

LEVEL

Research Memorandum 78-1

ARI-RM-

1

**1974 FORT RILEY ROTC ADVANCED SUMMER CAMP:
RACE OF CADET BY RACIAL COMPOSITION OF
SCHOOL ANALYSIS**

AD A 077950

10 E. S. Mohr

11 Feb 78

13 16

PERSONNEL ACCESSION AND UTILIZATION TECHNICAL AREA

16 20 76 73 1A 76 8



U. S. Army

DDC
RECEIVED
DEC 11 1979
D

Research Institute for the Behavioral and Social Sciences

February 1978

DISTRIBUTION STATEMENT A

Approved for public release;
Distribution Unlimited

79 22

5 144

408 014

FL

WJC FILE COPY

Army Project Number
2G763731A768

Officer and NCO
Training and Utilization

Research Memorandum 78-1

1974 Fort Riley ROTC Advanced Summer Camp:
Race of Cadet by Racial Composition of School
Analysis

E. Sue Mohr

William H. Helme, Supervisory Project Director

Submitted by:
Ralph R. Canter, Chief
Personnel Accession and Utilization Technical Area

Accession For	
NTIS GRA&I ☒	
DOC TAB ☐	
Unannounced Justification ☐	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or special
A	

February 1978

Approved by:

E. Ralph Dusek, Director
Individual Training and Performance
Research Laboratory

J. E. Uhlauer, Technical Director
U.S. Army Research Institute for
the Behavioral and Social Sciences

Research Memorandums are informal reports on technical research problems. Limited distribution is made, primarily to personnel engaged in research for the Army Research Institute.

1974 FT. RILEY ROTC ADVANCED SUMMER CAMP: RACE OF CADET BY RACIAL COM-
POSITION OF SCHOOL ANALYSIS

For a number of years, ARI has been assisting the office of the DCS-ROTC, U.S. Army Training and Doctrine Command, in developing off-campus, summer training programs for ROTC cadets. These programs comprise a Basic Camp for 2-year program cadets and an Advanced Camp for MS III cadets. At Advanced Summer Camp, cadets are exposed to a simulated military environment and engage in exercises designed not only to introduce them to military training but also to give the ROTC more evaluative information to use in the selection of cadets for Regular Army (RA) commissions, reserve commissions, and branch assignments.

This paper presents data collected at Fort Riley, Kansas, 1974 ROTC Advanced Summer Camp. Attention is focused on possible differences between black and white cadets as a function of the racial makeup of the student body of the college hosting the ROTC unit.

METHOD

SAMPLE

A total of 1880 cadets attended the 3rd Region Advanced Summer Camp in 1974. The sample contained 1625 whites and 255 blacks. Colleges hosting the ROTC units were classified as either predominantly white or predominantly black according to the racial composition of each student body. The ethnic breakdown, race by school, yielded the following groups: 1580 white cadets attending primarily white universities (W/W); 45 white cadets at black schools (W/B); 151 black cadets at white schools (B/W); and 104 black cadets at black schools (B/B).

PROCEDURES

Performance variables included evaluations made by cadre (officers and NCOs) based on overall performance of camp leadership activities and objective measures of specific performances.

LEADERSHIP ACTIVITIES

Platoon Officer Evaluator Performance Ratings (POE Performance). These ratings were designed to assess the cadet's ability to handle people and situations while in leadership positions as above. Using a 7-point scale, the POE rated cadets on ten performance characteristics. These were:

- Responds quickly and appropriately to a changed situation
- Directs and maintains control of subordinates
- Thinks on his feet
- Keeps troops organized and initiates action forcefully
- Keeps troops motivated
- Obtains cooperation from subordinates
- Maintains emotional control under stress
- Shows ability to anticipate problems
- Maintains communications with subordinates
- Makes careful and systematic plans

Platoon NCO Evaluations (PNE). These ratings were designed to assess the cadet's ability to deal with people and situations while in leadership positions in day-to-day camp activities. Using a 7-point scale, the platoon NCO evaluator rated the cadets on the following ten dimensions:

