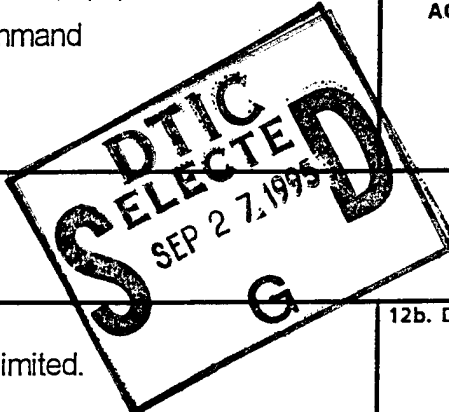


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Doing human dimensions research: Lessons from recent military operations

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Abstract

Since the Persian Gulf War in 1991, the U.S. Army has devoted increased attention to field studies aimed at identifying and understanding the critical "human dimensions" issues that can affect soldier health and well-being, morale, cohesion and performance. Army social psychologists have conducted human dimensions studies in several recent military operations in such places as Croatia, Somalia and Kuwait. This paper draws on these experiences to summarize the important methodological and practical considerations in doing such work. Future military human dimensions field research should benefit from this treatment of key issues in the design and execution of such studies.

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## Doing human dimensions research: Lessons from recent military operations

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### Summary

Since the Persian Gulf War in 1991, the U.S. Army has devoted more attention to field studies aimed at identifying and understanding the critical "human dimensions" issues that can affect soldier health and well-being, morale, cohesion and performance. Army social psychologists have conducted human dimensions studies in several recent operations including Croatia, Somalia and Kuwait. This paper draws on these experiences to summarize the important methodological and practical considerations in doing such work. Important methodological considerations include the desirability of collecting prospective rather than just cross-sectional data on a deployed military unit, and the need to collect pre-deployment or baseline data whenever possible; use of multiple data collection strategies; and the contribution of appropriate natural control groups to the validity of research findings. Practical issues for consideration include obstacles to gaining access to units and theaters of operation; rapidly establishing team credibility; accommodating the research activities to the operational requirements of the military mission and related activities of the unit; advising commanders on human dimensions issues; enlisting unit resources to assist in data collection; the need for "last-minute" coordination of research activities with units that have little or no previous

knowledge of the research project; how terminology and phrasing can facilitate or impede the research enterprise; and capitalizing on expected and unexpected events and opportunities to gather additional data. Future military human dimensions field studies should benefit from this examination of methodological and common practical issues involved in doing such work.

### Background

Historically, much if not most psychological research and activity within the military has been concerned with selection and placement. This concern characterized, for example, most of the work of Robert M. Yerkes and colleagues at the Division of Psychology of the Office of the Army Surgeon General during World War I. The accomplishments of this division, which included development of the famous Army Alpha and Beta tests of general intelligence, are widely recognized as providing the impetus for the emerging field of psychological testing (Anastasi, 1968). During World War II, this tradition continued and expanded under a distinguished group of psychologists, including Robert C. Tryon, Donald W. Fisk, James G. Miller, and Henry A. Murray at the Office of Strategic Services (OSS), founded in 1942 (see the final report of the OSS, 1948; Wiggins, 1973). In the same period, another group of Army social scientists, largely sociologists and social psychologists, conducted extensive survey and attitude studies related to military personnel policies and soldier adjustment. Under the auspices of the Research Branch of the Army's Information and Education Division, this group produced an impressive collection of reports including four volumes known as the "American Soldier" studies (e.g., see Stouffer, Lumsdaine, Lumsdaine et al., 1949). Selection and placement have continued as major concerns for military psychologists since World War II

(Steege & Fritscher, 1991), while ergonomics (Kaplan, 1991) and human responses to environmental extremes (Krueger, 1991) have also received considerable attention. While studies in these latter areas are conducted primarily in laboratory settings, the 1980's saw a resurgence of field studies aimed at understanding the influences on positive and negative soldier performance under various conditions (e.g., Marlowe, 1985; Siebold & Kelly, 1988; Manning & Ingraham, 1987).

#### The "Human Dimensions in Combat Research Team" concept

The Gulf War in 1991 provided an opportunity for Army research psychologists to study soldier health and adjustment under the stress of an actual combat deployment (Gifford, Martin & Marlowe, 1991; Bartone, 1993). This work involved the deployment of field research teams into the combat theater, and utilized interviews, observations, and surveys to identify useful lessons for future application. The activities and reports of these field psychology research teams were deemed to be sufficiently valuable by senior Army officials to merit continued support of the concept of psychological field research teams to study soldier stress, health and adaptation. In 1993 an informal agreement between the Army's Surgeon General and the Deputy Chief of Staff for Personnel established the concept of "Human Dimensions in Combat Research Teams" for deployment in future conflicts (US Army Deputy Chief of Staff for Personnel, 1993).

