

**MLDC Research Areas**

Definition of Diversity

Legal Implications

Outreach & Recruiting

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Promotion

Retention

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This issue paper aims to aid in the deliberations of the MLDC. It does not contain the recommendations of the MLDC.

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Differences in Promotion and Retention Rates by Race/Ethnicity and Gender

Considerations When Interpreting Overall Continuation Rates

Abstract

In its tasking from Congress, the MLDC has been asked to examine how the Services' current policies and practices affect the promotion and continuation/retention rates of servicemembers from different demographic groups. To assist in this tasking, this issue paper (IP), along with IPs on officer continuation and recent officer promotion rates by race, ethnicity and gender, discusses these topics as they relate to the officer corps. In this IP, we summarize the results of a comprehensive 2001 study that highlights the importance of looking beyond overall continuation rates to understand how different demographic groups are promoted and retained. Although the specific results are not necessarily applicable to today's cohort given the time frame of the study, the idea of breaking out promotion and retention has important policy ramifications because, on one level, continuation rates may look the same, but the underlying rates can tell a different, more precise story. On the other hand, the results of this study are relevant to understanding the demographic makeup of today's senior leaders. Generally speaking, the results suggest that minority men and white and minority women are underrepresented among today's senior leaders due to low representation among accessions and low promotion rates relative to white men. The retention rates of white women were also lower than those of white men.

The charter for the MLDC identifies 16 key tasks for the commissioners. Three of these pertain to evaluating and measuring promotion and continuation/retention.

To aid the commissioners, we address these tasks, specifically as they relate to the

officer corps, in three separate issue papers (IPs). The first IP uses the most recent data available and presents raw continuation rates by gender and race/ethnicity (Military Leadership Diversity Commission, 2010a). The second summarizes promotion rates for officers, also by race/ethnicity and gender, as presented by representatives from each Service during the December 2009 meeting (Military Leadership Diversity Commission, 2010b). This IP complements the other two by framing their career-progression discussions in the context of a comprehensive 2001 study¹ that highlights the importance of both promotion and retention in understanding overall continuation rates (Hosek et al., 2001).

Generally speaking, continuation is determined by two factors: promotion and retention. Promotion is the process by which an officer is selected to advance to the next pay grade, and retention represents an officer's own decision to remain on active duty during the interval between promotion boards. Therefore, continuing through the military officer pay grades depends on both (1) remaining in the Service after a given promotion level and (2) being promoted to the next pay grade.

In some cases, although overall continuation rates across two demographic groups look the same, one group may be retaining but not promoting, while the other may be promoting but not retaining. On the surface, the two groups will look identical, even though there are underlying differences.

For today's cohorts, the particular results of the 2001 study by Hosek et al. may not be applicable, given the study's time frame (1967–1991).² However, the methodology used is instructive: Promotion and retention, not just overall continuation, should be taken into account in any diversity policy decision.

Conversely, precisely because of the study time frame, the results of that 2001 study provide some important insights into

the promotion and retention outcomes that underlie the demographic makeup of today's senior officer corps.

In the next pages, we outline the results of the 2001 study by Hosek et al. as they relate to promotion and retention in the officer corps. We highlight key results in a summary at the end of this IP.

Hosek et al. (2001)

In their 2001 study, Hosek et al. analyzed promotion and retention rates from pay grades O-1 to O-6 for white men, black men, other minority men, white women, black women, and other minority women for all Services (except the Coast Guard) and for officers who accessed in one of seven selected cohorts (ranging between 1967 and 1991).

To ensure that variables other than the ones in question were not influencing promotion outcomes, the authors controlled for factors other than race, ethnicity, and gender. Some of these factors include prior enlisted service, military service,

accession source, occupation, and cohort. These controls allowed the authors to make stronger conclusions than could otherwise be drawn with raw promotion and retention-rate analysis.³

Table 1 shows the available demographic information for the cohorts used in this analysis. Note that the percentages of minority and female accessions are much smaller than the percentage of white male accessions. Further note that the early accession cohorts described in this table are those that produced today's senior leaders.

