%
Men	7.9%	14.8%	10.4%
Total	8.2%	15.0%	10.7%

Source: Defense Manpower Data Center
*Includes Coast Guard
**Includes Coast Guard Reserve

The gender gap was fairly consistent across all Active Components (around 1 to 2% across Services; see Figure 3), with Air Force showing the smallest gap. For the Reserve Component, most Services showed a similar proportional difference, with the exception of the USMCR (6%) and USCGR (3%) which had higher gender gaps (see Figure 4). Interestingly, USNR showed men having slightly higher separation rates than women, though this difference is minimal (0.4%) and may instead represent equal rates of separation between genders.

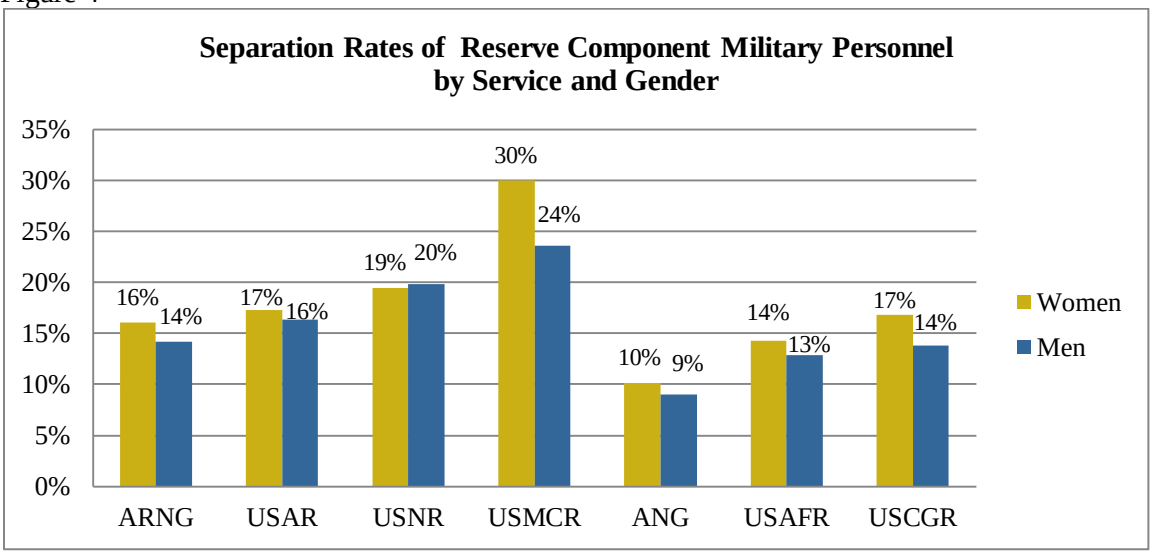
Figure 3



Source: Defense Manpower Data Center
* Slight differences in bar height for Air Force are due to rounding.

[15] To calculate separation rates in this memo, we divided the total number of separations by the total number of personnel in uniform for that specific subgroup (e.g. rank, family status). Separations do not include those Service members who transferred from the Active Component to Reserve Component. A review of gender differences within this specific population is included in analysis of ISCs.

