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Washington, D. C. 20315

AD 413C

Report Number 66-1

Rifle Performance Under Conditions of Stress

Final Report
by

Lt. Col. Carl G. Lauterbach, MSC
Major David P. Vielhaber, MSC

Medical Research Project
U.S. Army Hospital
West Point, New York

20 May 1966

Project Nr. 62156011 3A025601A823 01 057

The findings in this report are not to be construed
as an official Department of the Army position unless
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Washington, D. C. 20315

AD 4130

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Rifle Performance Under Conditions of Stress

Final Report

Medical Research Project
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West Point, New York

Rifle Performance Under Conditions of Stress

Authors

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Medical Research Project
U.S. Army Hospital
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Task Nr. 62156011 3A025601A823 01

Title: (U) Studies to Identify Through Research the Characteristics
Related to Leadership.

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RESEARCH AND TECHNOLOGY RESUME				1.	2. GOVT ACCESSION	3. AGENCY ACCESSION DA6822	REPORT CONTROL SYMBOL CSCRD-103
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11. TITLE (U) Rifle Performance Under Conditions of Stress (US33) (Tech.Rpt.Nr.17 - Pretraining Correlates of Rifle Marksmanship)							
12. SCIENTIFIC OR TECH. AREA 013400 Psychology (Ind. & Grp.Behavior)				13. START DATE 03-63	14. CRIT. COMPL. DATE N/A	15. FUNDING AGENCY	
16. PROCURE. METHOD C-Inhouse	17. CONTRACT/GRANT a. NUMBER N/A c. TYPE N/A d. AMOUNT			18. RESOURCES EST. PRIOR FY CURRENT FY	19. PROFESSIONAL MAN-YEARS 1/4 1/4		20. FUNDS (In thousands) 1/2 1/2
19. GOV'T LAB/INSTALLATION/ACTIVITY NAME Hq. U.S. Army Medical ADDRESS R & D Command Washington, D.C. 20315 Colonel S.L. Marvin, MC Chief, Behavioral Sciences Research Br. Area Code 202 - Oxford 6-6670				20. PERFORMING ORGANIZATION NAME Med.Res.Project ADDRESS U.S. Army Hospital, USMA West Point, N.Y. 10996 INVESTIGATORS PRINCIPAL Lt.Col. Carl G. Lauterbach, MSC ASSOCIATE Maj. David P. Vielhaber, MSC TEL Area Code 914 WPB 2711 EXT. 3101 TYPE DA			
21. TECHNOLOGY UTILIZATION N/A				22. COORDINATION N/A			
23. KEYWORDS Trainfire; Parent Attitudes; Confidence, Weapon Experience.							
24. <u>Tech.Objectives:</u> (U) As a part of a broader project investigating stress-proneness on the rifle range, entering USMA cadets were studied to determine whether or not prior weapon experience, intelligence, their parents' or their own attitude towards weapons predicted their subsequent "Trainfire" rifle score.							
25. <u>Approach:</u> (U) A weapons questionnaire was administered shortly after arrival at West Point. Distribution of responses were made and were correlated with practice and record-firing Trainfire scores.							
26. <u>Progress:</u> (U) The results indicated that a cadet's expressed confidence in his firing ability was found to be limited, yet the best, single predictor of his range-firing scores. Although items concerning prior firing experience and cadet and parent attitudes towards weapons were also correlated with the criteria, they did not add substantially to the predictive ability of the confidence item. The correlations of experience with rifle scores were lower than in previous studies and intelligence was not found to be an effective predictor in this cadet population. This research culminated in Tech. Report Nr.17 entitled "Pretraining Correlates of Rifle Marksmanship" dated January 1965. Since the end of FY 1965 the entire rifle project has been completed and a final report is forthcoming.							
27. COMMUNICATIONS SECURITY ☐ a. COMSEC OR COMSEC RELATED ☒ b. NOT RELATED				28.		29. OSD CODE AR	30. BUDGET CODE 1
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33. REQUESTING AGENCY				34. SPECIAL EQUIPMENT			
35. EST. FUNDS (in thousands) CFV+1				36.			

