

Research Problem Review 76-14

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**DIFFERENCES IN SPEED OF PROMOTION OF BLACKS
AND WHITES WITH EDUCATION AND
AFQT SCORE AS CONTROL VARIABLES**

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Army Project Number

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DAHC 19-70-M-0011
Race Relations

Research Problem Review 70-14

DIFFERENCES IN SPEED OF PROMOTION OF BLACKS
AND WHITES WITH EDUCATION AND AFQT
SCORE AS CONTROL VARIABLES

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Research Problem Reviews are special reports to military management. They are usually prepared to meet requests for research results bearing on specific management problems. A limited distribution is made-- primarily to the operating agencies directly involved.

FOREWORD

The Army Research Institute for the Behavioral and Social Sciences (ARI) is concerned, in part, with helping the soldier better adjust to the modern Army and providing field commanders with techniques to increase unit competence. Programs deal both with systematic research over wide areas and with immediate specific problems, in this case the assessment of the impact of race relations/equal opportunity programs at Army installations.

ARI Technical Paper 270 reported on the concept, formulation, and operational development of the Representation Index system for measuring institutional racial discrimination. Results provided inputs used by the Department of the Army in revising its Affirmative Action Plan. The present Research Problem Review is the result of a more detailed follow-on investigation of one portion of TP 270, dealing with the relationship to promotion of time in service, AFQT score, and education level. Research was done jointly by personnel of ARI and Human Sciences Research, Inc. of McLean, Virginia, under Purchase Order DAHC 19-76-M-0011, in response to the special requirements of the Director of the Office of Equal Opportunity Programs in the Office of the Deputy Chief of Staff for Personnel of the U.S. Army and RDTE Project 2Q763731A769.



J. E. UHLANER
Technical Director

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DIFFERENCES IN SPEED OF PROMOTION OF BLACKS AND WHITES WITH EDUCATION AND AFQT SCORE AS CONTROL VARIABLES

BRIEF

Requirement:

To analyze, in greater depth and with more data, relationships among time in service, rank, race, education level, and AFQT category presented briefly in ARI Technical Paper 270, "Measuring Changes in Institutional Racial Discrimination in the Army."

Procedure:

Total Army data on the five variables listed above were extracted from the Enlisted Master File for 1971-1975. The data were analyzed in terms of mean months from entry into the service to most recent promotion; for each category, data tables provided the basis for bar graphs which present the results.

Findings:

The analysis indicated that whites have been generally promoted faster than blacks. Differences in education and AFQT level do not appear to account for the difference in time to promotion. Education level seems to have a curvilinear relationship with time to promotion, in that persons with high and low education have been promoted faster than those with medium (i.e., high school) education. For whites, high AFQT has been associated with faster promotion; for blacks the reverse is true. Black-white differences in time to promotion have decreased consistently through 1971-1975 for E4's through E7's, but increased for E8's and E9's.

Utilization of Findings:

The results of this research, in conjunction with the earlier results in Technical Paper 270, provided inputs used by the Department of the Army in implementation of its Affirmative Action Plan.

DIFFERENCES IN SPEED OF PROMOTION OF BLACKS AND WHITES WITH EDUCATION AND
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DIFFERENCES IN SPEED OF PROMOTION OF BLACKS AND WHITES WITH EDUCATION AND
AFQT SCORE AS CONTROL VARIABLES

BACKGROUND AND PURPOSE OF ANALYSIS

As part of the data collection for a report on measuring changes in institutional racial discrimination in the Army, data were gathered which compared the speed of promotion for white and black enlisted personnel in the Army. Analysis of these data indicated that white enlisted personnel were promoted considerably faster than were black enlisted personnel. Nordlie et al.¹ had presented data which simply examined differences between blacks and whites on a number of variables which reflect some aspects of the experience of Army personnel and had developed Representation Indexes that specify the differences between blacks and whites. The Indexes implied nothing about what produced the differences--only the degree of difference. A number of variables could account, in part, for the differences Nordlie et al. found. Among such variables could be differences between blacks and whites in capabilities, educational achievement, intelligence test scores, aptitude test scores, motivation to advance in the military, and preferences for particular kinds of jobs.

These are all individual variables. Other kinds are also possible. For example, an upsurge in black recruitment and a high reenlistment rate by blacks compared to whites could be related to a differential in job opportunities outside the military. Or, perhaps a factor in the small increase in black officers could be that a black who has the qualifications to be an officer might have greater opportunities outside the Army. Conversely, blacks who lack officer qualifications may have greater opportunities as enlisted personnel than as civilians.

Ascertaining the influence of relevant variables is critical because it allows a more precise location of specific sources of racial group differences. In other words, while it is important to know whether or by how much blacks are underrepresented among officers in the Army or overrepresented among those receiving other than honorable discharges, it is equally important to try to accurately account for the differences.

Nordlie et al. found that for the aggregated ranks E4 through E9, the average speed of promotion was over 20 months less for whites than blacks in 1970; this difference had declined to about 10 months in 1973. As the data for several ranks were aggregated or grouped in the original study it is possible that the grouping could have obscured relationships that would be evident if the analysis were performed separately with respect to individual ranks. For these reasons, a more detailed analysis was undertaken, by separate ranks, examining additional data for 1971-1975.

¹ Nordlie, P. G., Thomas, J. A., and Sevilla, E. R. Measuring changes in institutional racial discrimination in the Army. ARI Technical Paper 270. December 1975. (AD A073 112)

DESCRIPTION OF THE ANALYSIS

The data which were analyzed were extracted from the permanent copies of the Enlisted Master File (EMF) for 1971 through 1975. Twice a year a permanent copy of the EMF is created. For the present analysis, the data for 1971-1975 are based upon extractions from the December 31 files, except for 1973 when the June 30 files were used because the end-of-year file was not usable.

Five variables were extracted from the EMF. These are:

1. Race. Black and white respondents only were selected for the analysis. Persons of other races were excluded.
2. Education. Four levels of education were extracted. These were then reduced to three basic levels for the final analysis:
 - Low Education: Less than high school graduate,
 - Medium Education: High school diploma or equivalent,
 - High Education: One or more years of college.
3. Armed Forces Qualification Test Scores (AFQT). AFQT was extracted by Categories 1 through 5 and combined in the analysis into two groups:
 - High AFQT: Categories 1 and 2;
 - Low AFQT: Categories 3, 4, 5.
4. Grade. Current grade data were utilized for Grades E4 through E9. All initial data runs were prepared on these grades separately.
5. Months to Make Present Grade. This variable was created for analytical purposes. It involved the use of two coded variables: basic active service date adjusted for lost time, and date of last upward grade change. Both dates were converted into months and the first date subtracted from the second. The new variable indicated the number of months from entry into the service until the individual was most recently promoted to his present grade.

The Army Military Personnel Center (MILPERCEN) created the extracts from the EMF. No sampling was done. All usable records were processed; however, during the data processing some records had to be dropped because of incomplete data or file errors. Once MILPERCEN had created a tape, the tape was given to the Army Research Institute for the Behavioral and Social Sciences (ARI) data processing unit to develop the tables which would finally serve as the basis of the analysis.

ARI prepared a computer program which tabulated results for each year separately by grade. Within year and grade, two sets of tables were prepared. One set cross-tabulated race by educational level. The second

set cross-tabulated race by AFQT level. The cells in each table included the number of records processed and the average number of months to make current grade. Further analyses and the figures presented in this report are based on the data tables (Appendix A) thus developed.