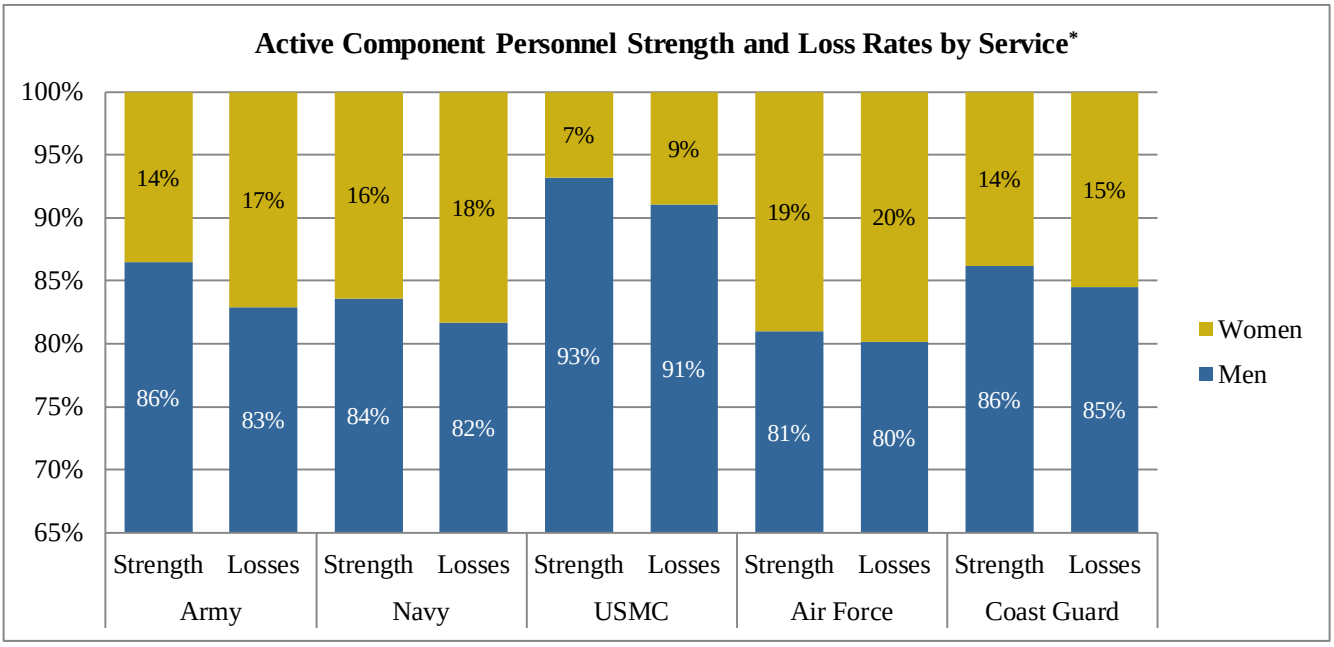
Figure 4



Source: Defense Manpower Data Center
The Reserve Component Services include Army National Guard (ARNG), U.S. Army Reserve (USAR), U.S. Navy Reserve (USNR), U.S. Marine Corps Reserve (USMCR), Air National Guard (ANG), U.S. Air Force Reserve (USAFR), and U.S. Coast Guard Reserve (USCGR)

An additional measure of the gender gap can be seen by comparing strengths and losses within demographic groups. Figure 5 shows the proportional gender breakdown in strength and in losses of Active Component members by Service. Focusing on strengths, Air Force has the highest proportion of women compared to the other Services (19%). Not surprisingly, proportions of separations mirror total strength, with Air Force also having the highest percentage of women separating (20%). Across the board, however, the percentage of women separating from each Service was higher than the percentage of women who comprised the force for that Service in FY2011. This pattern was not evident among men Service members.

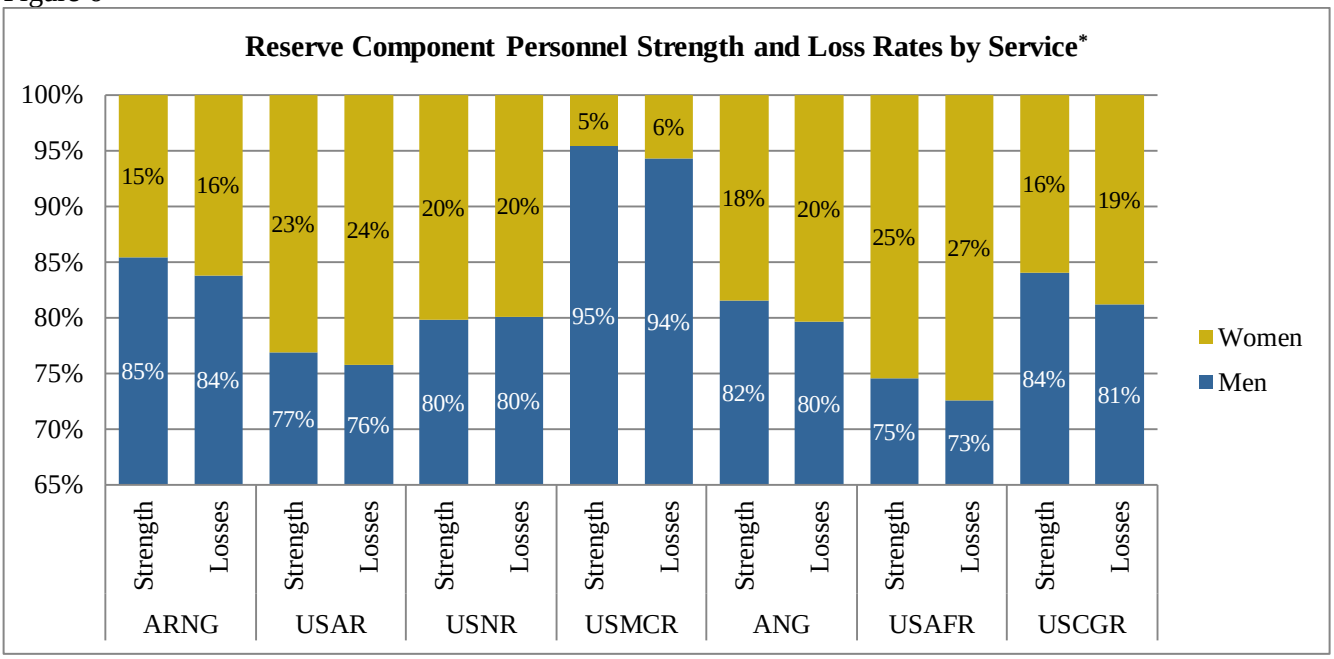
Figure 5



Source: Defense Manpower Data Center
*It is important to note that this figure begins at the 65% mark, as opposed to 0%. This was done to better highlight the differences that exist.

