

WP. FR. 199-054

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
<small>Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.</small>				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 19 March 1999		3. REPORT TYPE AND DATES COVERED
4. TITLE AND SUBTITLE The Impact of Deployment History on the Well-Being of Military Personnel				5. FUNDING NUMBERS
6. AUTHOR(S) Ann H. Huffman, Amy B. Adler and MAJ Carl A. Castro				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Commander Attn: Medical Research Unit CMR 442 APO AE 09042				8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) US Army Medical Research & Materiel Command Ft. Detrick, Frederick, MD 21702-5012				10. SPONSORING / MONITORING AGENCY REPORT NUMBER
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution unlimited.				12b. DISTRIBUTION CODE
13. ABSTRACT (Maximum 200 words) The present study examines the effects of deployment history on the psychological health of military personnel. Personnel (N=57,854) re-deploying from the NATO mission in the former Yugoslavia were assessed for symptoms of post-traumatic stress disorder, depression, and alcohol problems. Personnel scoring above criteria on the clinical scales received an interview to determine referral need. Longer deployments were associated with an increase in meeting criteria on one of the clinical scales. Prior mission-related deployment experience was associated with lower rates of exceeding criteria only for those personnel deployed 6 months or less. The findings have implications for military deployment policy and provide evidence for the effect of deployment length on soldier health.				
14. SUBJECT TERMS deployment length, post-traumatic stress disorder, depression, alcohol				15. NUMBER OF PAGES
				16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT UNCLAS		18. SECURITY CLASSIFICATION OF THIS PAGE UNCLAS		19. SECURITY CLASSIFICATION OF ABSTRACT UNCLAS
				20. LIMITATION OF ABSTRACT

The Impact of Deployment History on the Well-being of Military Personnel¹

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19990325 047

¹The views expressed in the article are those of the authors and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government (Para 4-3, AR 360-5).

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Abstract

The present study examines the effects of deployment history on the psychological health of military personnel. Personnel (N= 57,854) re-deploying from the NATO mission in the former Yugoslavia were assessed for symptoms of post-traumatic stress disorder, depression, and alcohol problems. Personnel scoring above criteria on the clinical scales received an interview to determine referral need. Longer deployments were associated with an increase in meeting criteria on one of the clinical scales. Prior mission-related deployment experience was associated with lower rates of exceeding criteria only for those personnel deployed 6 months or less. The findings have implications for military deployment policy and provide evidence for the effect of deployment length on soldier health.

The Impact of Deployment History on the Well-being of Military Personnel

Since the end of the Cold War, the workload of U.S. military personnel has increased tremendously as the reduction in forces has coincided with an increase in military operations (Castro & Adler, 1998). The increase in operational demands includes multiple peacekeeping missions, humanitarian assignments, required military training, and extra garrison duties. Military leaders (e.g., Reimer, 1998) are clearly concerned about the impact of the work pace on soldier health and readiness.

One component of this workload increase is the impact that long and multiple deployments may have on soldiers. Since February 1996, data have been collected to measure the psychological well-being of military personnel supporting the NATO mission to the former Yugoslavia. The present study examines the effects of deployment length and number of previous deployments on the psychological health of military personnel.

Method

Participants

Military and civilian personnel (N=57,854) deployed for over 30 days in the Bosnia Area of Operations (AO) participated in a psychological screening program. Approximately 19% of the sample had been on at least two deployments in support of the NATO mission to the former Yugoslavia. Additional demographic information is presented in Table 1.

Procedure

Data were collected from February 1996 to July 1998. Military and civilian personnel completed a primary psychological screening survey prior to returning to home

station. Individuals completed surveys designed to measure posttraumatic stress, depression, and alcohol abuse symptoms. If scores on one of the scales exceeded established criteria, secondary screening surveys and brief individual interviews were conducted to determine referral need.

Instruments

The primary screening survey had two sections. The first section was composed of demographic questions such as gender and race. There were also two deployment-related questions: the length of the deployment and the number of previous Bosnia AO deployments.