- Delegates authority effectively
- Keeps subordinates informed
- Keeps troops motivated
- Utilizes subordinates effectively
- Directs and maintains control of subordinates
- Maintains military bearing and manner
- Possesses physical and mental endurance for effective leadership
- Responds quickly and appropriately to a changed situation
- Sets the example
- Shows initiative in accomplishing assigned duties

Personal Characteristics (PC). This rating evaluated the cadet's personal characteristics related to effective leadership, ability to think under stress, take action in emergencies, and proceed under general conditions of duress. The POE rated cadets on a 7-point scale on eight separate characteristics. They were:

- Takes appropriate action on his own responsibility
- Calm and cool under pressure
- Gets a job done effectively, follows through to the final desired results
- Knows how to handle personnel
- Appearance and bearing cause people to react positively
- Gives and executes orders firmly without creating a negative attitude
- Takes speedy and appropriate action
- Shows common sense and good judgment

Situations (S). These ratings were designed to indicate the willingness of the POE to have the cadet represent or act in his stead in job situations with various task requirements. The POE evaluated each cadet according to how well he had performed in the leadership situations. These ratings, again based on a 7-point scale, consisted of the following six statements:

Represent your viewpoint and make decision in your name on
an extremely important mission
Be responsible in an emergency situation calling for great
initiative, coolness, and dominant leadership
Prepare plans for all aspects of a large undertaking (a task
requiring considerable initiative, coolness, and judgment)
Represent you in a meeting where considerable tact and
ability to get along with people are required.
Work on an assignment requiring great attention to detail
and routine
Have him lead a unit under your command

PEER RATINGS (PR)

Peer ratings were collected during the fifth week of summer camp. Cadets were presented a list of names of their platoon members and were instructed: "Considering all you know about each of your fellow cadets, select the 10 you would be most willing to serve under if one person from your platoon were placed in charge of your unit; select the 10 cadets you would least be willing to serve under." Cadets were further instructed not to nominate themselves for either high or low preference nor to nominate the same cadet for both high and low preference.

SPECIFIC PERFORMANCE MEASURES

Field Problems Test (FFT). These tests evaluated the cadet's leadership aptitude in a number of standardized military situations. The FFT consisted of 12 stations. Each station required the cadet to demonstrate leadership abilities under simulated combat conditions. Each cadet was designated leader in three problems, during which time his/her performance was evaluated by station graders. Female cadets were not allowed to be leaders in stations requiring offensive tactics.

Military Stakes (MS). This test, given in the last week of camp, measured the cadet's ability to apply individual military skills in different situations. Although the test is a performance measure, cognitive abilities and motivational levels may influence scores because cadets could study and practice for these tests during off-hours. Information needed was contained in field manuals available in garrison libraries.

Orienteering. Orienteering is a specific camp activity requiring both physical and cognitive abilities. There are three kinds of orienteering--free-style, line, and score. Free-style orienteering is a time-distance combination in which the goal is to go from point A to point B in the least amount of time. Line orienteering emphasizes only land navigational skills (compass and map reading) by requiring a specific route to be followed in getting from point A to point B. Score orienteering combines problem-solving ability with land navigational skills.

In all three types of orienteering, check points, or stations, have varying point values. The goal is to accrue as many points as possible in the time allowed by going to those stations having the highest point value.

Physical-Fitness Test (PT). Exercises included the inverted crawl, the run-dodge-jump, the horizontal ladder, bent-leg situps, and a 2-mile run. The minimum possible score was 60 points per event, 300 for the test.

LEADERSHIP POTENTIAL INDEX (LPI)

The LPI is a weighted cumulative index designed to provide an indication of cadet potential to perform in managerial and leadership positions. It is based on: Performance Ratings, 30%; Personal Characteristics, 10%; Situations, 10%; Field Problems Test, 25% and Peer Ratings, 25%.

