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Recent Officer Promotion Rates by Race, Ethnicity, and Gender

Abstract

The MLDC has been tasked with assessing promotion opportunities by race, ethnicity, and gender. To that end, in this issue paper, we present statistics that describe the promotion rates of female and minority officers. Recent data show that black, Hispanic, and other minority line officers had lower-than-average promotion rates to O-4 and O-5 in several Services. Female officers in the Navy, the Army, and the Coast Guard also had lower than-average-promotion rates to these grades. Several of the differences are large enough to merit further investigation. In addition, the differences in recent promotion rates between minority and majority officers were not very different from differences in promotion rates between minority and majority officers ten or more years ago.

One of the charter tasks of the MLDC is to evaluate the establishment and maintenance of fair promotion and command opportunities for members of all gender and race/ethnicity groups. During the December 2009 meeting, the Services briefed the commission on line officer promotion rates for these demographic groups. This issue paper (IP) summarizes these rates and presents the key findings from these briefings.

It is important to acknowledge what the data presented here can and cannot tell us about racial/ethnic and gender differences in promotion outcomes and the overall fairness of the promotion process. Demographic differences in promotion outcomes do not, on their own, indicate that there is bias in the promotion process. Instead, the line promotion rates reported in this IP show whether there are average, aggregate differences in promotion outcomes between men and women and between minorities and whites. They also show whether the

differences are large enough to merit additional attention to identify their underlying causes.

Such additional attention would include controlling for other factors that could potentially help explain differences in promotion rates for majority/minority groups.¹ Time and resource constraints prevented us from conducting a more in-depth analysis of the demographic differences in recent promotion rates. Instead, we compared the demographic differences in promotion rates from the Services' briefings with demographic differences in rates that were adjusted to control for other factors as estimated by Hosek et al. (2001). This comparison also shows how recent demographic differences in promotion rates compare with the demographic differences in promotion rates from the earlier decades presented in Hosek et al. (2001).

Data

The data supplied in this IP come from the Service briefings presented at the December 2009 MLDC meeting and span, at most, the four fiscal years (FYs) from FY07 to FY10. Specifically, all five Services presented officer promotion rates for FY08 and FY09, but the Marine Corps did not present rates for FY07, and the Army and the Air Force did not present rates for FY10. The Navy and the Coast Guard presented promotion rates from FY07 to FY10. Therefore, this IP discusses average promotion rates (calculated from all the data provided, not just the common years) rather than how promotion rates have trended over time. And, although the presentation of the results from Hosek et al. (2001) allows us to identify demographic differences in the promotion rates of the two periods (i.e., recent and past), it does not allow for trend analysis.

We look at data on line officers for two reasons. First, the bulk of officers are line officers—commanders of warships, ground

combat units, combat aviation units, and combat support units. Officers who are not line officers are those whose primary duties are in noncombat specialties and include chaplains, lawyers, supply officers, and medical officers. Second, by looking only at promotion rates for line officers, we are able to control for some occupation-specific factors that may affect the promotion of females and racial/ethnic minorities. Aggregated data on line and nonline officers could mask differences in male/female or white/minority promotion rates within a similar set of careers.

Race/Ethnicity Categories

The race/ethnicity categories used in the Services' presentations differed from those used in other IPs and in Military Diversity Leadership Commission (2009). The most substantive difference is that race and ethnicity are defined separately such that the race and ethnicity groups are not mutually exclusive. Thus, the race/ethnicity categories in this IP are

- black, Hispanic and non-Hispanic
- Hispanic, all races
- other, Hispanic and non-Hispanic (which includes Asians, Pacific Islanders, American Indians, Alaska natives, and individuals reporting more than one race).²

Recent Line Officer Promotion Rates to O-4 Through O-6

Table 1 shows overall average promotion rates for all five Services. The data show that, for the periods calculated, the likelihood of advancement varied by Service. In particular, officers in the Army were promoted at the highest rates. With the exception of the Army at pay grades O-4 and O-5, the rates in Table 1 are comparable to the desired active-duty promotion rates—80, 70, and 50 percent, respectively, for promotion to O-4, O-5, and O-6, with a 10-percentage point variance around each of these percentages—given by U.S. Department of Defense (2009).