The second survey section consisted of three psychological symptom scales. The 17-item Post-Traumatic Stress Disorder (PTSD) checklist developed by U.S. Army Medical Research Unit-Europe (Chronbach's $\alpha=.92$) measured post traumatic stress symptoms delineated in the Diagnostic and Statistical Manual for Mental Disorders IV (American Psychiatric Association, 1994). Items were rated on a 5-point scale (1=not at all to 5=very often). Respondents who reported at least six symptoms (often or very often) were given the secondary screening survey.

The Self-rating Depression Scale (SDS; Zung, 1964, 1973), a 20-item scale, measures depressive symptoms on a (Chronbach's $\alpha=.48$) 4-point scale: a little of the time, some of the time, good part of the time, and most of the time. A cut-off criterion was a raw score of 44 points which is midway in the mild depression range. (Zung, 1993). In addition, personnel indicating any agreement with the statement "I feel that others would be better off if I were dead" were also considered to meet criteria regardless of their overall cut-off score.

Alcohol abuse symptoms were measured using the CAGE Questionnaire (Ewing, 1984; Mayfield, McLeod & Hall, 1974). The CAGE (Chronbach's $\alpha = .50$) Questionnaire includes items such as "Have you ever been annoyed by comments made about your drinking?" and "Have you ever felt guilty about drinking?" Respondents with affirmative responses to two or more questions were administered a secondary screening survey.

Results

Data were analyzed to evaluate the impact of length of the deployment and frequency of deployments on these measures of psychological well-being. The length of the deployment was associated with increased reports of psychological distress. Figure 1 presents data indicating that more individuals who had been deployed longer exceeded criteria on at least one of the symptoms scales than individuals with shorter deployments, $\chi^2(1, N=56,543) = 234.68, p<.001$. This pattern was similar for each individual scale (i.e. PTSD, depression and alcohol abuse).

In contrast, of those who had been on at least two Bosnia AO deployments, fewer exceeded criteria on at least one of the primary scales compared to individuals who were on their first deployment (12.5% vs. 16.4%, respectively), $\chi^2(1, N=12,238) = 21.32, p<.001$. Specifically, scores on the PTSD and depression scales were affected by previous deployments. Rates of exceeding criteria on the PTSD scale were significantly higher for personnel who were on their first deployment (4.1%) than those on who had been deployed twice or more (2.6%), $\chi^2(1, N=12,247) = 11.31, p<.001$. Similarly, more of those who were on their first deployment exceeded depression criteria (8.9%) than who had been on two or more deployments (6.6%), $\chi^2(1, N=12,247) = 13.92, p<.001$.

Deployment history had no effects on reported alcohol abuse symptomatology, $\chi^2(1, N=12,244) = 1.50, p=.22$.

We analyzed the interaction between deployment frequency and length in terms of mental health outcomes. Figure 2 illustrates that for both those with a history of multiple Bosnia deployments and for those on their first deployment, there is a relationship such that longer deployments are associated with higher rates of exceeding criteria on the primary screening scales. In addition, those with a history of multiple Bosnia deployments have lower rates of exceeding criteria on the primary screening scales than those on their first deployment, but this relationship is only true for those deployed six months or less. That is, the positive impact of multiple Bosnia deployments is only evident for those on relatively short deployments.

Discussion

Military leaders have been aware that the demanding pace of peacekeeping and other deployments may influence the readiness of America's military. The present study examined the effects of deployment history and the psychological health of military personnel deployed on the NATO mission to the former Yugoslavia. In interpreting the findings, it is important to point out that deployments to Bosnia have been relatively safe and of low intensity. No doubt results would be quite different if a study were conducted with military personnel deployed to an active war zone.

The data indicate that length of the deployment and number of deployments are important variables in predicting psychological health in military personnel deployed in support of the NATO mission to the former Yugoslavia. Although shorter deployments are associated with lower rates of psychological symptomatology, previous deployments

are also associated with lower rates, but only for deployments lasting six months or less.

Further research should prospectively examine the relative benefit of short multiple deployments rather than a single long deployment on maintaining soldier health and readiness.