ANALYSIS

Performance ratings and scores were broken into four groups based on the race of the cadet (white or black) and the racial composition of students at the college hosting the ROTC unit (majority white or majority black). For the selected variables, 2x2 (race of cadet by race of school) analyses of variance with unweighted means were conducted. Also, correlation coefficients were computed between all variables for the four groups.

RESULTS

Figure 1 depicts the means of the variables by each combination of race of cadet-race of school. All variables, including the PT results, are presented as Army Standard Scores.

Two-way analyses of variance using unweighted means (race of cadet by race of college) were computed for each of the variables presented in Figure 1. The results are given in Tables 1 through 10. For POE, PNE, and PC variables (Tables 1, 2, and 3), interaction terms were significant: cadets attending schools in which the opposite race predominated (W/B and B/W) scored higher than cadets attending same race schools (W/W and B/B). For S ratings (Table 4), the interaction term as well as the main effect for race was significant: W/B and B/W groups did best and the B/B group did the worst. White cadets had higher peer rating scores (Table 5) than did black cadets regardless of racial makeup of the college. There was, however, a trend for black cadets from white schools to score slightly higher on peer ratings than black cadets from black schools. White cadets also had better scores than black cadets

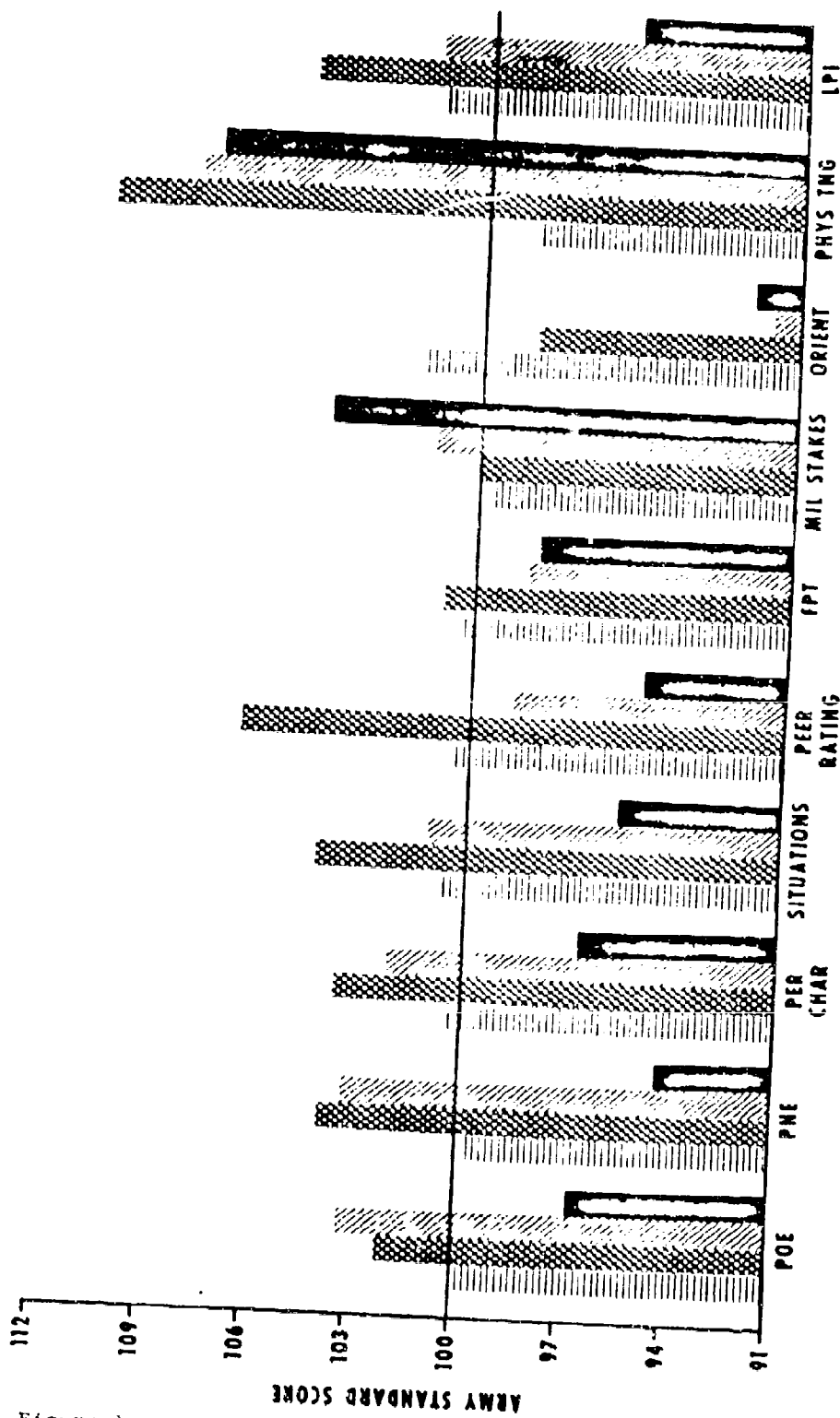


Figure 1.

Figure 1. Variable means as a function of race of cadet and race of school

on both the FFT and on O (Tables 7 and 9, respectively). On PT (Table 6), cadets attending black schools out-performed cadets at white schools; race of cadet did not yield a significant difference. Cadets attending racially opposite schools scored better on the LPI (Table 10) than cadets attending same-race schools, with white cadets outscoring black cadets.