For Reserve Component, we see a similar overall pattern. The percentage of women separating from each Service was higher than the percentage of women who comprised the force for that Service in FY2011 (see Figure 6). USNR represents the one exception, with women comprising similar rates of strengths and losses. These gender differences between strength and losses among Active and Reserve Components indicate that women are separating from the Service at a higher rate than men, even when taking the composition of the total force into account.[16]

Figure 6

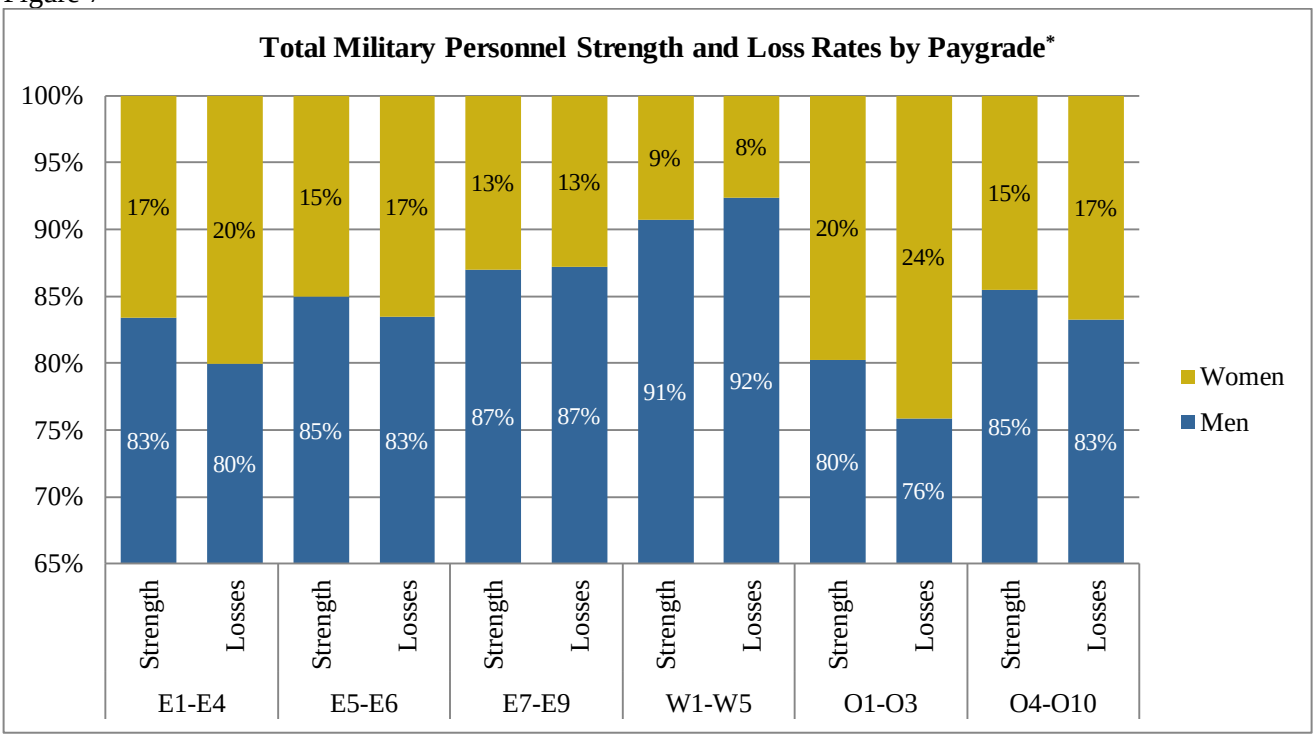


Source: Defense Manpower Data Center
The Reserve Component Services include Army National Guard (ARNG), U.S. Army Reserve (USAR), U.S. Navy Reserve (USNR), U.S. Marine Corps Reserve (USMCR), Air National Guard (ANG), U.S. Air Force Reserve (USAFR), and U.S. Coast Guard Reserve (USCGR)
*It is important to note that this figure begins at the 65% mark, as opposed to 0%. This was done to better highlight the differences that exist.

As mentioned earlier, one factor that helps to explain the gender gap in separation rates is rank. Paygrade and seniority are among the strongest predictors of retention in the military. Thus, if women are more concentrated in the lower ranks, it would be expected that women would show higher rates of separation than men. Figure 7 shows the proportional gender breakdown in strength and in losses by paygrade. As expected, the percentage of women separating within junior paygrades (E1 to E4 and O1 to O3) was higher than the percentage of women who comprised the force for these paygrade groups. This gap was not evident for men and leveled out for women at more senior paygrades.