RESULTS

The results are presented in four sections. In the first section, data on black-white differences in speed of promotion considered by individual rank are presented for 1971-1975. In the second and third sections, the analyses controlling on AFQT category and level of education with respect to speed of promotion are presented. The fourth section focuses on trends over time. Analyses of the variables with respect to Career Management Fields showed no consistent relationships with any black-white differences.

BLACK-WHITE DIFFERENCES IN SPEED OF PROMOTION

Figure 1 compares whites and blacks with respect to speed of promotion for each individual rank from E4 through E9. To facilitate visual comparison by providing a common format, the data are presented in the form of deviation of the white and black mean months to make present rank from the total mean months to make the rank. Thus, in Figure 1, for example, the bar for white E4's indicates that the mean months to make E4 for whites is three-tenths of a month shorter than the total mean time for all E4's and the bar for blacks is two months longer than the total mean.

The overall pattern for all five years is similar. In each year, for each rank, whites are promoted faster than blacks. In general, the higher the rank the higher the discrepancy. The one inversion in this trend is for E6's where for 1971-1974 the difference for E5's is greater than for E6's. By 1975, however, that inversion disappears and there is then a regular progression of increasing difference with increasing rank.

THE EFFECT OF EDUCATION LEVEL

Education level and AFQT category are introduced as control variables to determine if black-white differences in education or AFQT category might account for any of the black-white differences in speed of promotion. Whenever black-white differences are discussed, the argument is often heard that the difference one finds occurs because whites had a better education before they joined the organization, and this difference in education provides differential success in promotions. In the analyses to follow, the extent to which education does account for black-white differences will be examined.

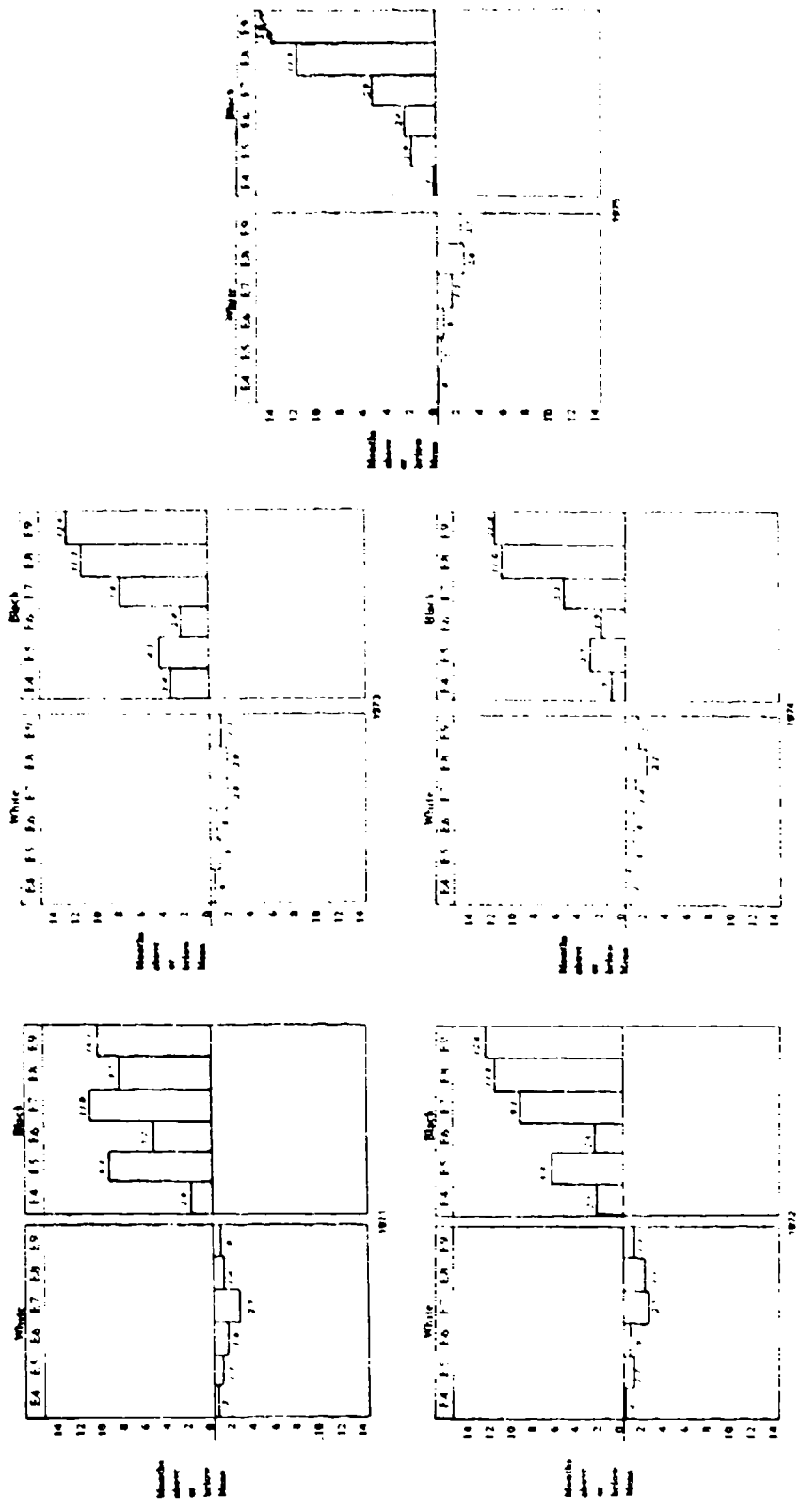


FIGURE 1. MONTHLY RATES OF MORTALITY AMONG MALES IN MAINE, 1971-1975.

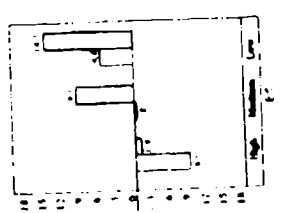
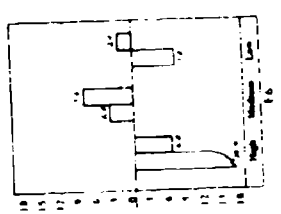
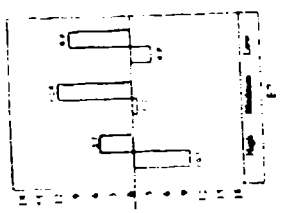
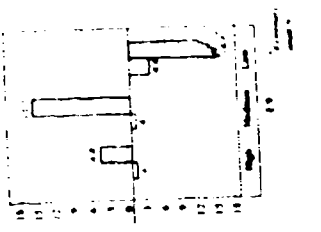
Figures 2 and 3 give a detailed presentation of data relevant to this question. Figure 2 presents the data for 1971-1975 broken down by education level. For each year, six bar graphs are shown--one for each enlisted rank, E4 through E9. A pair of bars, one for whites and one for blacks, is given for each of three levels of education: high, medium, and low. Each bar represents the deviation of the group mean; e.g., white E4's with high education from the mean months of all E4's to reach present rank. Thus, any bar below the zero (0) line indicates that the mean of that group is less than the total mean of that grade level by the number of months indicated. Any bar above the zero (0) line indicates that the group mean is greater than the total mean by the number of months indicated.