### Operation Provide Promise (Croatia)

In October of 1992, the United States for the first time placed troops under the operational control of the United Nations, in the peacekeeping operation known as UN Protection Forces (UNPROFOR) in the former Yugoslavia. A Mobile Army Surgical Hospital (MASH) task force of about 300 soldiers deployed from Germany to Croatia, with the mission to provide medical support to UNPROFOR soldiers. The U.S. aspect of the overall operation became known as Provide Promise, reflecting the humanitarian relief aspects of U.S. involvement. An important part of the Provide Promise mission was the provision by air-drop of humanitarian assistance (food, medical supplies). Since the deployment of the first MASH task force, the U.S. has continued to provide medical units to UNPROFOR on 6-month rotations.

Some limited "human dimensions" research was conducted with the first MASH to deploy to Croatia. More significantly, the second medical task force to deploy, also composed of Army units stationed in Germany, was studied in depth over the course of their 6-month deployment (Bartone, Vaitkus & Adler, 1994; Bartone & Adler, 1994). This task force was assembled in March 1993, deployed in April, and returned to Germany in early October. Data collection began during the pre-deployment phase. Over a two-week training period, 74 semi-structured interviews were done, and 188 surveys were completed by soldiers. Extensive observations were also conducted. Most interviews were individual, though a few were with small groups of 2-3 soldiers. Two teams of two persons each were used for this phase. Also during the pre-deployment period, investigators observed several key unit events, such as a command sponsored unit leader seminar, the immediate pre-deployment "lock-down" period

and departure ceremony.

A two-person Human Dimensions Research Team made a total of four data collection site-visits to the unit in Croatia over the course of the deployment, staying for 7-10 days per visit. The first visit covered the initial arrival and transition period, with subsequent visits 2-months and 4-months into the deployment. The final visit was timed to occur near the end of the mission, about 2 weeks prior to re-deployment. The third site visit utilized a larger research team of four members. In Germany, a detailed study of rear detachment and family support activities was also conducted, including interviews and survey. Surveys and interviews covered 3 general areas: (1) sources of stress, (2) physical and mental health outcomes (including morale), and (3) individual and organizational factors that might influence responses (positive and negative) to stress.

#### Operation Restore Hope (Somalia)

By the request of the Army's DCSPER, in January, 1993 a three-person "human dimensions" team deployed to Somalia along with the 10th Mountain Division for the relief/peacekeeping mission known in the U.S. as Operation Restore Hope. The team consisted of a research psychologist, a social worker, and a behavioral science specialist, all on active duty. Based in Washington, DC, the team traveled to Ft. Drum, New York and then deployed to Somalia with elements of the 10th Mountain Division. They stayed in Somalia until March, when the first echelons of deployed soldiers returned to the United States. A subsequent 3-person team returned to Somalia in July of 1993 for a two week visit, and included an Army psychiatrist. In both cases, data collection methods included interviews, observations, and self-report surveys.

### Operation Vigilant Warrior (Kuwait)

In November of 1994, a three-person "human dimensions" team deployed to Kuwait to collect data with U.S. Army soldiers who had deployed as part of Operation Vigilant Warrior, an allied defense force mobilized to deter renewed Iraqi military threats toward Kuwait. The research team, composed of two research psychologists and one behavioral science specialist, arrived late in the operation as soldiers were beginning to redeploy. Approximately 600 questionnaires were administered across two brigades, and extensive interviews conducted. The team completed its work in about 10 days, and redeployed as the soldiers themselves were returning to their home stations.

### Lessons for Human Dimensions Teams

Based on these recent experiences, several recommendations can be offered to enhance the effectiveness of human dimensions field research teams.

1. Team composition: Small teams work best, numbering from 2-4 personnel. This is partly a function of the need to maintain mobility, and to not place an undue logistical burden on the unit(s) involved. Uniformed social scientists, preferably with research backgrounds, form the core of the team, with support from one or two behavioral science technicians. The nature of the operation must to some degree determine the size of the team. A three or four-person team can more readily break into sub-units to obtain more complete coverage of units that are geographically dispersed.