[16] One consideration when interpreting these data is the potential differences in the number of men and women entering the Services, which is not taken into account here.

Figure 7



Source: Defense Manpower Data Center
*It is important to note that this figure begins at the 65% mark, as opposed to 0%. This was done to better highlight the differences that exist.

ICF also examined reasons for separation among Active Component Service members in FY 2011.[17] This analysis was developed by collapsing the 56 ISCs into ten primary categories of separation, following a method used in previous research.[18] A full explanation of how these ISCs were combined can be found in the appendix. It should be noted that these ISCs are not a perfect measure of separation as the Services are permitted to select only one ISC for each separating Service member. As there are often multiple reasons for separation from the military, care should be taken when interpreting rates within codes. [19] While the current analysis of ISCs sheds additional light on reasons for individuals' separation from the Service, it is important to keep in mind the limitations of the data.

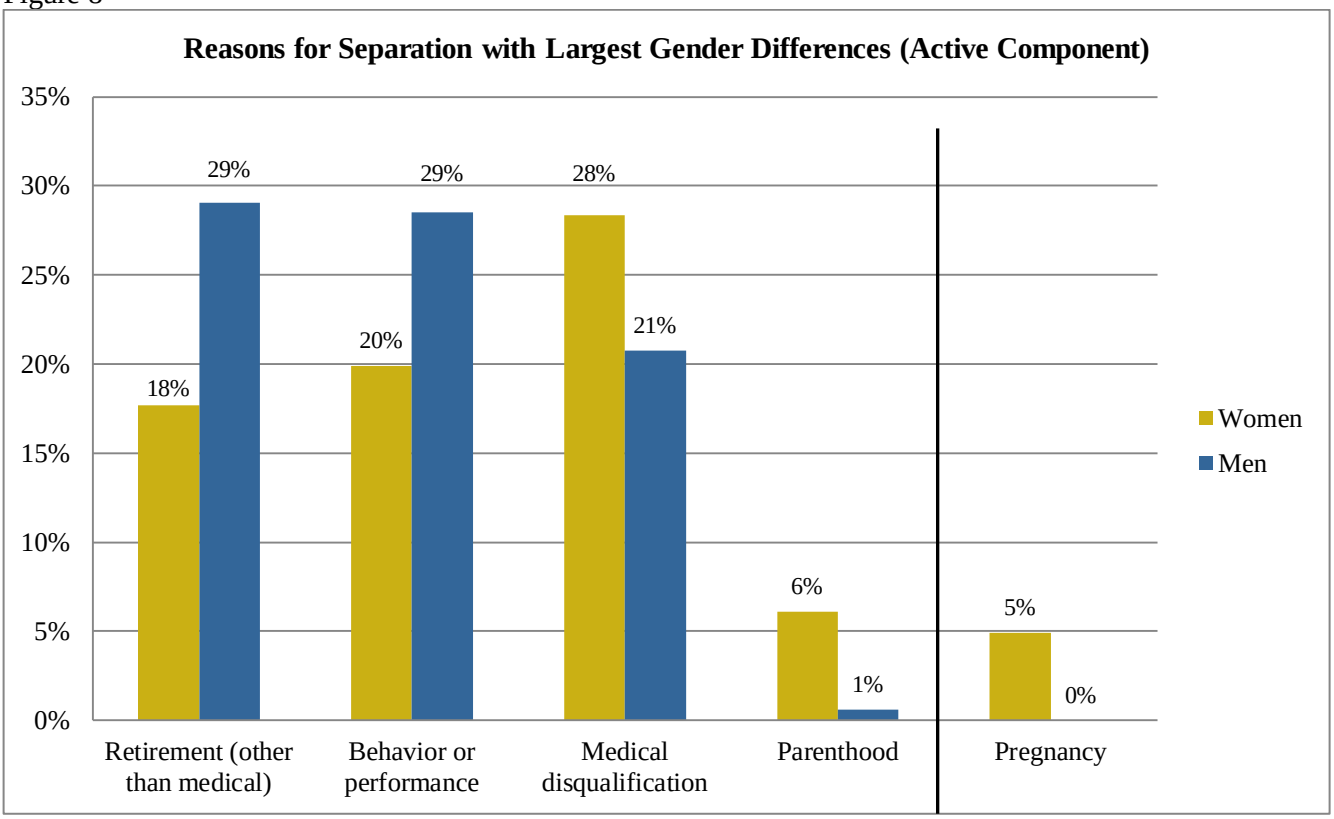
In order to examine Active Component members who transferred to the Reserve Component, DMDC flagged these individuals and coded them as transfers. This code superseded the previously identified ISC for those individuals. Transfers to the Reserve Component accounted for the greatest number of separations among Active Component Service members of both genders. Men, however, left the Active Component and transferred to the Reserve Component at higher rates than women (37% of men who separated from the military compared to 32% of women). This fact is intriguing, as there is no clear explanation for why higher rates of women are choosing complete separations from the Service as opposed to transferring to the Reserve Component. It is