Table 1
Analyses of Variance of Race of Cadet by
Racial Composition of ROTC Host Institution
Officer Performance Evaluation (POE)

<u>Source</u>	<u>Sum of Squares</u>	<u>DF</u>	<u>Mean Square</u>	<u>F</u>
Race of Cadet	135.04	1	135.04	.35
Race of School	503.76	1	503.76	1.29
Cadet by School	1879.80	1	1879.80	4.82 *
Error Within	731408.64	1876	389.88	

*p < .05

Table 2
Analyses of Variance of Race of Cadet by
Racial Composition of ROTC Host Institution
NCO Performance Evaluation (PNE)

<u>Source</u>	<u>Sum of Squares</u>	<u>DF</u>	<u>Mean Square</u>	<u>F</u>
Race of Cadet	1050.61	1	1050.61	2.71
Race of School	597.60	1	597.60	1.54
Cadet by School	4181.14	1	4181.14	10.78 *
Error Within	727400.98	1876	387.74	

*p < .05

Table 3
Analyses of Variance of Race of Cadet by
Racial Composition of ROTC Host Institution:
Personal Characteristics(PC)

<u>Source</u>	<u>Sum of Squares</u>	<u>DF</u>	<u>Mean Squares</u>	<u>F</u>
Race of Cadet	676.97	1	676.97	1.74
Race of School	112.25	1	112.25	.29
Cadet by School	1895.12	1	1895.12	4.88 *
Error Within	729214.98	1876	388.71	

*p < .05

Table 4
Analyses of Variance of Race of Cadet by
Racial Composition of ROTC Host Institution:
Situations (S)

<u>Source</u>	<u>Sum of Squares</u>	<u>DF</u>	<u>Mean Square</u>	<u>F</u>
Race of Cadet	1721.58	1	1721.58	4.41 *
Race of School	75.64	1	75.64	.19
Cadet by School	2112.15	1	2112.15	5.41 *
Error Within	732510.75	1876	390.46	

* p < .05

Table 5
Analyses of Variance of Race of Cadet by
Racial Composition of ROTC Host Institution:
Peer Rating (PR)

<u>Source</u>	<u>Sum of Squares</u>	<u>DF</u>	<u>Mean Square</u>	<u>F</u>
Race of Cadet	4524.25	1	4524.25	11.73 *
Race of School	190.36	1	190.36	.49
Cadet by School	2250.40	1	2250.40	5.84 *
Error Within	723361.48	1876		

*p < .05

Table 6
Analyses of Variance of Race of Cadets by
Racial Composition of ROTC Host Institution:
Physical Training (PT)