Figure 1 shows the career progression profile from this sample, averaged across all Services and cohorts. It also shows the average timing of promotion windows and the percentage of entering cohorts that remained in the military at the end of each window. Those who were not promoted were not counted in the next window, even if they stayed. Nine outcomes were analyzed: retention at O-1, promotion to O-2, retention at O-2, promotion to O-3, and so forth, through O-6.

Table 1: Percentage of Officer Nonprofessional Accessions, 1977–1991 Cohorts, by Race, Gender, and Service

| | 1977 | 1980 | 1983 | 1987 | 1991 |
|---------------------|------|------|------|------|------|
| DoD Total | | | | | |
| White male | 82.2 | 79.6 | 81.2 | 82.0 | 78.3 |
| Black male | 6.6 | 5.3 | 6.7 | 5.5 | 6.1 |
| Other male | 1.9 | 2.1 | 2.0 | 2.8 | 4.4 |
| White female | 7.9 | 11.1 | 8.0 | 8.0 | 9.1 |
| Black female | 1.2 | 1.6 | 1.8 | 1.4 | 1.4 |
| Other female | 0.2 | 0.3 | 0.3 | 0.4 | 0.7 |
| Army | | | | | |
| White male | 76.1 | 76.9 | 75.3 | 73.9 | 74.9 |
| Black male | 8.9 | 6.3 | 10.0 | 10.1 | 9.2 |
| Other male | 2.7 | 2.8 | 1.9 | 2.5 | 3.0 |
| White female | 10.3 | 11.6 | 9.7 | 10.1 | 9.6 |
| Black female | 1.7 | 1.9 | 2.8 | 2.9 | 2.9 |
| Other female | 0.3 | 0.4 | 0.3 | 0.5 | 0.5 |
| Navy | | | | | |
| White male | 90.4 | 96.3 | 87.3 | 89.2 | 90.4 |
| Black male | 3.6 | 3.0 | 3.1 | 3.6 | 5.1 |
| Other male | 1.1 | 2.1 | 2.5 | 2.5 | 5.4 |
| White female | 4.6 | 8.1 | 6.2 | 4.3 | 7.6 |
| Black female | 0.3 | 0.3 | 0.6 | 0.3 | 0.9 |
| Other female | 0.0 | 0.2 | 0.3 | 0.1 | 0.7 |
| Air Force | | | | | |
| White male | 80.8 | 75.8 | 81.0 | 81.5 | 76.7 |
| Black male | 7.0 | 6.1 | 6.2 | 3.2 | 4.5 |
| Other male | 1.8 | 1.8 | 1.9 | 3.0 | 4.6 |
| White female | 8.6 | 13.5 | 8.4 | 10.3 | 12.2 |
| Black female | 1.6 | 2.3 | 2.1 | 1.3 | 0.9 |
| Other female | 0.3 | 0.4 | 0.4 | 0.8 | 1.1 |
| Marine Corps | | | | | |
| White male | 91.6 | 91.4 | 87.4 | 85.7 | 96.3 |
| Black male | 3.9 | 3.2 | 6.3 | 5.6 | 4.1 |
| Other male | 0.5 | 0.4 | 1.8 | 3.6 | 5.1 |
| White female | 3.8 | 4.5 | 4.3 | 4.6 | 3.9 |
| Black female | 0.2 | 0.4 | 0.2 | 0.3 | 0.2 |
| Other female | 0.0 | 0.0 | 0.0 | 0.1 | 0.3 |

SOURCE: Hosek et al., 2001.

NOTES: Excludes officers in professional occupations. Totals may not equal 100 because of rounding.

Generally, this figure follows a downward curve as officers leave active-duty service voluntarily (during retention windows) and involuntarily (during promotion windows). We note that this curve is similar to the cumulative continuation curves in Military Leadership Diversity Commission (2010a).