[17] The Reserve Component was not included in this analysis for two reasons: 1) both the Army National Guard and Army Reserves do not list InterService Separation Codes (ISCs); 2) across the five Reserve Component Services that do list ISCs, 78 percent of all separations are coded as "unknown or not applicable."
[18] Ramsey, L., Urynowicz, B. & Younkman, D. (1992). *Update of the U.S. Army Research Institute's longitudinal research data base of enlisted personnel.* United States Army Research Institute for the Behavioral and Social Sciences, Research Note 92-72.
[19] See Klein, S., Hawes-Dawson, J. & Martin, T. (1991). *Why recruits separate early.* Santa Monica, CA: RAND Corporation for review of limitations.

possible that women are less informed about the option to transfer to the Reserve Component as a way of retaining ties to the Service.

To better understand the gender gap in complete separations from the military, we removed Active Component members who transferred to the Reserve Component from the analysis, and looked at the separation categories with the largest gender gaps. The largest gender gaps were in separations due to retirement, behavior or performance, medical disqualification, parenthood, and pregnancy (see Figure 8). It is important to note the gender gap in retirement, as this indicates that Service women were less likely to remain in the military long enough to reap the benefits of retirement. The gender gap in medical disqualifications, which includes separation for failure to meet weight or body fat standards, may partially be explained by research showing that women are more likely to be assigned to fitness training units than men.[20]

Figure 8



Source: Defense Manpower Data Center
Includes Coast Guard

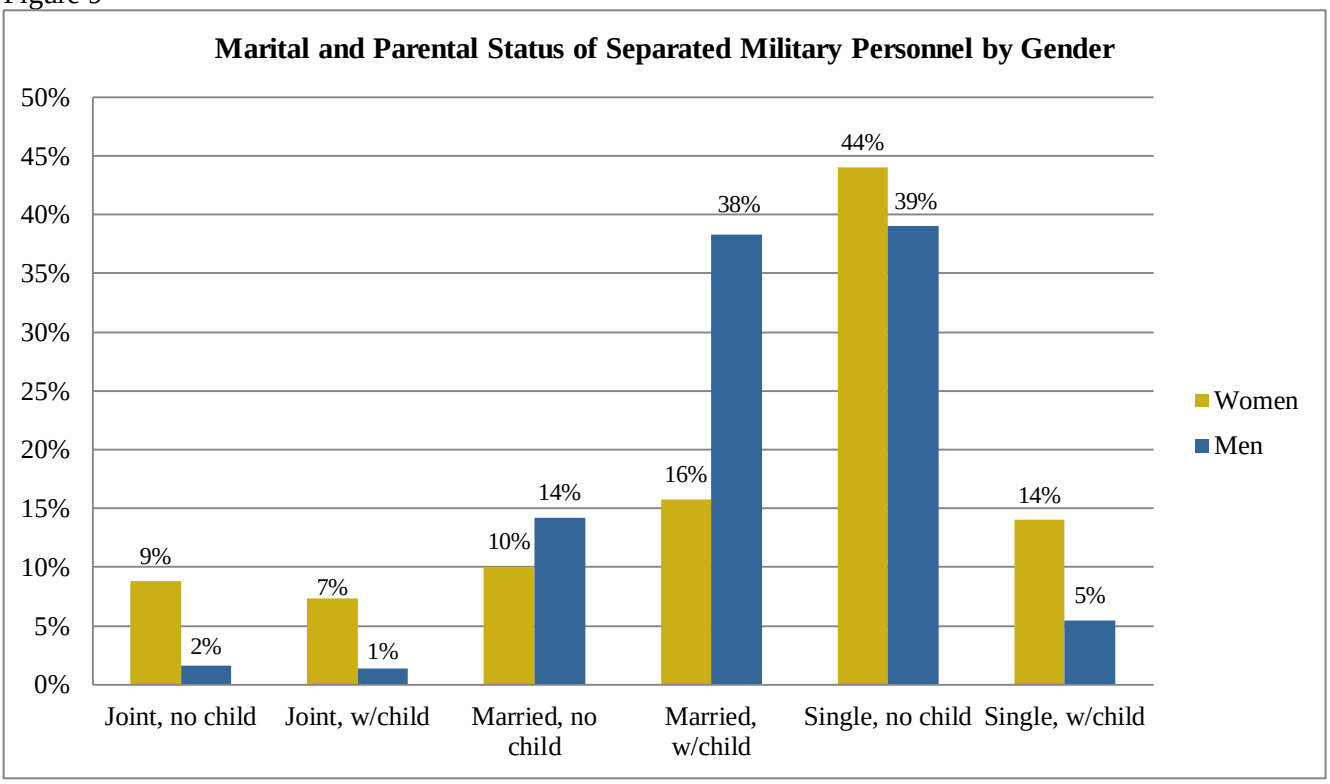
In December 2011, ICF discussed research indicating that work-family balance challenges were the number one reason women left the Service, and the gender gap in ISCs partially supports this finding.[21] There are two ISCs that are relevant to this discussion – pregnancy and parenthood. Obviously, only women can separate for pregnancy, but men and women are both able to separate for parenthood. Regardless, a far higher percentage of women (6%) than men (1%) reported separating for parenthood (see Figure 8). This would seem to indicate that family reasons may be more influential in a woman's decision to separate than a man's.