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Table 1

Sample Demographics

Demographic Variable	Percent
Gender	
Male	89
Female	11
Race	
White	60
African-American	23
Hispanic-American	9
Asian-American	2
Rank	
Junior Enlisted	48
Noncommissioned Officers	38
Officers/ Warrant Officers	14
Marital Status	
Married	55
Single	36
Divorced	6
Separated	3
Education	
High school	32
Some college	42
College degree	17
Graduate degree	4

Note: N=57,854.

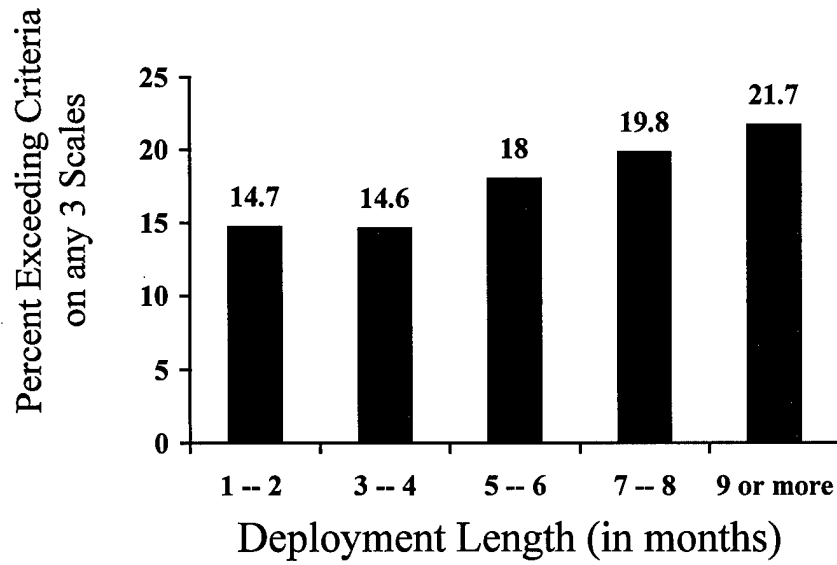


Figure 1. Rates of exceeding criteria on any scale as a function of deployment length.

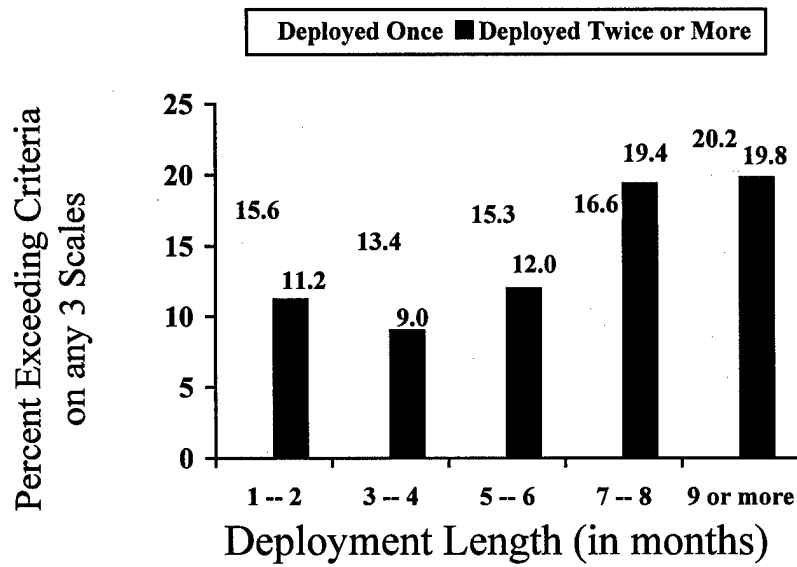


Figure 2. Rates of exceeding criteria on any scale as a function of deployment length and number of deployments.

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The views expressed in the article are those of the authors and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government (Para 4-3, AR 360-5). Special acknowledgement to MAJ Paul T. Bartone and CPT Thomas W. Britt for initiating the psychological battery program, to LTC Bruce Crow and CPT Robert Bienvenu for providing key support, and to the mental health staff assigned to the psychological screening program.

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