On the whole, the pattern is remarkably similar from year to year. In every instance where blacks and whites of the same rank and educational level are compared, whites were promoted faster than blacks. For E4's there was an apparent linear relationship from 1971 to 1973 between level of education and speed of promotion, i.e., the higher the education, the faster the speed of promotion. However, in 1974 and 1975 a curvilinear relationship emerged with the medium-education individuals being promoted slightly slower than either the high or low groups. For E5's, the higher the education the faster the speed of promotion, and this pattern held true for all years. Whereas this relationship appears to hold equally for whites and blacks, the speed of promotion for blacks was still slower than for whites. Until 1975 the difference is such that whites of low education were promoted faster than blacks of medium education.

As we move to the rank of E6, we see a change in the relationship between education and speed of promotion. Both whites and blacks of low education reached the rank of E6 faster than those of medium education although the black-white difference favoring whites still remained. Also to be noted is the very large black-white difference in speed of promotion at the high education level. This difference, however, is decreasing with time.

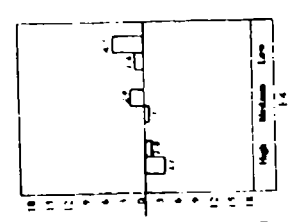
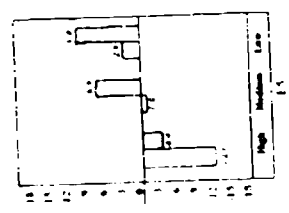
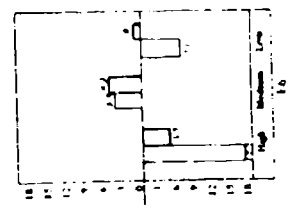
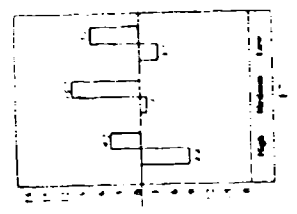
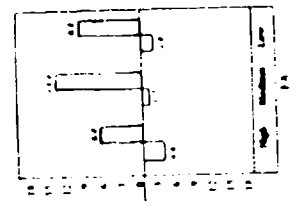
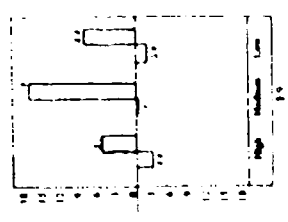
At the E7 rank, all but one of the black means are above and all but one of the white means are below the total mean, and this pattern remains true at the E8 level for all means.

At the E9 level, blacks with low education were promoted faster than blacks with high education for 1971 and 1973 but not for the other years. The number of black E9's is fairly small, however, and one would expect greater instability of the findings from year to year at the E9 level. The relationship between speed of promotion and education is curvilinear at the E7, E8, and E9 levels with high and low education individuals being promoted faster than those of medium education for both races.



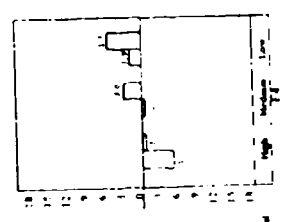
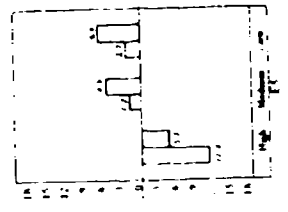
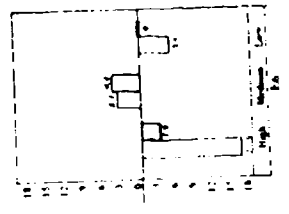
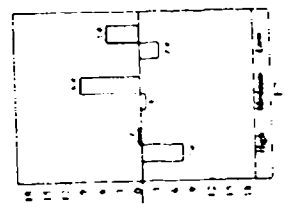
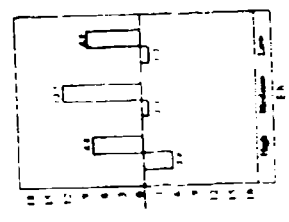
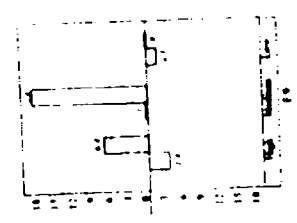
Level 14
Level 13
Level 12
Level 11
Level 10
Level 9

1971



Level 14
Level 13
Level 12
Level 11
Level 10
Level 9

1972



Level 14
Level 13
Level 12
Level 11
Level 10
Level 9

1973

White
Black

FIGURE 1. MONTHLY AVERAGE WIND SPEEDS BY LEVEL, WIND DIRECTION, AND RELATIVE HUMIDITY.

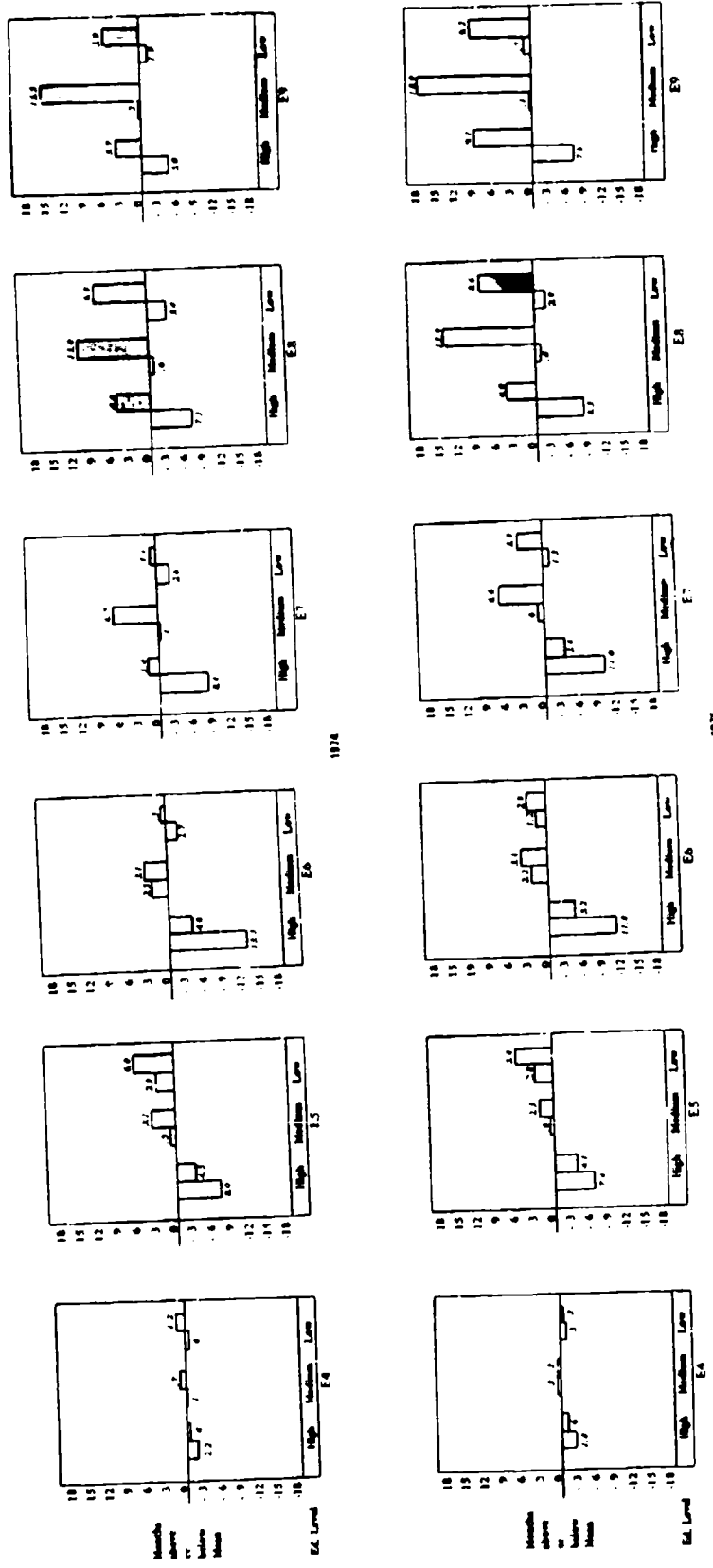


Figure 2. Cont'd. Months above or below mean months to near present rank by race, education level, and rank.