[20] Buddin, R. (2005). *Success of first-term soldiers: The effects of recruiting practices and recruit characteristics.* Santa Monica, CA: RAND Corporation.

[21] As noted above, only one ISC is used per separation; thus, ISCs may not provide a complete picture of why women are separating at a higher rate than men.

To further investigate the effects of family demands on retention, we explored the allocation of Service members with respect to their marital and parental status, finding differences between women and men (see Figure 9). Notably, women Service members were far more likely to be single than men and were more likely to be married to another Service member (i.e., joint status). The largest difference in parental/marital status is that men were more likely to be married with children than women, yet a higher percentage of women were single parents. These differences may be caused by fewer married women entering the Service, more women separating from the Service once they marry and/or have children, or some combination of the two.

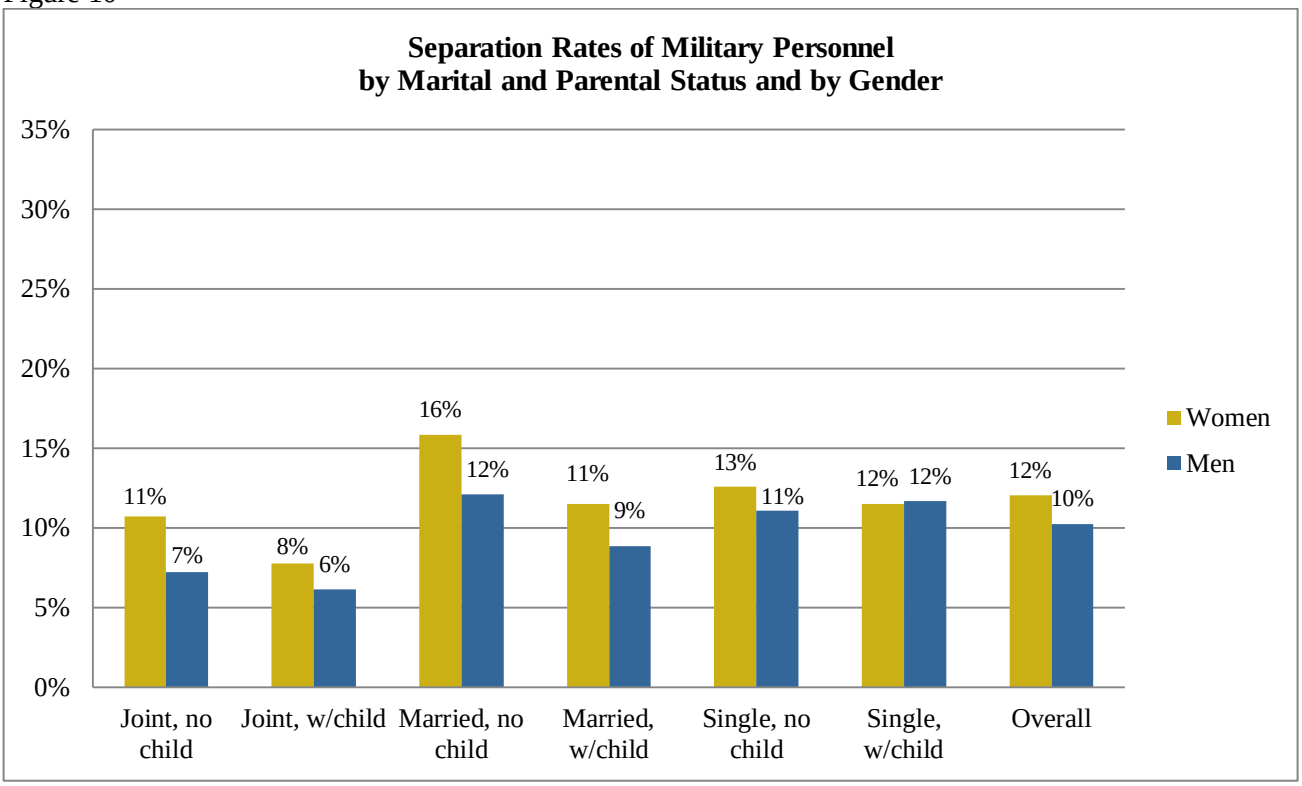
Figure 9



Source: Defense Manpower Data Center
Includes Coast Guard and Coast Guard Reserve