<u>Source</u>	<u>Sum of Squares</u>	<u>DF</u>	<u>Mean Square</u>	<u>F</u>
Race of Cadet	5893.89	1	5893.89	2.97
Race of School	16838.03	1	16838.03	8.49 *
Cadet by School	20692.38	1	20692.38	10.43 *
Error Within	374560.76	1876	1983.77	

*p < .05

Table 7
Analyses of Variance of Race of Cadet by
Racial Composition of ROTC Host Institution:
Field Problem Test(FPT)

<u>Source</u>	<u>Sum of Squares</u>	<u>DF</u>	<u>Mean Square</u>	<u>F</u>
Race of Cadet	502.66	1	502.66	15.82 *
Race of School	1.58	1	1.58	.05
Cadet by School	20.35	1	20.35	.64
Error Within	59607.45	1876	31.77	

*p < .05

Table 8
Analyses of Variance of Race of Cadets by
Racial Composition of ROTC Host Institution:
Military Stakes (MS)

<u>Source</u>	<u>Sum of Squares</u>	<u>DF</u>	<u>Mean Square</u>	<u>F</u>
Race of Cadet	825.88	1	825.88	2.16
Race of School	299.53	1	299.53	.78
Cadet by School	145.98	1	145.98	.38
Error Within	718745.08	1876	383.13	

*p < .05

Table 9
Analyses of Variance of Race of Cadet by
Racial Composition of ROTC Host Institution:
Orienteering (O)

<u>Source</u>	<u>Sum of Squares</u>	<u>DF</u>	<u>Mean Square</u>	<u>F</u>
Race of Cadet	6560.02	1	6560.02	16.92 *
Race of School	155.76	1	155.76	.40
Cadet by School	333.72	1	333.72	.86
Error Within	727148.01	1876	387.61	

*p < .05

Table 10
Analyses of Variance of Race of Cadets by
Racial Composition of ROTC Host Institution:
Leadership Potential Index (LPI)

<u>Source</u>	<u>Sum of Squares</u>	<u>DF</u>	<u>Mean Square</u>	<u>F</u>
Race of Cadet	967.44	1	967.44	5.27 *
Race of School	31.81	1	31.81	.17
Cadet by School	1175.02	1	1175.02	6.40 *
Error Within	344535.99	1876	183.65	

*p < .05

Table 11 presents the complete intercorrelation matrix for all rating and performance variables for white cadets at white schools (W/W: n=1580), for white cadets at black schools (W/B: n=45), for black cadets at white schools (B/W: n=151), and for black cadets at black schools (B/B: n=104). Included in this table are comparisons between correlation coefficients for the different sample groups. Alpha-notations, keyed at the bottom of the table, indicate significant findings. Also included in this table is information needed to determine whether a group correlation coefficient is significantly different from zero. Because of the vast differences in sample sizes, correlation coefficients should be interpreted with caution.

However, differences in sample sizes notwithstanding, certain obvious trends emerge. For all groups, intercorrelations among POE, PNE, S, and PC ratings are very high with no real differences emerging between groups. Peer ratings also correlate highly with other ratings, again with no real differences between groups. Performance scores--PT, FPT, MS, and O--appear to comprise separate factors; each test seems to be unique with little common variance with other performance and rating scores.

DISCUSSION

Present results indicate that race of cadet and race of school account for significant variance in summer camp performance scores. One general finding is that black cadets attending white schools, and white cadets attending black schools, generally outscored cadets attending same-race schools. This fairly consistent result suggests that these cadets possess or develop special levels of interpersonal skills, perhaps needed to cope successfully as a "minority" in a given environment. An alternative explanation is that "minority" cadets may be more obvious in an environment comprising opposite-race students and therefore may receive more attention from instructors.

Another consistent result is that black cadets scored lower than white cadets in cadre ratings and in performance measures. Consistent with other research (Cox and Krumboltz, 1958; deJung and Kaplan, 1962), black cadets were peer-rated lower than their white colleagues.