One way of summarizing the race-by-education-level differences is to compare the mean deviation of the six ranks (E4 through E9) with each education-by-race category. This is done in Figure 3 which summarizes the data in Figure 2 for each year. Each bar in Figure 3 corresponds to the arithmetic (unweighted) mean of the six bars given in Figure 2 for any race-by-education category for each year. Once again, the overall pattern in Figure 3 is highly consistent from year to year. Whites of high education are always promoted much faster than any other category. However, both whites and blacks of low education are promoted faster than whites and blacks, respectively, of medium education.

THE EFFECT OF AFQT CATEGORY

It might be argued that, although the educational levels are categorized the same way for both blacks and whites, they are really different because of the generally inferior education blacks receive. So, instead of education level, high and low categories of the AFQT scores are used in an analysis similar to that presented for educational level.

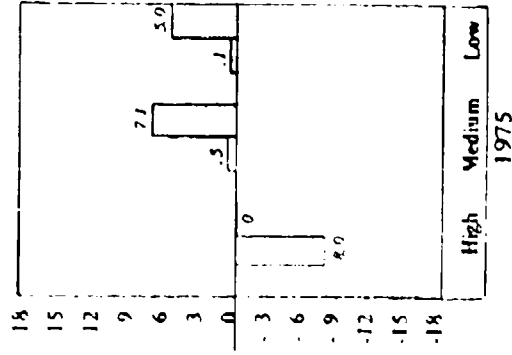
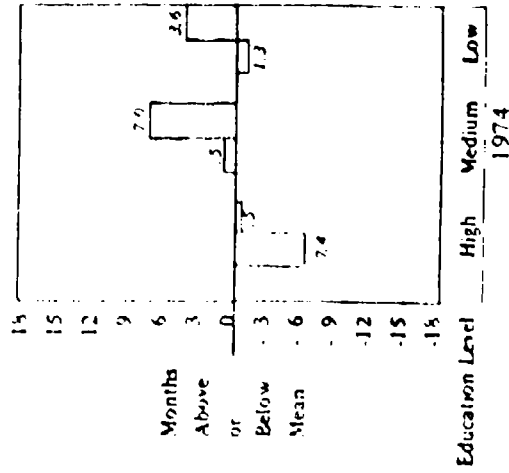
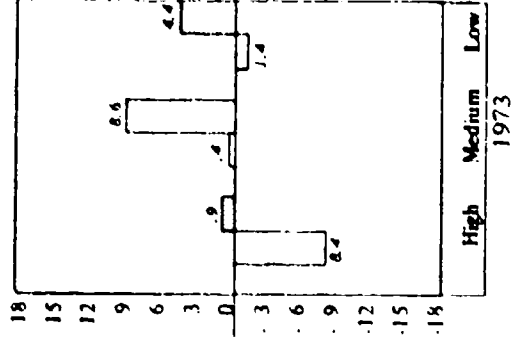
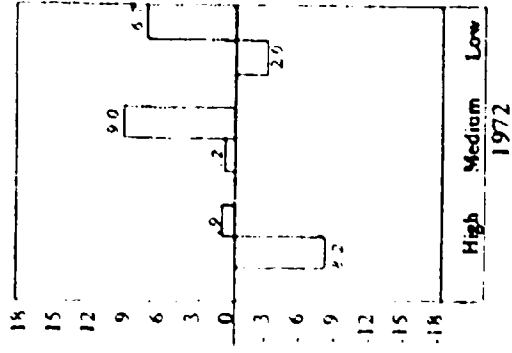
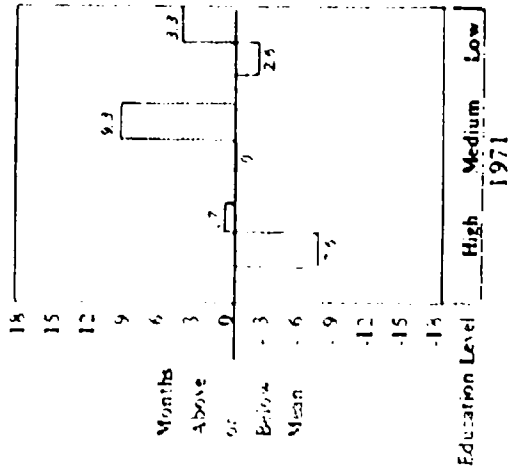
In Figure 4, we compare the speed of promotion of blacks and whites of high and low AFQT category for each rank, E4 through E9, for 1971-1975. As with the education data, the overall pattern is highly consistent from year to year, although some relatively small changes can be noted.

At all ranks (except for E4's in 1975), high AFQT whites are promoted faster than high AFQT blacks, and the differences tend to be larger for the higher ranks than for the lower ranks.

At all ranks except E6, low AFQT whites are promoted faster than low AFQT blacks. Only for E6's are low AFQT blacks promoted faster than low AFQT whites (except in 1971).

In general, low AFQT blacks are promoted faster than high AFQT blacks. There are a few exceptions (E4's beginning in 1972 and E5's beginning in 1974). Low AFQT whites are promoted slower than high AFQT whites (except at the E9 level for 1971-1973 and the E8 level for 1971).

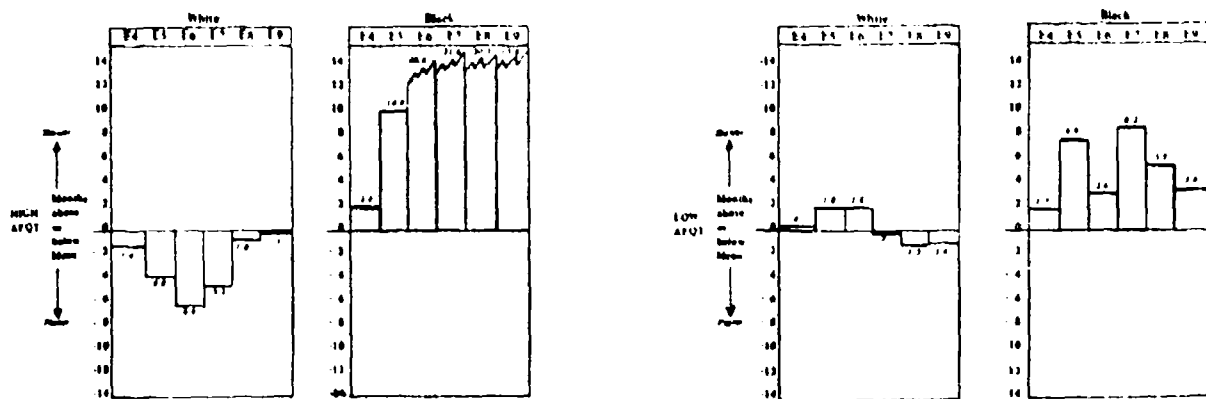
In Figure 5, the mean differences of the six ranks for each year are summarized to show the overall trend. In general, for high AFQT categories, the differences between blacks and whites in speed of promotion have declined from nearly 18 months in 1971 to less than 12 in 1975. For the low AFQT categories there has been no corresponding change in the differences. The relationship between AFQT and speed of promotion for whites is the reverse of the relationship for blacks. While high AFQT whites were promoted faster than low AFQT whites as one would expect, low AFQT blacks were promoted faster than high AFQT blacks which, on the surface, one would not expect at all. Figure 4, however, showed indications this is changing, as high AFQT black E4's beginning in 1972 and high AFQT black E5's beginning in 1974 were promoted faster than low AFQT blacks.



