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The increased frequency and variety of military interventions since the end of the Cold War have brought changes in the causes, management, and operational significance of psychological stress on soldiers. Research has found that all of the types of operations--combat, peacekeeping, humanitarian, and governmental support--conducted since 1989 have imposed stress.[1] In the past, conscripted soldiers fought their war and then were discharged to the civil sector--along with any stress disorders they may have developed. In the future, it is likely that soldiers will participate in more than one operation in a single enlistment. Commanders depend on them to be psychologically ready to carry out the next deployment. Responsibility for the management of soldiers' stress lies with command--with the support of the chaplaincy and military medical mental health professionals. This is not a trivial responsibility; management of stress and protection against post-traumatic stress disorder (PTSD) are critical to maintaining the operational readiness of the force.[2] In this article we will discuss the stress imposed by various types of post-Cold War operations, and the measures that have proved to be successful in managing soldiers' reactions to them.

Stresses Imposed by Military Operations

Commanders and physicians have been wrestling with the psychological effects of combat since the Civil War.[3] Dr. Jonathan Shay and Lieutenant Colonel David Grossman, working from data on Vietnam veterans, have recently updated the factors that cause combat stress disorders (CSD) and PTSD. Shay contends that a soldier's principal source of stress in Vietnam was betrayal by his own leaders of values he understood to be the moral foundation of the war.[4] Grossman found taking the life of an enemy soldier to be the most stressful event a soldier encounters.[5] Both agree that the death or maiming of comrades and continuous fear, fatigue, filth, and hunger are stressors. Post-Cold War campaigns have not entailed prolonged combat, but they have imposed new kinds of stress. Sudden transitions from peace to war, and interventions with ambiguous objectives, can make it difficult for soldiers to develop clear attitudes about the values underlying a campaign. Furthermore, little is known about how soldiers and their families will cope in an era of frequent deployments. One set of evidence, from the Persian Gulf War, indicates that unresolved reactions to trauma in previous campaigns makes soldiers more vulnerable to stress in subsequent operations.[6] But research on soldiers in Haiti indicates that multiple deployments do not affect soldiers' psychological well-being.[7] Many such questions remain open, and they demonstrate the complexity of the origins of CSD and PTSD. It is essential that command and the medical community remain active in studying the psychological effects of combat and noncombat operations.

Panama (1989-1990)

In 1989 a force of about 20,000 US combat troops defeated and dismantled the entire Panamanian Defense Force (PDF) in 48 hours of hard infantry fighting (Operation Just Cause). Rules of engagement were strict to minimize civilian casualties and collateral damage, but they increased the risk to US servicemen.[8] The soldiers understood the purpose of the rules, often conceded the first shot to the PDF, and took pride in their fire discipline. Though the period of combat was brief, several soldiers reported psychological distress and turbulent postdeployment relations with their families.[9]

The most severe stress reactions were among soldiers who had killed PDF personnel. Some were agitated: "That night he was punching the wall and crying." Others withdrew: "He was dazed after shooting a PDF soldier--a perfect shot. But he didn't want to talk about it." The emotional pressure on the few US soldiers who killed was exacerbated by their isolation and by their compassion for the PDF.

Irrespective of whether friendly casualties were caused by enemy fire, friendly fire, or accident, soldiers and leaders expressed their helplessness and grief through rage toward the PDF. A comment typical of those whose comrades had been killed by any cause was: "If we hadn't been able to shoot at the PDF we'd have fallen apart." Leaders and medical aidmen--those who saw keeping others alive as their responsibility--experienced guilt and worried about whether they could have done more to prevent death. Open expression of grief was possible in some companies. Soldiers in one unit reported that during their memorial service, "There wasn't a dry eye in the place. The company commander spoke, and he broke down. That helped." But in other units different cultural values limited expression: "I'm sure people were sad, but we all felt it would be a sign of weakness to cry." Post-traumatic stress reactions followed familiar patterns: insomnia, nightmares, irritability, hyperalertness. Some soldiers kept a weapon within reach after returning to the United States. They dealt with their emotions not by expressing them but by vigorous activity--to distract their thoughts and to help them sleep. Some NCOs said they thought that many soldiers had problems with what they had seen and done in Panama; they worried that the "quiet ones" were likely to be the most distressed.

Management of post-traumatic stress reactions was complicated by a pervasive belief that admitting to having psychological problems would be damaging to one's military career. Most of the soldiers who described stress symptoms to debriefing teams said they would never go to a mental health clinic. Though most soldiers trusted chaplains, psychiatrists were suspect.

For the spouses and children who remained at home, the absence of soldiers imposed severe strains. When the soldiers returned, roles within the families had to be renegotiated. These negotiations were complicated by the irritability and tension the soldiers brought back with them. Chaplains in some brigades reported increases in the incidence of divorce, abuse of spouses, and spouses returning to their parents' homes.