Promotion vs. Retention, Minority Males

Figure 2 shows the estimated differences in completion (or continuation) rates for Black and other minority male officers relative to white male officers, when controlling for other variables. The top panel of the figure highlights differences in completion through retention windows, and the bottom panel highlights differences in completion through promotion windows. For example, the positive estimate of 11 percent for black men during the O-5 retention window means that the percentage of black men who completed through that window was 11 percentage points higher than the percentage of white men who completed through that window.

In general, black men were *more* likely than white men to complete through retention windows but were *less* likely than white men to complete through promotion windows. There are two exceptions to these patterns: Black male officers were significantly less likely to complete through the O-4 retention window and more likely (though not significantly so) through the O-6 promotion window. For other minority men, completion through retention windows was about the same as for white men, but completion through promotion windows was significantly lower.

In terms of overall career progression, black men had relatively high levels of completion through retention windows but relatively low levels of completion through promotion windows. As a result, there was no significant difference between white and black male officers in terms of their progression from O-1 to O-4. However, this was only true for

black men: For other minority male officers, there was no positive retention difference to offset their relatively low level of completion through promotion windows. As a result, compared with white men, 6 percent fewer minority men reached the O-4 pay grade.

Promotion vs. Retention, Women

Figure 3 shows the same information for white women relative to white men. These results show that, below the O-4 level, white women were significantly *less* likely than white men to stay during both retention and promotion windows. However, at the O-4 level and beyond, there were no significant differences in completion through retention windows, and the only significant difference in completion through a promotion window occurred at O-4, when white women were significantly *more* likely than white men to complete.

Although not shown in Figure 3, the completion rates for minority women (including black women) were also analyzed. Compared with white men, black women had a non-significant higher rate of completion through the O-3 retention window, and they tended to be less likely to complete through promotion windows. Although the results were either inconclusive or not statistically significant for other minority women, this group tended to have lower rates of promotion up to the O-5 pay grade.

Promotion and Retention Rates to O-4, Women and Black Men

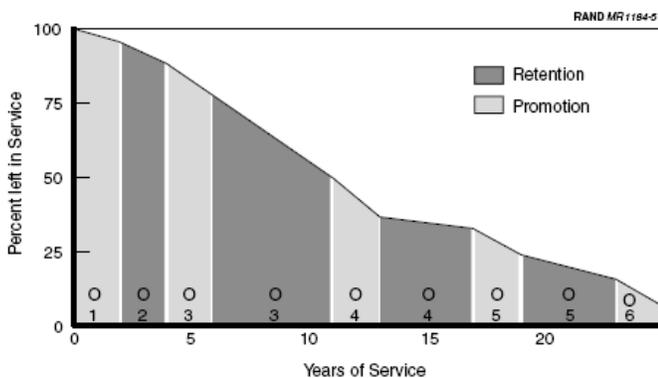
Based on an entering group of 100, Hosek et al. (2001) also calculated the number of officers that would be lost from the pipeline leading up to O-4 and by which avenue—either a promotion or a retention window. The results for black and white men and women are shown in Table 2. There are two important bottom-line results: (1) There was no difference in the numbers of black men and white men expected to reach O-4 and (2) relative to black or white men, fewer women from either race were likely to reach the O-4 milestone. However, in looking at retention and promotion separately, more white men and white women were likely to be lost during retention windows, while more black men and black women were likely to be lost during promotion windows.

Figure 4 presents the same results in a different format. These data show the relative likelihoods of leaving due to either promotion failure or voluntary departure for black men and black and white women. The figure shows that, compared with white men, black men and black women were more likely to stay in the Service between promotion windows but less likely to be promoted. On the other hand, white women were both less likely to stay in the Service between promotions and less likely to be promoted.

Summary of the Key Findings from Hosek et al. (2001)

As mentioned in the introduction, the particular results of the 2001 study by Hosek et al. may not be applicable to today's cohorts. However, the study results are revealing when

Figure 1. Average Profile of Officer Cohorts Studied



SOURCE: Hosek et al., 2001.