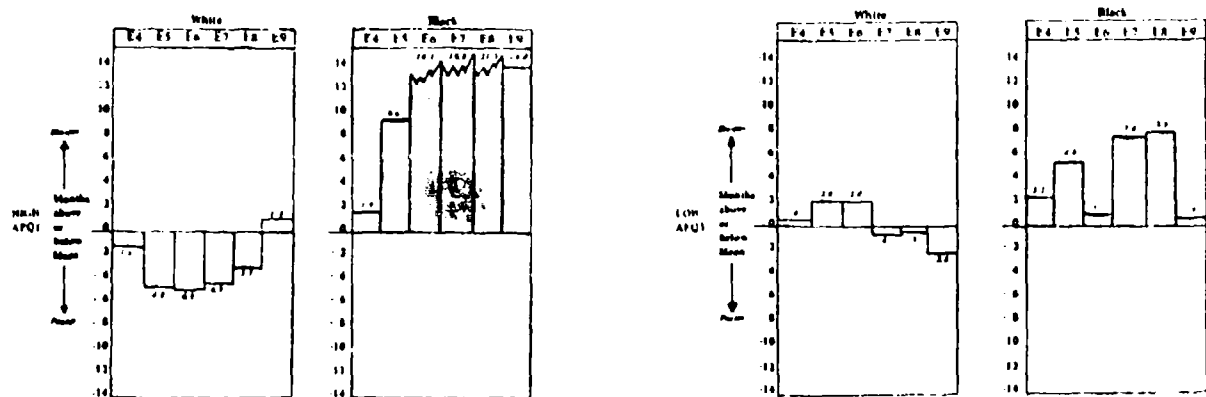
White
 Black

Figure 5. Months above or below mean months to make present rank by race, education level, and year--mean deviations for all ranks.

1071



1072



1073

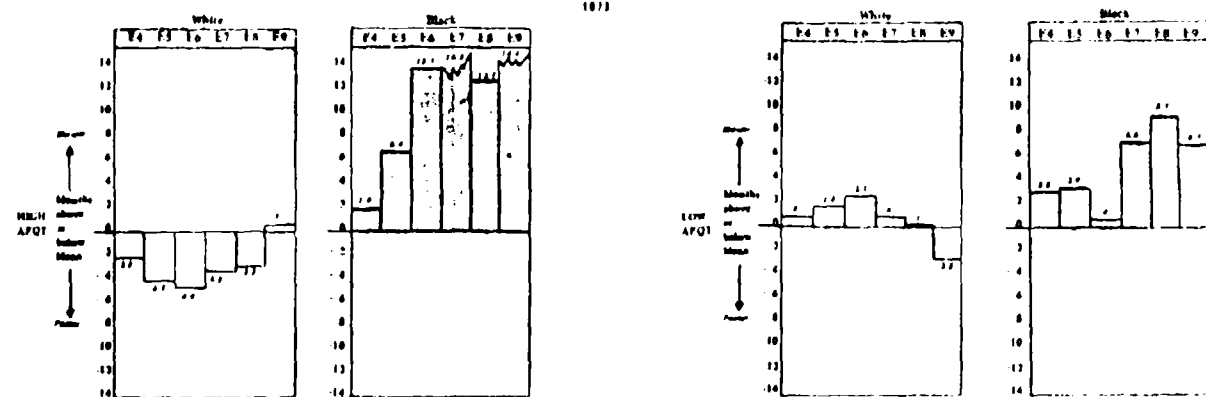
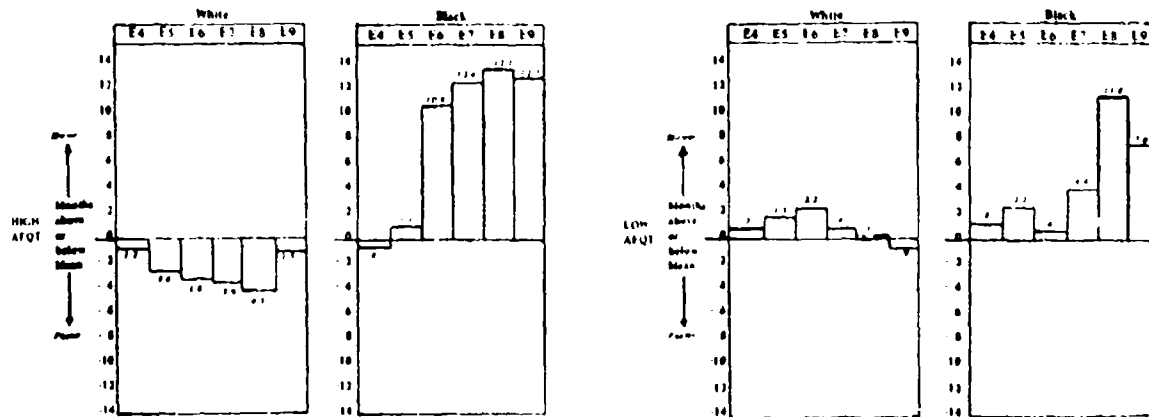


Figure 1. Months above or below mean months to make present tank by race, AFQE level and tank. (NLS, 1977)

1874



1876

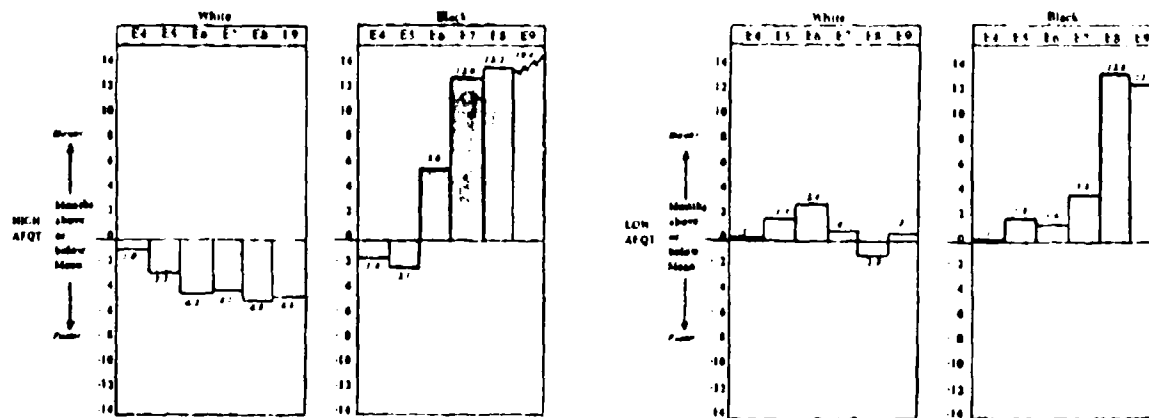


Figure 4. Cont'd. Months above or below mean months to reach present rank by race, AFQT level, and rank: 1974-1976