2. Team preparation: Potential field research team members should be individually prepared in advance for short-notice deployments. For Army researchers, this generally means complying with basic soldier deployability and readiness standards. Team members should be physically fit, without major health problems. Uniforms, field gear, identification cards and tags should be maintained. Special items such as passports and a military and international driving license should be obtained in advance, rather than after a deployment notice comes. In addition, potential team members should be trained in field data collection methods including observation, individual and group interviewing techniques, and survey coordination and administration. A critical skill area for every team member involves effectively recording and preserving observation and interview data. Ideally, once a team is identified for a research mission, members will have an opportunity to prepare and train together as a team. While contingencies and short time lines sometimes prevent this, at a minimum each team member should have a clear understanding of the team's mission, and roles of individual members. There should be a shared understanding in advance regarding the basic strategy for processing data and reporting results.

3. Methods and Strategies: What follows is a description of the preferred methods for conducting field human dimensions research activities. Operational contingencies sometimes prevent, or make it very difficult to follow this ideal.

(a) Research design should be prospective, not cross-sectional. Ideally, data collection will begin with the unit in the pre-deployment period, as a way of establishing baseline data. Then, the unit is followed over the course of the deployment, with data collection activities spaced at reasonable intervals. A post-operation follow-up is also highly desirable. Even

when it is not possible to collect pre-deployment data, it is often possible to identify non-deploying "control" groups that can provide useful reference data against which to compare the deployed unit. This can be critical in order to distinguish operational stressors and outcomes from "background" phenomena not directly related to the deployment or operation.

(b) Use multiple methods. Observations, interviews, and self-report surveys should all be used to gain a more complete understanding of the issues being examined. Over-reliance on surveys as a matter of convenience, for example, risks providing a skewed and limited picture of the important human dimensions issues for soldiers in a given operation. Survey content should reflect the exigencies of a particular operation, rather than be based solely on previous operations and findings.

(c) Coordinate and communicate extensively with unit leaders prior to deployment. This not only enhances the credibility and effectiveness of the team as information gatherers, but it establishes the framework for effective command consultation during the deployment itself.

(d) Brief key leaders. The research team leader must be sure to offer an "in-brief" and an "out-brief" to key unit leaders whenever the team arrives and departs the area of operations. When this is neglected, commanders can grow suspicious and uncooperative. Without violating privacy or identifying individuals or units, an effective out-brief provides the commander with general early findings on the sources of stress in the operation, and how soldiers are adapting to social, environmental and mission challenges. Using portable computer equipment, it is now often possible to provide short written reports.

(e) Live with the troops, and don't ask for or expect special favors or support. Many modern military operations are characterized by a flow of "VIP" visitors that impose a significant

support burden on units. Human dimensions research teams must distinguish themselves from this class of visitor in order to function effectively. Living and eating with the soldiers enhances team credibility, speeds acceptance, and also provides opportunities to observe, interview, and coordinate future research activities.

(f) Be visible and available to commanders. One of the best ways to accomplish this is for the team leader to attend morning staff meetings. Most commanders will quickly come to regard the HDRT team chief as "special staff", similar to the Chaplain or unit lawyer. At the same time, it is important to maintain direct contact with the soldiers and avoid overidentification with the command group.

(g) Be flexible, and willing to accommodate data collection activities to unit schedules.

(h) Use existing communications networks (phones, faxes) to accomplish in-theater coordination of data collection activities. Once deployed, HDRTs must quickly identify number and disposition of units, develop a detailed data collection strategy including targeting units, and actively arrange for interviews and survey administration.

(i) Be prepared to change the plan on short notice, as the operation unfolds and unexpected events occur. A host of factors including operational requirements, training imperatives, equipment failures, and even VIP visits can cause schedule changes which must be adjusted to. These changes can create opportunities as well. For example, VIP visits sometime require groups of soldiers to assemble and wait for extended periods, providing a good opportunity for informal interviews. Unexpected accidents or mass casualty events can provide the opportunity to study individual and unit responses to traumatic stress.

(j) Use positive, facilitative terminology. It is often better to use more neutral terms, such as

"lessons-learned", as opposed to "research", which often connotes evaluation.

(k) Include a family component. With over 50% of U.S. active duty personnel now married, family issues and concerns have generally greater salience. Studying the spouses left behind when a unit deploys provides another valuable source of information regarding factors influencing soldier adaptation. This also provides an avenue for learning about unit family support and rear detachment activities, which can have a profound impact on deployed soldiers.

(l) Preserve confidentiality of information. When talking to leaders or soldiers, guard against attributing information to individuals or specific units or groups.