Another finding dealt with the manner in which various rating and performance scores clustered. Ratings made by cadre (POE, PNE, S, and PC) seemed to be one factor, with peer ratings closely related, and each performance test--PT, FPT, MS and O--appeared to constitute an individual factor. There are no substantial differences between racial samples for factor structures. Differences appear to be limited to mean rating scores on given variables. This finding seems to indicate that true performance differences, rather than bias, accounted for mean differences in scores.

Table 11

Intercorrelation Matrix of Performance and Rating
Variables by Ratee and Sample

		PNE	PC	S	PR	PT	FPT	MS	Q	LP1
		2	3	4	5	6	7	8	9	10
POE	W/W	.86	.82	.81	.62	.28	.21	.22	.14	.92
	W/B	.87	.86	.76	.72	.14	.28 ^E	.26	-.02	.94
	B/W	.88	.85	.81	.57	.18	.21	.22	.11	.92
	B/B	.88	.86	.83	.57	.36	-.02	.04	-.05	.93
PNE	W/W		.75	.74	.62	.28	.20	.22	.14	.83
	W/B		.69	.58 ^E	.68	.16 ^K	.21	.17	-.09	.81
	B/W		.73	.73	.58	.17	.20	.18	.09	.84
	B/B		.77	.75	.59	.43	.01	.03	-.07	.86
PC	W/W			.94	.65	.34	.21	.21	.16 ^A	.90
	W/B			.94	.69	.28	.24	.24	-.12	.91
	B/W			.92	.57	.24	.21	.28	.12	.89
	B/B			.92	.60	.34	.01	.06	-.01	.91
S	W/W				.65	.32	.21	.20	.15 ^A	.89
	W/B				.61	.27	.25	.25	-.15	.85
	B/W				.60	.18	.25 ^F	.28	.11	.88
	B/B				.57	.33	-.02	.08	.06	.88
PR	W/W					.44 ^{A, B}	.23 ^C	.22	.19 ^C	.85
	W/B					.20	.16	.26	-.02	.87
	B/W					.21	.29 ^F	.22	.15	.80
	B/B					.30	.06	.13	-.03	.79

Table 11 (Con't)

Intercorrelation Matrix of Performance and Rating
Variables Ratee and Sample

		FPT	MS	O	LPI
PT	W/W	.11	.8	.9	.10
	W/B	.08	.07	.17 ^{A,B}	.38
	B/W	-.02	.13	-.11	.20
	B/B	.14	.12	-.04	.23
FPT	W/W	.04	.13	.16	.40
	W/B		.14 ^B	.06 ^A	.34
	B/W		.05	-.30	.35
	B/B		.33 ^D	.03 ^D	.37
MS	W/W		.14	.09 ^E	.12
	W/B			.06	.25
	B/W			-.09	.28
	B/B			-.05	.30
O	W/W			.14	.10
	W/B				.25
	B/W				.28
	B/B				.14
		Sample Size	Significance Level	Needed R	Ratee Sample Differences
W/W n=1580		p < .05	r = .06	A: p < .05	W/W: W/B
W/B n=45		p < .05	r = .30	B: p < .05	W/W: B/W
B/W n=151		p < .05	r = .16	C: p < .05	W/W: B/B
B/B n=104		p < .05	r = .20	D: p < .05	W/B: B/W
				E: p < .05	W/B: B/B
				F: p < .05	B/W: B/B

REFERENCES

- Cox, J. A., and Krumboltz, J. D. Racial bias in peer ratings of basic airmen. Sociometry, 1958, 21, 292-299.
- deJung, J. E., and Kaplan, H. Some differential effects of race of rater and ratee on early peer ratings on combat aptitude. Journal of Applied Psychology, 1962, 46, 370-374.
- Mohr, E. S., and Reidy, R. F. Racial bias in peer ratings at ROTC Advanced Summer Camp, Fort Bragg, 1975. ARI Research Memorandum 76-22 October 1976.

PRECEDING PAGE BLANK