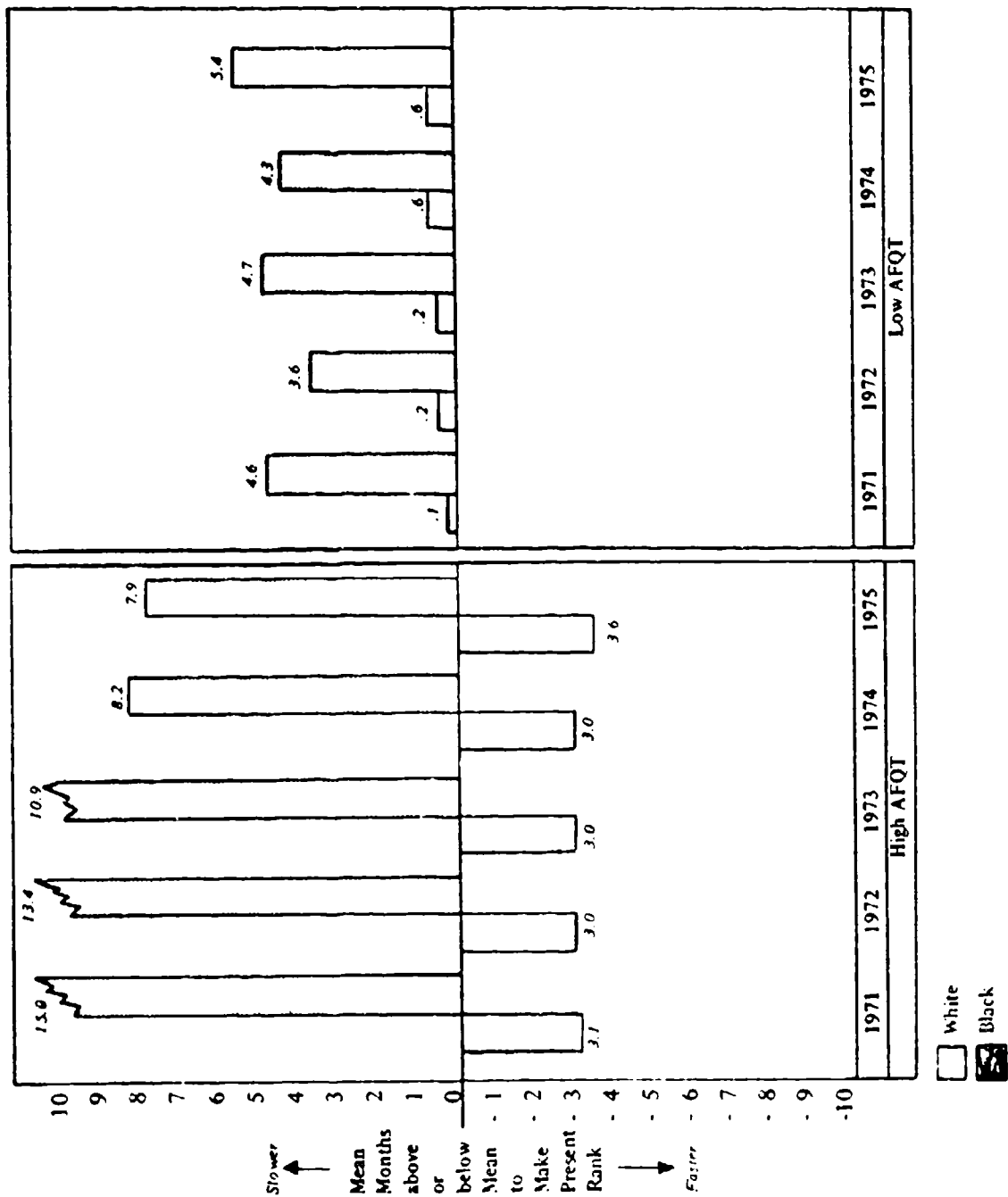


Figure 2. Months above or below mean months to make present rank by race, AFQT category, and year--mean deviations for all ranks

TRENDS OVER TIME

The data presented so far have been for the period 1971 through 1975, and several trends over time have been noted. In Figure 5 we show the changes in the speed of promotion of whites and blacks over this five-year period by plotting the differences (in months) between the speed of promotion of whites and blacks for each rank.

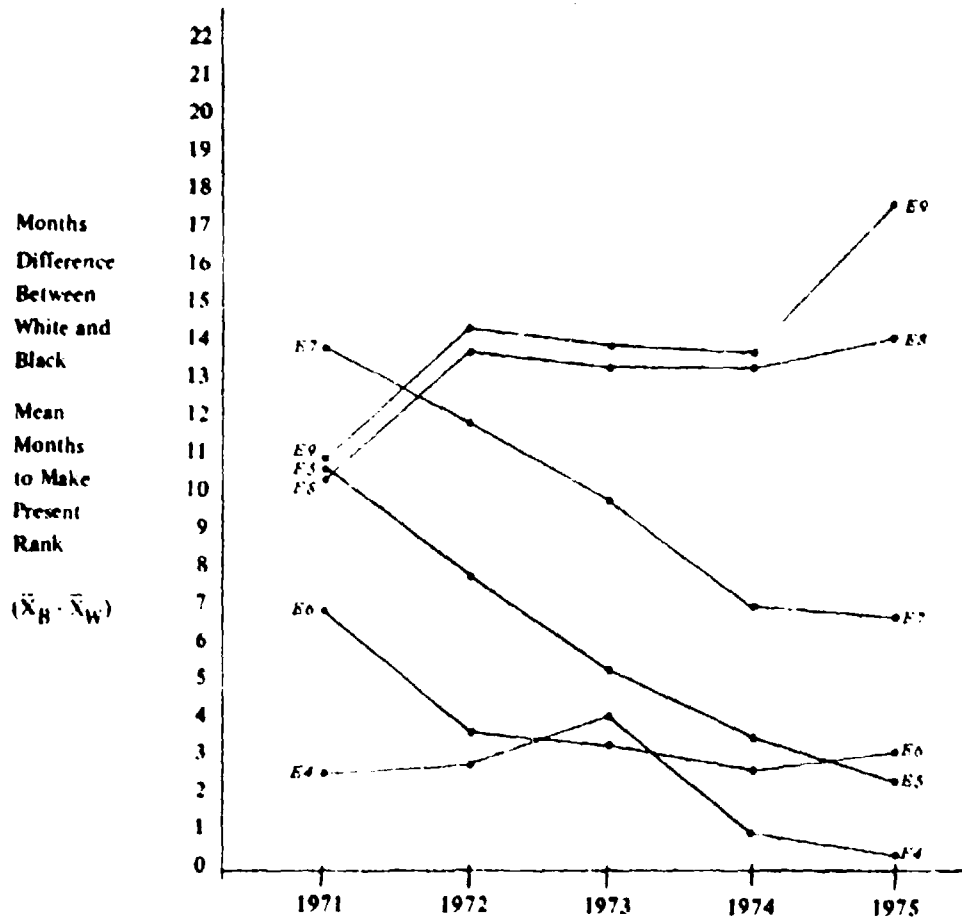


Figure 5. Changes in speed of promotion of whites and blacks

For the ranks E4 through E7, there is a clearcut trend toward decreasing differences. A zero difference would, of course, imply that the speed of promotion of whites and blacks was the same. For E8's and E9's, however, there is a four to six month increase in the difference. One would expect that results of organizational change would appear earlier at the lower ranks than at the higher ranks. The increased differences at the E8 and E9 ranks might be due to a few blacks being recently promoted to those ranks who have been in the Army for a relatively long period.