Black Promotion Rates to O-4 Through O-6

Table 2 compares promotion rates for black officers in each Service with each Service- and pay grade-specific average. During this period, black officers in all five Services had below-average promotion rates to O-4 and O-5. The gaps were largest in the Navy and smallest in the Army. Except in the Marine Corps and the Coast Guard, black officers' promotion rates to O-6 were within a few percentage points of the overall Service-specific rate. The promotion rates of black officers in the Coast Guard are difficult to interpret because there were few black officers in the Coast Guard. On average, in each of the four years for which data were provided, there were 21, 7, and 1 black officers eligible for promotion to O-4, O-5, and O-6, respectively, in the Coast Guard.

Table 1: Recent Line Officer Promotion Rates

Pay grade	All Officers: Average Promotion Rates (%)				
	Navy	Air Force	Army	Marine Corps	Coast Guard
O-4	84	90	94	87	82
O-5	79	76	90	69	73
O-6	55	45	57	52	58

NOTE: Navy and Coast Guard averages are based on data from FY07-FY10; Army and Air Force averages are based on data from FY07-FY09, and Marine Corps averages are based on data from FY08-FY10.

Table 2: Recent Line Officer Promotion Rates for Black Officers

Pay grade	Black Officers: Average Promotion Rates (%)									
	Navy		Air Force		Army		Marine Corps		Coast Guard	
	Black	Overall	Black	Overall	Black	Overall	Black	Overall	Black	Overall
O-4	68	84	86	90	90	94	79	87	64	82
O-5	51	79	66	76	83	90	51	69	54	73
O-6	53	55	42	45	54	57	44	52	17	58

NOTE: Promotion rates do not distinguish between male and female officers. They also do not distinguish between Hispanic and non-Hispanic blacks.

Hispanic Promotion Rates to O-4 Through O-6

Table 3 shows the promotion rates for Hispanic officers. During this period, Hispanic officers from all of the Services had below-average promotion rates to O-4. The disparity at the O-4 level was greatest in the Coast Guard. Except in the Army, Hispanics were also promoted to O-5 at below-average rates. The largest gap at the O-5 level was in the Marine Corps. In the Navy, the Air Force, and the Marine Corps, Hispanics were also behind in rates of promotion to O-6. Although promotion rates were generally below average for Hispanic officers, Hispanic promotion rates were typically not as low as black promotion rates.

Promotion Rates to O-4 Through O-6 for Other Race/Ethnicity Groups

Table 4 shows the promotion rates for members of race/ethnicity groups besides white, black, and Hispanic. Only in the Air Force and the Coast Guard did “other” officers have promotion rates to O-4 that were substantially below the overall Service-specific promotion rate to that grade. Other officers in each Service had below-average promotion rates to O-5. Most noticeably, “other” officers had very low promotion rates in the Coast Guard. The O-6 promotion rates of “other” officers also lagged behind the overall rates in the Air Force, the Army, and the Coast Guard. The promotion rates of “other” officers in the Coast Guard are difficult to interpret because there were few of these officers in the Coast Guard. On average, there were 15, 8, and 4 of these officers eligible for promotion to O-4, O-5, and O-6, respectively, in the Coast Guard in each of the four years.

Line Promotion Rates to O-4 Through O-6 for Women

Turning from race/ethnicity to gender, Table 5 compares the promotion rates for female officers with the Service- and pay grade-specific averages. During this period, female officers in the Navy and the Coast Guard had below-average promotion rates to O-4 and O-5. In the Army, female officers also had below-average promotion rates to O-5. Although female officers had below-average promotion rates to O-6 in the Army and the Coast Guard, female officers’ O-6 promotion rates were well-above average in the Navy and the Marine Corps. The promotion rates of female officers in the Coast Guard are difficult to interpret because there were few female officers in the Coast Guard. On average, there were 50, 21, and 8 female officers at the O-4, O-5, and O-6 levels, respectively, in the Coast Guard in each of the four years.

Promotion Rates to O-7 Through O-9

The consideration of flag officer promotion rates requires an important caveat. The minority representation in the eligible populations for promotion to O-7, O-8, and O-9 can be very small. In those circumstances, a single promotion can cause a minority promotion rate to change substantially. We discuss flag officer promotion rates only for descriptive reference and not to recommend changes to promotion policies.