## Conclusions

Though still not formally institutionalized at this point, the future of military "human dimensions" field research teams looks positive. Recent activities (only some of which were described here) demonstrate both the practical and scientific utility of such deployable research teams. One problem that must be addressed is the shortage of trained and deployable U.S. military research psychologists and social scientists capable of performing this kind of work. Another issue concerns funding. In an age of continuing budget cuts, military field psychological research is an area of activity that must compete with other government spending priorities. Perhaps another reason for optimism is the growing international interest in field psychological research in military operations, especially peacekeeping, humanitarian, and contingency missions. A number of NATO countries involved in United Nations and multinational operations are now substantially increasing their field psychology efforts (e.g.,

DeSwart, 1995). For those engaged in such work, the experiences and recommendations outlined here represent a beginning framework for improving the scientific quality and practical effectiveness of military field psychological research.

## REFERENCES

- Anastasi, A. (1968). Psychological Testing. Toronto: Macmillan.
- Bartone, P.T. (June, 1993). Psychosocial predictors of soldier adjustment to combat stress. Paper presented at the Third European Conference on Traumatic stress, Bergen, Norway.
- Bartone, P.T., Vaitkus, M.A. & Adler, A.B. (August, 1994). Psychological issues peacekeeping contingency operations. Poster presented at the American Psychological Association Annual Convention, Los Angeles, California.
- Bartone, P.T. & Adler, A.B. (October, 1994). A model for soldier psychological adaptation in peacekeeping operations. Proceedings of the 36th Annual Conference of the International Military Testing Association, Rotterdam, Netherlands.
- DeSwart, H.W. (July, 1995). Contributions of (Dutch) military psychology to UN peacekeeping operations. NATO/Partnership for Peace Workshop on Psychological Support for Peacekeeping Operations, NATO Headquarters, Brussels, Belgium.
- Gifford, R.K. (October, 1993). Using field research teams to study stress and well being of deployed soldiers. Paper presented at the Biennial Conference of the Inter-University Seminar on Armed Forces and Society, Baltimore, MD.
- Gifford, R.K., Martin, J.A. & Marlowe, D.H. (October, 1991). Operation Desert Shield: Adaptation of soldiers during the early phases of deployment to Saudi Arabia. Paper presented at the Biennial Conference of the Inter-University Seminar on Armed Forces and Society, Baltimore, MD.
- Kaplan, M. (1991). Cultural ergonomics: An evolving focus for military human factors. In R. Gal & A.D. Mangelsdorff (Eds.), Handbook of Military Psychology, pp. 156-167. Chichester, England: Wiley & Sons.
- Kreuger, G.P. (1991). Sustained military performance in continuous operations: Combatant fatigue, rest and sleep needs. In R. Gal & A.D. Mangelsdorff (Eds.), Handbook of Military Psychology, pp. 255-277. Chichester, England: Wiley & Sons.
- Manning, F.J. & Ingraham, L.H. (1987). An investigation into the value of unit cohesion in peacetime. In G.L. Belenky (Ed.), Contemporary Studies in Combat Psychiatry, pp. 47-68. Westport, CT: Greenwood.

Marlowe, D.H. (Ed.) (1986). New manning system field evaluation (Technical Report no.1). Washington, DC: Walter Reed Army Institute of Research.

Office of Strategic Services Assessment Staff. (1948). Assessment of Men. New York: Rinehart.

Siebold, G.L. & Kelly, D.R. (1988). The impact of cohesion on platoon performance at the Joint Readiness Training Center (Technical Report 812). Alexandria, VA: US Army Research Institute for the Behavioral Sciences. (DTIC No. ADA 202926).

Steege, F.W. & Fritscher, W. (1991). Psychological assessment and military personnel management. In R. Gal & A.D. Mangelsdorff (Eds.), Handbook of Military Psychology, pp. 7-36. Chichester, England: Wiley & Sons.

Stouffer, S.A., Lumsdaine, A.A., Lumsdaine, M.H., Williams, R.M., Smith, M.B., Janis, I.L. Star, S.A., & Cottrell, L.S. (1949). The American soldier: combat and its aftermath, Vol II. Princeton, NJ: Princeton University Press.

US Army Deputy Chief of Staff for Personnel (1993). Memorandum of Agreement on Establishment of "Human Dimensions in Combat" Research Unit.

Wiggins, J.S. (1973). Personality and Prediction: Principles of Personality Assessment. Reading, Massachusetts: Addison-Wesley.