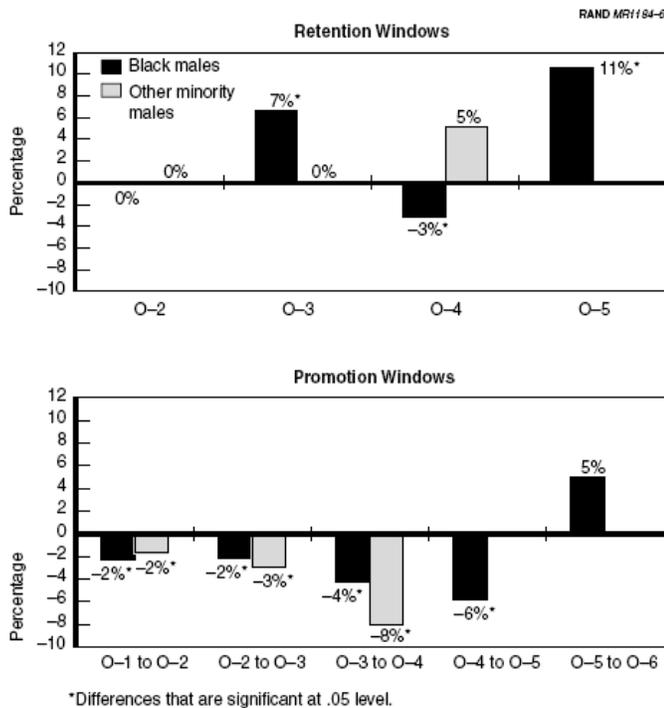
considering the promotion and retention outcomes of the accession cohorts that produced today's senior leaders. Here we highlight the results:

- For black men relative to white men, low promotion and high retention offset each other, leading to similar overall continuation to O-4. Beyond O-4, black men retained at a higher rate than white men.
- For other minority men, retention was not significantly different when compared with that of white men at any point; however, the promotion rates of other minority men were significantly lower through O-4.
- Up to O-4, white women had lower rates of retention and, generally, lower rates of promotion (except for promotion from O-3 to O-4, where the promotion rate was higher). Beyond O-4, white women promoted at the same rate as white men.

Table 2. Comparison of Losses Between Commissioning and O-4, by Race and Gender

| | White Men | Black Men | White Women | Black Women |
|---------------------------------|-----------|-----------|-------------|-------------|
| Entering group count | 100 | 100 | 100 | 100 |
| Number leaving during retention | 35 | 28 | 40 | 30 |
| Number leaving during promotion | 28 | 36 | 30 | 39 |
| Number remaining to O-4 | 37 | 36 | 30 | 31 |

Figure 2. Differences in Completion Rates for Minority Male and White Male Officers



SOURCE: Hosek et al., 2001.

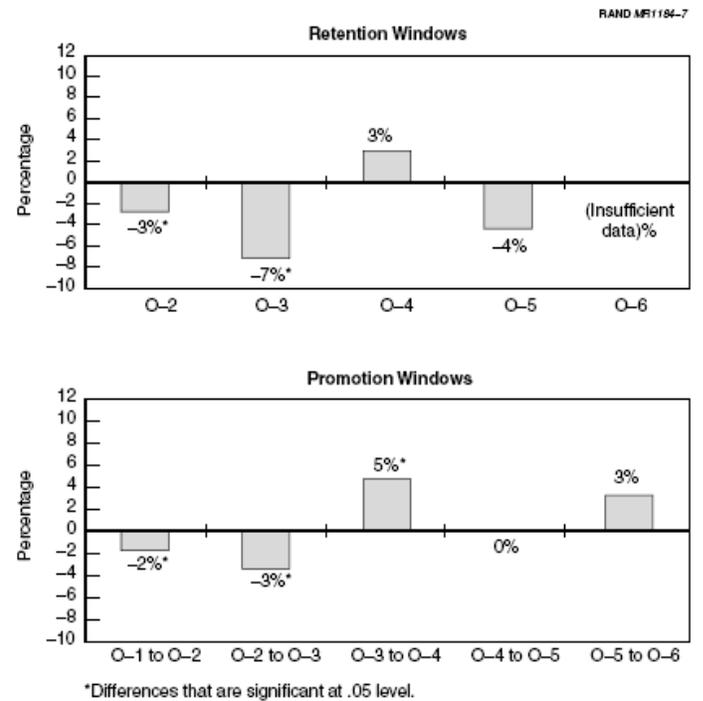
- The retention rate of black women was higher relative to that of white men up to O-4, but the rate of promotion was lower.
- Other minority women had insignificantly lower retention rates and promotion rates compared with white male officers up to O-4.