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RESEARCH AND TECHNOLOGY RESUME		1.	3. GOVT ACCESSION	3. AGENCY ACCESSION	REPORT CONTROL SYMBOL
				OA6822	CSCRD-103
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10a. CURRENT NUMBER/CODE			10b. PRIOR NUMBER/CODE		
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11. TITLE (U) Rifle Performance Under Conditions of Stress (US33) (Res. Rpt. Nr. 20 - Personality-Leadership Correlates of Trainfire Marksmanship of New West Point Cadets)					
12. SCIENTIFIC OR TECH. AREA			13. START DATE	14. CRIT. COMPL. DATE	15. FUNDING AGENCY
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C - Inhouse	b. NUMBER		PRIOR FY	1/4	1/2
	c. TYPE	d. AMOUNT	CURRENT FY	1/4	1/2
19. GOV'T LAB/INSTALLATION ACTIVITY			20. PERFORMING ORGANIZATION		
NAME Hq. U.S. Army Medical			NAME Med. Res. Project		
ADDRESS R & D Command			ADDRESS U.S. Army Hospital, USMA		
Washington, D.C. 20315			West Point, N.Y. 10996		
RESP. INDIV Colonel S.L. Marvin, MC			INVESTIGATORS Lt. Col. Carl G. Lauterbach, MSC		
Chief, Behavioral Sciences Research Br.			PRINCIPAL ASSOCIATE Maj. David P. Vielhaber, MSC		
TEL Area Code 202 - Oxford 6-6670			Area Code 914		
			TELEWEB-2711, Ext. 3101		
21. TECHNOLOGY UTILIZATION			22. COORDINATION		
N/A			N/A		
23. KEYWORDS Trainfire; 16 P-F Inventory; Confidence; Anxiety; Weapon Experience					
24. Tech. Objectives: (U) This second of a series of three reports on Trainfire rifle performance of new USMA cadets explored: whether or not personality-leadership attributes are related to cadet firing effectiveness; whether or not experienced and novice firers differ in these attributes; and finally, whether or not the personality attributes, experience, and confidence in firing interact in influencing rifle proficiency.					
25. Approach: (U) 683 new cadets were administered a Weapons Questionnaire, the 16 P-F and Heineman's Anxiety Scale. Certain actuarial variables were also used as predictors of rifle scores. Rifle experience was used as a moderating variable, with separate analyses for 116 experienced and 243 novice firers.					
26. Progress: (U) The results indicated experienced cadets differed significantly in several personality-leadership attributes and confidence from novices, but did not differ in non-personality variables. The rifle scores of experienced firers were unrelated to personality attributes, but the scores of novice firers were related to such attributes. Thus, personality traits may influence rifle performance of the inexperienced firer, but not the experienced firer. Since experience, personality attributes and confidence to do the task were interrelated with rifle performance, it may be that study of the interactions of such variables would assist comprehension of the performance of cadets or trainees in other situations.					
27. COMMUNICATIONS SECURITY		28.	29. OSD CODE		30. BUDGET CODE
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31. MISSION OBJECTIVE			32. PARTICIPATION		
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33. REQUESTING AGENCY		34. SPECIAL EQUIPMENT			
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RESEARCH AND TECHNOLOGY RESUME				1	2 GOVT ACCESSION	3. AGENCY ACCESSION OA 6821	REPORT CONTROL SYMBOL CSCRD 103
4 DATE OF RESUME 30 04 66.	5. KIND OF RESUME B. Completed	6. SECURITY U RPT U WRK	7. REGRADING N/A	8. RELEASE LIMITATION NL	9. LEVEL OF RESUME A. Work Unit		
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19. GOVT LAB/INSTALLATION/ACTIVITY NAME Hq. U.S. Army Medical ADDRESS R & D Command Washington, D.C. 20315 Colonel S.L. Marvin, MC Chief, Behavioral Sciences Research Br. Area Code 202 - Oxford 6-6670				20. PERFORMING ORGANIZATION NAME Med. Res. Project ADDRESS U.S. Army Hospital, USMA West Point, N.Y. 10996 INVESTIGATORS Lt. Col. Carl G. Lauterbach, MSC PRINCIPAL ASSOCIATE Maj. David P. Vielhaber, MSC Area Code 914 TEL WDS-2711, Ext. 3101 TYPE DA			
21. TECHNOLOGY UTILIZATION N/A				22. COORDINATION N/A			
23. KEYWORDS Trainfire; stress-prone; stress-resistant; anxiety							
24. Tech. Objectives: (U) Since studies of military leadership have demonstrated that effective leaders are more resistant to stress than are less effective leaders, an effort was made to identify new USMA cadets who are stress-prone and stress-resistant by introducing experimental stress conditions on the Trainfire range. This report summarizes the final report in the series of three reports on Trainfire Rifle Performance.							
25. Approach: (U) 480 cadets served as control subjects, undergoing only the ordinary four day rifle training without receiving any of the experimental stresses. Random groups of 66, 65, and 153 cadets were assigned to "Reaction to Authority," "Test Anxiety," and "Group Pressure" stress conditions. The pre-stress and post-stress rifle scores of groups assigned to these conditions were compared with those of the control group.							
26. Progress: (U) Analysis of rifle scores revealed no difference in performance between the experimental and control groups, so there was no evidence that the stresses were effective. Ss who showed a drop in rifle scores from practice to final record-firing did not differ from consistent firers on the 16 P-F personality factors or on anxiety test scores. The disparity of these results from other studies may be a result of the milder stresses used here, special characteristics of cadets, or both. The two earlier reports in this series presented a number of correlates of Trainfire performance of cadets and interactions between predictors and rifle scores.							
27. COMMUNICATIONS SECURITY ☐ a. COMSEC OR COMSEC RELATED ☒ b. NOT RELATED		28.		29. OSD CODE AR		30. BUDGET CODE 1	
31. MISSION OBJECTIVE N/A				32. PARTICIPATION N/A			
33. REQUESTING AGENCY		34. SPECIAL EQUIPMENT					
35. EST. FUNDS (In thousands)		36.					
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Security Classification

DOCUMENT CONTROL DATA - R&D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

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5. AUTHOR(S) (Last name, first name, initial) Lauterbach, Carl G., Lt. Colonel, MSC Vielhaber, David P., Major, MSC			
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Security Classification

14 KEY WORDS	LINK A		LINK B		LINK C	
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