CONCLUSIONS

↙ The conclusions from this analysis would appear to be that whites have been promoted faster than blacks and that neither education level nor AFQT category accounted for the black-white differences in speed of promotion. However, this does not eliminate the possibility of other variables or the interaction between several variables accounting for the differences.

The findings about education level and AFQT as they relate to race and speed of promotion can be summarized as follows:

Both blacks and whites of low education have been promoted faster than blacks and whites of medium education but not faster than blacks and whites of high education.

Whites at all three levels of education have been promoted faster than blacks at the same level.

High AFQT whites have been promoted faster than low AFQT whites. Low AFQT blacks have been promoted faster than high AFQT blacks; however, there is evidence this trend is changing.

↖ The analysis was undertaken to more clearly establish the relationship of education and AFQT to speed of promotion and race. Other variables and interactions could also be investigated. This report does not explain why or how some of the findings occur which appear contrary to what might be expected. Why, for example, have low AFQT blacks been promoted substantially faster than high AFQT blacks? By what process did that result occur? What factors produce the curvilinear relationship between education and speed of promotion? What mechanisms result in a difference in speed of promotion of blacks and whites at every level of education? Further study of these phenomena should increase our understanding of the organizational mechanisms and processes which appear to result in inequitable treatment and how they can be changed to accord with the basic and explicit policies of the organization.

When group differences exist as indicated for instance by the institutional discrimination index deviating noticeably from zero, further research such as that reported in this paper should be undertaken in an attempt to pinpoint possible reasons for the differences. Although time and cost factors would usually restrain such efforts from being exhaustive of possible variables accounting for the differences, the findings nevertheless should greatly aid decision makers in establishing policies.

APPENDIXES

Appendix Page

Data Tables (In this appendix are presented all the data from which the graphics presented in the report were taken.)

Tables

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Data Table 1

Mean Months to Make Present Rank by Race, Rank, and Year

1971

Rank	Total N	\bar{X} Mos. to Make Rank— Total	White N	\bar{X} Mos. to Make Rank— White	Black N	\bar{X} Mos. to Make Rank— Black
E4	180,521	12.53	157,983	12.25	22,538	14.50
E5	91,671	28.38	80,542	27.10	11,129	37.66
E6	47,300	97.05	35,990	95.44	11,310	102.20
E7	33,346	160.48	26,667	157.75	6,649	171.45
E8	9,489	208.14	8,177	206.74	1,312	216.85
E9	2,298	244.20	2,124	243.37	174	254.33
Totals	364,625		311,483		53,112	

1972

	Total N	\bar{X} Mos. to Make Rank— Total	White N	\bar{X} Mos. to Make Rank— White	Black N	\bar{X} Mos. to Make Rank— Black
E4	131,350	13.14	112,871	12.74	18,479	15.60
E5	76,326	34.37	63,517	33.08	12,809	40.78
E6	58,149	95.18	43,447	94.30	14,702	97.79
E7	39,305	154.31	31,093	151.85	8,212	163.64
E8	10,343	208.93	8,741	206.77	1,602	220.72
E9	3,097	245.61	2,805	244.28	292	258.41
Totals	318,570		262,474		56,096	

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Data Table 1 (Cont'd)

1973

Rank	Total N	\bar{X} Mos. to Make Rank - Total	White N	\bar{X} Mos. to Make Rank - White	Black N	\bar{X} Mos. to Make Rank - Black
E4	116,707	14.64	100,053	14.07	16,654	18.02
E5	83,659	36.38	68,732	35.45	14,927	40.64
E6	65,526	92.14	49,413	91.37	16,113	94.50
E7	44,711	154.02	35,447	151.98	9,264	161.81
E8	12,226	208.39	10,374	206.36	1,852	219.73
E9	3,680	247.26	3,333	245.95	347	259.91
Totals	326,509		267,352		59,157	

1974

Rank	Total N	\bar{X} Mos. to Make Rank - Total	White N	\bar{X} Mos. to Make Rank - White	Black N	\bar{X} Mos. to Make Rank - Black
E4	150,178	19.06	119,535	18.88	30,643	19.76
E5	87,278	37.07	71,488	36.48	15,790	39.77
E6	67,139	88.67	51,890	88.10	15,249	90.60
E7	43,318	152.06	33,950	150.63	9,368	157.25
E8	11,873	207.53	9,937	205.39	1,936	218.54
E9	3,529	247.93	3,126	246.41	403	259.76
Totals	363,315		289,926		73,389	

1975

Rank	Total N	\bar{X} Mos. to Make Rank - Total	White N	\bar{X} Mos. to Make Rank - White	Black N	\bar{X} Mos. to Make Rank - Black
E4	156,914	19.61	117,948	19.56	38,966	19.73
E5	102,294	38.26	82,266	37.81	20,028	40.14
E6	66,292	85.98	52,080	85.34	14,212	88.34
E7	44,996	154.37	34,586	152.88	10,410	159.33
E8	12,808	209.14	10,446	206.52	2,362	220.73
E9	3,681	250.65	3,153	248.14	528	265.64
Totals	386,985		300,479		86,506	

Data Table 2

Mean Months to Make Present Rank by Rank, Race, Education Level, and Year

1971

	Whites						Blacks					
	Low Education		Medium Education		High Education		Low Education		Medium Education		High Education	
	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}
E4	46,461	14.42	73,579	12.18	37,943	9.72	6,579	16.96	12,536	14.13	3,423	11.15
E5	19,703	33.22	39,726	28.20	21,113	19.30	3,186	43.11	6,465	37.52	1,478	26.49
E6	9,244	89.30	23,627	100.38	3,119	76.17	2,956	99.40	7,501	104.67	853	90.20
E7	3,185	156.46	20,741	158.98	2,771	149.98	902	170.13	4,961	172.51	696	165.77
E8	669	203.04	6,148	207.23	1,360	206.36	129	214.96	966	218.11	217	212.38
E9	164	240.23	1,393	243.64	567	243.60	14	225.79	115	259.90	45	248.98