Conclusion

In general, the results of Hosek et al., (2001) demonstrate that two demographic groups can have the same average rate of attaining a specific pay grade but different underlying retention and promotion rates. This has important policy implications: Both promotion and retention, not just overall continuation, should be considered in any policy recommendations.

Furthermore, although the specific findings from Hosek et al., (2001) may not be applicable to today's cohort because of the study time frame, the results do highlight how promotion and retention outcomes helped define the demographic profile of today's leaders. The results suggest that minority men are underrepresented in today's senior leadership as a result of low levels of representation among accessions and relatively low promotion rates. For women overall, the results suggest that low representation in today's leadership is due to low representation among accessions and to low promotion. In the case of white women, relatively low retention has also been a factor.

Figure 3. Differences in Completion Rates of White Females and White Male Officers



SOURCE: Hosek et al., 2001.

Notes

¹We rely on this study for several reasons. Primarily, given the time constraints of the commission, carrying out a study of this magnitude is unfeasible. Second, this study is more comprehensive than others: It uses seven selected cohorts over a 24-year period and covers all the Services (except the Coast Guard). Finally, it controls for variables other than race, ethnicity, and gender, which ensures that only those variables (and not accession source or occupation, for example) are influencing promotion and retention.

²Several policy changes may affect the current numbers. One such example concerns surface warfare officers. After the 1994 repeal of the Combat Exclusion Act, an increased gap in retention between male and female officers in this community was identified (Stoloff, 2007).

³This is not the only study of retention and promotion, but its results are generally consistent with other, more recent reports. For example, Military Leadership Diversity Commission (2010a) finds similar retention results for blacks and women. Also, Fricker (2002) finds that black officers in the Army and the Air Force are more likely to remain in the military than their equivalent white counterparts, and female officers in the Army and the Air Force are less likely to remain in the military than male officers. However, Fricker does not find any difference between men and women in the Navy and the Marine Corps. Similarly, Quester, Hattiangadi, Lee, Hiatt, and Shuford (2007) find no significant differences between genders in the Marine Corps. Similarly, Military Leadership Diversity Commission (2010b), which describes recent promotion rates, shows that minorities and women promote at either a lower rate or at a similar rate compared with the average.

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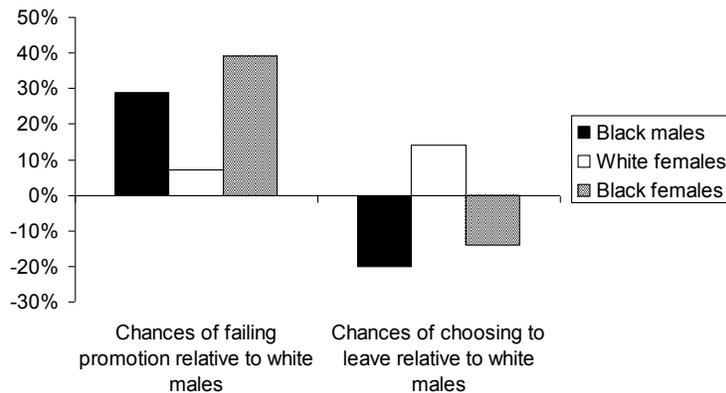
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Figure 4. Retention vs. Promotion of Black and Female Officers Through O-4, Relative to White Male Officers



SOURCE: Hosek et al., 2001.