Figure 10 displays the respective separation rates, for both women and men, for the various groups depicted in Figure 9. Across all groups, Service women had higher separation rates than their male counterparts, with the exception of single parents. The largest gaps in separation rates are among dual-military families (i.e., joint status) without children and married without children. Within these groups, and compared to other marital/parental groups, women Service members had greater separation rates than men. The lowest separation rates for both men and women were among dual military couples with and without children. One possible explanation is that having a spouse who is knowledgeable and supportive of the military lifestyle may act as a buffer for potential negative impacts of military-related stressors.

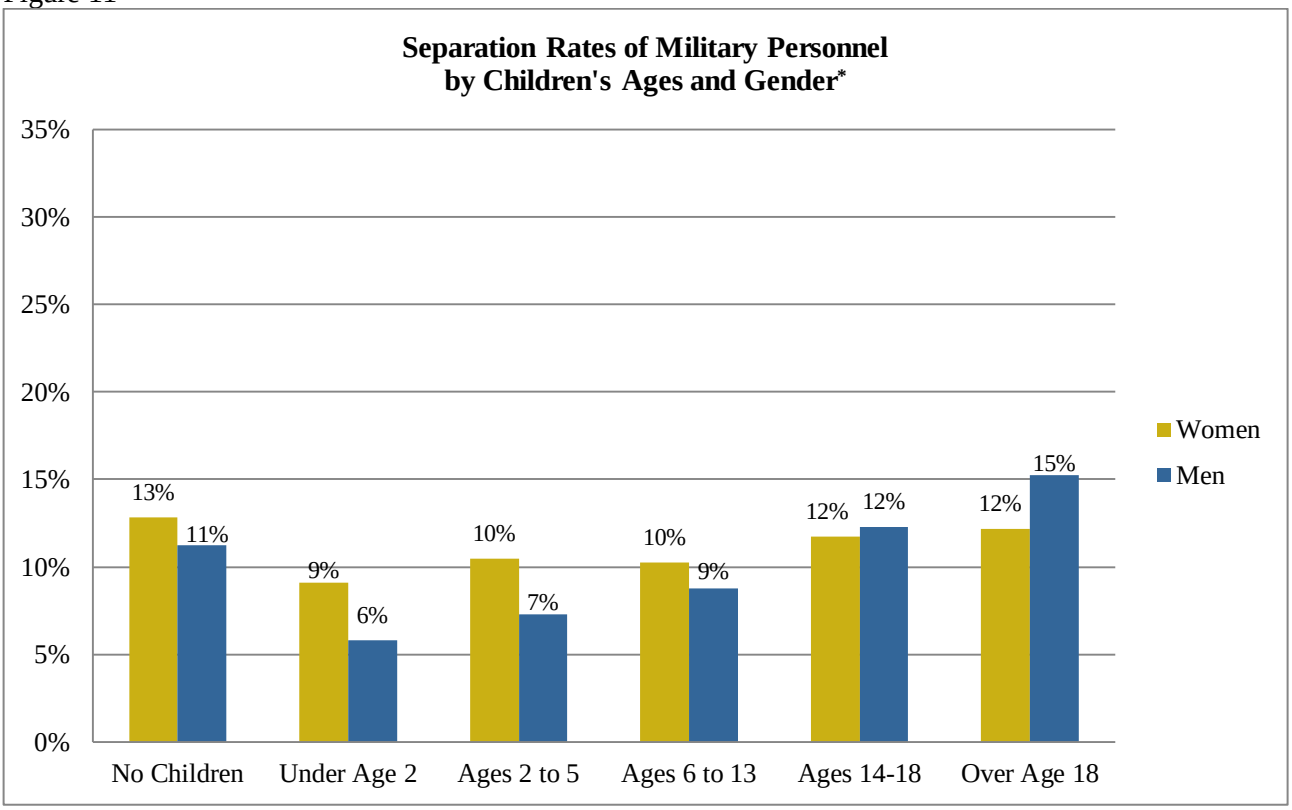
Figure 10



Source: Defense Manpower Data Center
Includes Coast Guard and Coast Guard Reserve
* Slight differences in bar height for Single w/ Child are due to rounding.

The rates of separation for male and female parents are largely dependent on the ages of their children (see Figure 11). For parents with young children (under the age of 14), women separated at higher rates than men. This gap in separation rates leveled out as the children reached ages 14 to 18. The pattern reversed for Service members with children over 18 with men separating at higher rates than women. This change in pattern may be the result of men's higher tendency to stay in the Service long enough to reach retirement (see Figure 8). The higher percentage of women with young children separating is additional evidence that women may choose to separate for family reasons.