When females have been promoted to O-7 and O-8, their promotion rates have roughly equaled the Service averages. This is also true of Asian/Pacific Islanders, except for promotions to O-8 in the Coast Guard. Although Hispanics have well-above average promotion rates to O-7 in the Marine Corps and the Coast Guard, the promotion rates of blacks

Table 3: Recent Line Officer Promotion Rates for Hispanic Officers

Pay grade	Average Promotion Rates (%)									
	Navy		Air Force		Army		Marine Corps		Coast Guard	
	Hisp	Overall	Hisp	Overall	Hisp	Overall	Hisp	Overall	Hisp	Overall
O-4	83	84	88	90	93	94	84	87	75	82
O-5	71	79	70	76	90	90	57	69	70	73
O-6	48	55	34	45	58	57	45	52	71	58

NOTE: Promotion rates do not distinguish between male and female officers. They also do not distinguish between Hispanics of different races.

Table 4: Recent Line Officer Promotion Rates for “Other” Race/Ethnicity Groups

Pay grade	Navy		Air Force		Army		Marine Corps		Coast Guard	
	Other	Overall	Other	Overall	Other	Overall	Other	Overall	Other	Overall
O-4	87	84	83	90	93	94	90	87	69	82
O-5	71	79	68	76	83	90	54	69	43	73
O-6	57	55	40	45	53	57	67	52	19	58

NOTE: Promotion rates do not distinguish between male and female officers; they include but do not distinguish between Asians, Pacific Islanders, and Native Americans, etc.

to this pay grade are below average for these Services. Blacks and Hispanics have experienced very low promotion rates to O-8 in the Army and the Marine Corps.

Promotion rates to O-7 were very low because, according to Title 10, the number of O-7s should be about 3–4 percent of the number of O-6s for each force (Powers, 2010). Title 10 allows for a ratio of O-8s to O-7s—between two-fifths and two-thirds for each force—that is relatively high compared with the ratio of O-7s to O-6s. The allowed ratios of O-9s to O-8s are also roughly bounded between two-fifths and two-thirds.

Key Findings

The promotion rates presented in this IP (which reflected promotions in line occupations only) indicate that, in many cases, advancement differed by race/ethnicity and gender during the period in question. Here are the key findings:

- In all Services, black officers' promotion rates were substantially lower than the pay grade-specific average promotion rate for the relevant Service.
- Except in the Army, Hispanic officers' promotion rates were below the Service- and pay grade-specific averages. Across the Services, Hispanic officers tended to have higher promotion rates than black officers.

- Officers of other race/ethnicity groups in each Service had substantially lower-than-average promotion rates to O-5. In the Air Force and the Coast Guard, their promotion rates to O-4 were also below average.
- Female officers in the Navy and the Coast Guard had substantially lower-than-average promotion rates to O-4 and O-5.

Comparison of Recent Rates with Past Rates That Controlled for Multiple Factors

Hosek et al. (2001) used regression analysis to separate the effects of race and gender on promotion outcomes from other factors, such as prior enlisted service and more-specific military occupations.³ They used data on officers who were commissioned between 1967 and 1991. Using their analysis, Table 7 compares the results of promotion outcomes for different minorities with those of white males. For example, a black male officer was 4 percentage points less likely to be promoted from O-3 to O-4 than a comparable white male officer competing in the same promotion window. From this data, we can see that black men were less likely to be promoted to O-4 and O-5 than white men. Similarly, other minority men were less likely than white men to be promoted to O-4.

In some respects, the recent promotion rates are similar to the earlier rates computed in Hosek et al. (2001). Specifically,

Table 5: Recent Line Officer Promotion Rates for Women

Pay grade	Navy		Air Force		Army		Marine Corps		Coast Guard	
	Fem	Overall	Fem	Overall	Fem	Overall	Fem	Overall	Fem	Overall
O-4	74	84	90	90	93	94	86	87	69	78
O-5	75	79	75	76	86	90	71	69	43	64
O-6	64	55	47	45	46	57	68	52	19	54

NOTE: Promotion rates do not distinguish female officers by race/ethnicity.