1972

	Whites						Blacks					
	Low Education		Medium Education		High Education		Low Education		Medium Education		High Education	
	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}
E4	36,158	14.77	55,730	12.45	20,983	10.00	5,608	17.81	10,565	15.18	2,306	12.12
E5	18,550	37.26	31,177	35.39	13,790	22.24	3,794	44.15	7,517	41.24	1,498	29.96
E6	10,916	88.10	28,731	98.89	3,800	77.45	3,866	96.01	9,719	99.42	1,117	89.71
E7	3,504	150.83	23,714	153.03	3,875	145.52	1,006	161.42	6,206	164.78	1,000	158.82
E8	694	206.02	6,391	207.47	1,656	204.38	134	218.71	1,152	222.33	316	215.72
E9	229	242.67	1,749	245.27	827	242.63	34	253.65	180	262.63	78	250.74

Data Table 2 (Cont'd)

1973

	Whites						Blacks					
	Low Education		Medium Education		High Education		Low Education		Medium Education		High Education	
	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}
E4	31,064	16.53	50,977	14.39	18,012	8.93	5,017	20.30	9,720	17.61	1,917	14.14
E5	19,981	38.41	35,896	37.70	12,855	24.59	4,214	42.94	9,100	41.28	1,613	31.06
E6	11,726	86.52	32,935	95.45	4,752	75.09	4,126	92.16	10,738	96.13	1,249	88.26
E7	4,126	150.46	26,929	153.09	4,392	146.60	1,144	159.07	6,998	163.46	1,122	154.34
E8	849	206.92	7,476	207.10	2,049	203.44	154	217.28	1,344	220.88	354	216.41
E9	285	244.96	2,032	247.33	1,016	243.46	35	247.26	209	264.88	103	254.11

1974

	Whites						Blacks					
	Low Education		Medium Education		High Education		Low Education		Medium Education		High Education	
	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}
E4	26,628	19.68	78,644	18.98	14,263	16.86	6,675	20.28	21,262	19.74	2,706	18.63
E5	11,945	39.34	47,691	37.61	11,852	29.05	2,590	43.06	11,331	40.21	1,869	32.53
E6	6,343	86.01	37,574	91.15	7,973	75.39	2,080	89.14	11,599	91.75	1,570	84.05
E7	2,404	149.43	26,749	151.98	4,797	143.68	712	153.12	7,399	158.77	1,257	150.65
E8	435	204.10	7,392	206.93	2,110	200.24	86	214.33	1,459	220.56	391	211.94
E9	105	246.07	2,042	248.11	979	242.89	15	253.80	274	263.47	114	251.61

Data Table 2 (Cont'd)

1975

	Whites						Blacks					
	Low Education		Medium Education		High Education		Low Education		Medium Education		High Education	
	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}
E4	23,073	19.10	83,215	19.94	11,660	17.80	8,155	19.31	27,946	19.93	2,865	19.03
E5	8,628	41.08	60,859	38.81	12,779	30.82	2,027	44.04	15,465	40.60	2,536	34.20
E6	3,229	7.18	38,452	88.21	10,399	74.16	1,062	88.84	11,298	89.53	1,852	80.83
E7	1,364	153.07	27,212	154.97	6,010	143.38	438	158.14	8,357	161.00	1,615	150.99
E8	210	206.80	7,710	208.37	2,526	200.84	52	217.71	1,785	223.06	525	213.09
E9	49	251.39	2,018	250.78	1,086	243.09	10	259.80	349	268.65	169	259.76

Data Table 3
 Mean Months to Make Present Rank by Race, AFQT Level, and Year

1971

Rank	Whites				Blacks			
	High AFQT		Low AFQT		High AFQT		Low AFQT	
	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}
	E4	58,279	11.06	94,994	12.91	1,077	14.43	20,687
E5	36,673	23.02	41,089	28.88	698	37.00	9,636	34.01
E6	9,952	83.95	17,454	92.43	715	111.13	7,229	93.19
E7	6,458	148.29	9,736	153.29	531	175.19	3,232	161.78
E8	1,695	195.12	1,969	194.55	116	216.23	429	201.42
E9	253	231.85	250	230.51	18	247.78	33	234.91

1972

Rank	Whites				Blacks			
	High AFQT		Low AFQT		High AFQT		Low AFQT	
	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}
	E4	41,201	11.34	69,842	13.38	1,002	14.89	17,133
E5	26,438	28.02	34,202	34.87	799	41.82	11,011	37.41
E6	12,412	85.20	21,421	92.10	858	104.40	9,623	90.80
E7	8,541	146.20	11,919	150.08	656	170.44	4,356	158.04
E8	2,347	196.48	2,418	199.53	182	221.33	612	207.27
E9	458	237.62	380	233.84	35	250.46	58	235.93

Data Table 3 (Cont'd)

1973

Rank	Whites				Blacks			
	High AFQT		Low AFQT		High AFQT		Low AFQT	
	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}
	E4	38,719	12.70	59,536	15.31	1,074	16.62	15,267
E5	27,267	30.77	38,314	36.74	907	41.29	12,905	37.87
E6	14,872	82.53	24,300	89.67	980	101.14	10,671	87.79
E7	9,910	147.30	13,804	150.47	711	167.36	5,049	157.70
E8	2,927	197.38	2,961	200.85	211	213.45	765	209.37
E9	625	240.39	494	237.09	40	254.30	83	246.46

1974

Rank	Whites				Blacks			
	High AFQT		Low AFQT		High AFQT		Low AFQT	
	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}
	E4	46,352	17.66	72,001	19.37	3,417	18.06	26,943
E5	29,232	32.97	39,358	37.51	1,187	37.12	13,666	38.18
E6	17,944	81.13	25,148	87.10	949	95.36	10,544	85.34
E7	9,527	146.07	13,726	150.34	670	162.38	5,352	154.33
E8	2,931	199.42	2,142	203.99	203	217.04	932	214.97
E9	731	241.19	570	241.75	54	255.39	129	249.61

1975

Rank	Whites				Blacks			
	High AFQT		Low AFQT		High AFQT		Low AFQT	
	N	\bar{X}	N	\bar{X}	N	\bar{X}	N	\bar{X}
	E4	46,748	18.76	69,682	19.85	5,926	17.97	32,427
E5	32,980	34.24	45,285	39.18	1,903	35.35	16,826	39.34
E6	19,218	78.86	25,261	85.51	882	88.63	10,219	84.43
E7	9,445	117.92	15,126	152.38	664	164.92	6,191	155.83
E8	3,029	202.27	3,909	205.79	225	220.25	1,295	219.89
E9	859	241.95	347	246.87	68	265.97	207	258.76

Data Table 4
Percent of Whites and Blacks at Each Enlisted Rank

	1971		1972		1973		1974		1975	
	White	Black	White	Black	White	Black	White	Black	White	Black
E4	50.7	42.4	43.0	32.9	37.4	28.2	41.2	41.8	39.3	45.0
E5	25.9	20.9	24.2	22.8	25.7	25.2	24.7	21.5	27.4	23.2
E6	11.6	21.3	16.6	26.2	18.5	27.2	17.9	20.8	17.3	16.4
E7	8.6	12.5	11.9	14.6	13.3	15.7	11.7	12.8	11.5	12.0
E8	2.6	2.5	3.3	2.9	3.9	3.1	3.4	2.6	3.5	2.7
E9	.7	.3	1.1	.5	1.3	.6	1.1	.6	1.1	.6
N*	311,513	53,112	264,474	56,096	267,352	59,157	289,926	73,389	300,479	86,506

*These data were based on data from the "level of education" analysis because the N of valid records with education was higher than the N of valid records with AFQT data.