Figure 11



Source: Defense Manpower Data Center
Includes Coast Guard and Coast Guard Reserve
* Slight differences in bar height for Ages 14-18 are due to rounding.

Summary of Findings

Empirical research has consistently demonstrated a gender gap in retention in the military. ICF examined the current research on this gap in December 2011. Since then, additional research has been conducted and released. In 2012, RAND used longitudinal data to track the career progression of officers. This study found that women experienced lower rates of promotion and retention than their white male counterparts in the O1 to O5 ranks. Conversely, if women remained in the military long enough, they found women had higher promotion rates from O5 to O6 than men. Enlisted personnel did not show similar gender gaps, as retention and promotion rates showed only slightly lower rates of retention at the E1 to E3 ranks. A current popular theory for explaining these differences is that the combat exclusion policies affect the retention and promotion of women. When looking at women in open versus partially closed career fields, RAND found women in partially closed occupations had lower rates of *retention* at the O3 and O5 levels, but they found no differences in rates of *promotion* among officers. MLDC found a higher percentage of officers who came from tactical career fields compared to other career fields, with these differences becoming most pronounced among flag/general officers. This is problematic for women, as men tend to occupy more positions in tactical occupations than in any other occupation. While these results highlight interesting, and often concerning, patterns between genders, these findings do not tell us what effect opening up combat arms positions to females would actually have on retention and promotion rates for women. Other factors, such as occupational preferences, are likely to influence any effects that removing the combat exclusion policies might have on the retention and promotion of women in the Service. This may be an area of interest for DACOWITS.

In December 2011, ICF found little data on retention across Services and demographics. Data supplied by DMDC allowed for this review. DMDC data confirmed the gender gap in retention, with women separating from the Service at higher rates than men. There was also a gender gap in the percentage of separations compared to total strength, with women separating at a rate higher than their total strength, especially at the lower officer levels. Compared to women, higher percentages of men separated from the Active Component to move to the Reserve Component or separated to retire. Higher percentages of women separated for family reasons. Women were much more likely than men to separate when their children were young (i.e., under the age of 14) which again highlights potential difficulties for Service women maintaining work-life balance, consistent with the findings from ICF's December 2011 memo. This is an area of interest to DACOWITS and may call for further investigation.

Appendix

Explanation of Inter-Service Code (ISC) Categories

Category	Unknown or invalid
Inter-Service Code	Unknown or invalid

Category	Release from active service
Inter-Service Code	Expiration of terms of service
	Early release, insufficient retain ability
	Early release, to attend school
	Early release, in the national interest
	Early release, seasonal employment
	Early release, to teach
	Early release, other, including RIF, VSI, and SSB

Category	Medical disqualification
Inter-Service Code	Condition existing prior to service
	Disability, severance pay
	Permanent disability, retirement
	Temporary disability, retirement
	Disability, no condition existing prior to service, no service pay
	Unqualified for active duty, other
	Failure to meet weight or body fat standards

Category	Dependency or hardship
Inter-Service Code	Dependency or hardship

Category	Death
Inter-Service Code	Death, battle casualty
	Death, non-battle, disease
	Death, non-battle, other
	Death, cause not specified

Category	Retirement (other than medical)
Inter-Service Code	Retirement, 20 to 30 years of service
	Retirement, over 30 years of service
	Retirement, other

Category	Behavior or performance
Inter-Service Code	Character or behavior disorder
	Motivational problems (apathy)
	Inaptitude
	Alcoholism
	Discreditable incidents, civilian or military
	Drugs
	Civil court conviction
	Security
	Court-martial
	Fraudulent entry
	AWOL or desertion
	Homosexuality[22]
	Sexual perversion
	Good of the Service (discharge in lieu of court-martial)
	Juvenile offender
	Misconduct, reason unknown
	Unfitness, reason unknown
	Pattern of minor disciplinary infractions
	Commission of a serious offense
	Failure to meet minimum qualifications for retention
	Unsatisfactory performance (former expeditious discharge program)
	Entry level performance and conduct (former trainee discharge program)
Category	Pregnancy
Inter-Service Code	Pregnancy
Category	Parenthood
Inter-Service Code	Parenthood
Category	Other separations or discharges
	Secretarial authority
	Erroneous enlistment or induction
	Sole surviving family member
	Minority (underage)
	Conscientious objector
	Breach of contract
	Other
	Retirement, failure of selection for promotion (officers only)
	Involuntary release, other (officers only)

[22] Includes discharges prior to the 'Don't Ask, Don't Tell' repeal on September 20, 2011. The Services classified the homosexuality ISC alongside other ISCs relating to "behavioral or performance criteria." (Ramsey, Urynowicz, & Younkman, 1992)