Table 6: Recent Line Officer Promotion Rates to Flag/General Rank

	Average Promotion Rates to O-7					Average Promotion Rates to O-8		
	Navy	Air Force	Army	Marine Corps	Coast Guard	Air Force	Army	Marine Corps
Overall	2	3	2	7	3	38	41	88
Black	5	2	2	0	0	45	31	33
Hispanic	2	1	1	16	15	25	0	0
Asian/PI	5	4	2	0	0	50	50	33
Female	4	3	1	0	1	39	37	0

NOTE: The Navy did not present promotion rates to O-8 at the meeting in December 2009. The Coast Guard did not distinguish between O-7, O-8, and O-9 in the promotion of flag officers.

Table 7: Adjusted Promotion Rates for Officers Commissioned Between 1967 and 1991

	Differences in Promotion Rates for Row Group vs. White Male Officers		
	O-3 to O-4	O-4 to O-5	O-5 to O-6
Black, male	-4*	-6*	+5
Other minority, male	-8*		
White, female	+5*	0	+3
Black, female	-4	-6	
Other minority, female	-6	-3	

SOURCE: Hosek et al., 2001.

NOTE: Values are rounded to the nearest integer. An asterisk (*) indicates that an estimate is statistically significant. An empty cell indicates that the sample size was too small to estimate a promotion rate differential. The promotions to O-4, O-5, and O-6 took place in 1967, 1970, 1977, and 1980.

black officers appear to have had below-average promotion rates to O-4 and O-5. Similarly, Hispanics (i.e., other minorities in Hosek) had Service-specific promotion rates to O-4 that were lower than the overall average promotion rates to that pay grade. However, unlike recent promotion rates, the earlier promotion rates of women show that women were more likely to be promoted to O-4 than were white males. It is unclear why this occurred. The population of women officers in the Services prior to the 1994 lifting of the combat exclusion restriction (particularly in the few available line occupations) was much smaller than the population of women officers after the restriction was lifted and may have differed in key but unobservable ways regarding women’s military careers. This may help explain differences in retention between the older and newer cohorts of women officers, but it is unclear why promotion rates would be affected. Overall, however, it appears that differences in recent promotion rates for minority and majority officers are similar to past differences.

Conclusions

This paper presents several demographic differences in line promotion rates that are large in magnitude. However, these differences alone are not sufficient to support firm policy conclusions. For example, underlying differences in characteristics other than race/ethnicity or gender could have produced the differential minority/majority promotion rates to O-4 and O-5. These differences merit further investigation, and analysis that takes into account the contribution of differences in other variables would better inform policy.

Also, although the comparison is imperfect, the differences in promotion rates by race/ethnicity and gender from the earlier period are roughly congruent with differences in the recent promotion rates. More analysis to investigate why the gap in minority/majority promotion rates has been persistent.

Finally, because of the small minority officer sample sizes among officers eligible for promotion to flag/general rank, we cannot tell whether the differences in rates are real or due to chance.

Notes

¹A separate IP (Military Leadership Diversity Commission, 2010) provides a more general discussion of the methodological limitations of using raw rates to inform policy decisions. For example, even though differences across groups may be statistically significant, they may not be meaningful from a policy perspective. Furthermore, important characteristics that raw rates are not able to address may be influencing outcomes for race/ethnicity and gender groups.

²The Services are not consistent in defining racial/ethnic groups beyond white, black, and Hispanic. The Navy allows respondents to pick Asian/Pacific Islander/Native American (A/PI/NA); the Air Force and Marine Corps refer to a fourth group as “other” (which therefore includes A/PI/NA); the Coast Guard has two additional groups (A/PI/NA and “other”); and the Army has three additional groups (A/PI, NA, and “other”). Where rates are available for multiple groups, we present a rate that has been averaged across groups.

³The promotion rates in Hosek et al. (2001) are adjusted for other factors beyond race/ethnicity and gender that affect promotion rates: prior enlisted service, accession source (academy, Reserve Officer’s Training Corps [ROTC] scholarship, ROTC regular, Officer Candidate or Training School [OCS/OTS], direct appointment, a more-detailed occupation breakout (executive, intelligence, engineering and maintenance, administration, supply/procurement), and accession cohort.

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