Persian Gulf (1990-1991)

During the six months of Operation Desert Shield the Army Medical Department strove to bring divisional and corps mental health teams up to strength. Mental health professionals made a serious, and often successful, effort to establish their usefulness in the eyes of commanders. In addition to preparing to return stress casualties to duty, they worked with units to strengthen soldiers' resistance to stress and thereby prevented many such casualties from occurring.[10]

The principal stressors were similar but not identical to those encountered in Panama. Desert Shield exposed soldiers to a harsh environment in which fatigue and discomfort were exacerbated by fear of Iraqi chemical weapons.[11] During Desert Storm the most severe trauma came from experiencing the death or maiming of comrades.[12] Stress from killing enemy soldiers was mitigated because much of the killing was done indirectly in engagements between combat vehicles rather than face-to-face. Further, most of the soldiers in units that fought participated in killing, so the killers were not isolated. Finally, units had trained together for months to fight a specific adversary. In spite of these mitigating factors, many soldiers were distressed by seeing Iraqi soldiers mutilated on the battlefield.[13]

Following the ground war in Iraq, mental health personnel were proactive in facilitating and conducting post-battle and post-trauma debriefings. They taught leaders how to recognize and deal with "cease-fire letdown," a reaction to the decrease in tension after combat in which some soldiers engage in daredevil behavior. This behavior, which led to death and injuries, was identified for the first time following the Gulf War.[14]

Experience in the Persian Gulf War confirmed previous findings in Israel and Vietnam that reservists and members of rear-area service units are more vulnerable to post-battle stress reactions than are Active Army and combat soldiers.[15] Many of the reserve units mobilized for the Persian Gulf received a large number of fillers just before deploying, which weakened unit cohesion.[16] Though members of reserve component units were at higher risk for PTSD, most reserve units were demobilized rapidly upon return to the United States. They were given no time to experience recognition as members of the unit, to celebrate as a group, or to work through their experiences in debriefings.[17]

A survey of 4264 veterans of the Persian Gulf War found that 69 percent had experienced intrusive memories and dreams, 37 percent reported avoidance of memories or emotional detachment, 46 percent were troubled by irritability, insomnia, or hypervigilance, and 26 percent reported they had experienced all of these symptoms of PTSD.[18] Soldiers with unresolved stress reactions from an earlier conflict and those wounded during Desert Storm were in

particular need of post-battle debriefing to reduce the likelihood of PTSD.[19]

Somalia (1992-1993)

Operation Restore Hope in Somalia is often perceived as a humanitarian relief effort. It was indeed so for the non-governmental organizations that distributed food and treated the sick. But for the US Army, it was a combat operation to assure the security of the relief workers and to quell fighting between the indigenous factions. More US soldiers were killed in Somalia than in Panama, and per capita, the casualty rate in Somalia was higher than in the Persian Gulf War. Even when they were not in actual combat, soldiers often faced hostile words and gestures from mobs of Somalis at close quarters.

Research conducted with soldiers in Somalia indicates that they were well prepared to witness privation, starvation, and despair on a catastrophic scale, and the few who were exposed handled these tragedies without psychological damage.[20] Most soldiers took pride in coping with the harsh climate, pervasive danger, and persistent casualties. The principal stressors reported were relative deprivation, an ambiguous mission, belief that their superiors did not trust them, uncertainty about how long they would be there, lack of resources to do their jobs, separation from family and friends, and a sense of having failed to do anything significant for the Somalis.[21]

Complaints about lack of mission-relevant resources specified poor maps and other intelligence materials, inadequate information about aspects of the mission being executed by other units, and insufficient numbers of interpreters and troops to carry out the numerous missions assigned.[22] Lack of information about the progress of the expedition as a whole was one facet of the troops' perception that their commanders did not trust them. An order that male and female soldiers were to sleep in separate tents was also perceived by many as lack of trust and, in addition, it impugned their professionalism. They knew that soldiers of both sexes had shared tents in Desert Storm.

The cumulative effect of deficiencies in trust, resources, and information was a sense of failure and disillusionment. This did not reflect well on command in two ways. First, the soldiers had not failed. They had maintained their poise and discipline, provided a measure of order, and assured that in most of the country the mission of alleviating the famine was accomplished. Because a sense of failure can sap morale, erode cohesion, and possibly compromise the future psychological readiness of the units, it is essential that soldiers have accurate feedback on their performance. Second, failure is certainly possible, but when it occurs it should be handled constructively, as an opportunity to learn.

Disillusionment was not the inevitable consequence of service in Somalia. Members of a Greek medical company that deployed to Somalia, and that suffered a fatality, were uniformly positive about their experience.[23] The Greeks' experience differed from the Americans' in many respects. The Greeks had a clearly defined and achievable mission, a mission for which the members of the unit were specifically trained, and a mission that provided the Greek soldiers opportunities to help Somalis. The Greeks believed they had been successful, and this belief was confirmed by the Somalis' expressions of appreciation. To the extent that US commanders can structure missions to embody characteristics such as these, they will reduce stress and strengthen morale and satisfaction among their soldiers.

Croatia (1992-1993)

Most of the deployments since the end of the Cold War have been for peacekeeping (Sinai, Macedonia, Bosnia), support of United Nations or national civilian governments, (Croatia, Haiti), or humanitarian relief (Rwanda). Combat was not part of these interventions, so the participants did not have to cope with the psychological effects of killing enemy soldiers or the death or injury of comrades. Nonetheless there was often an undercurrent of danger, and some soldiers experienced fatigue, filth, and hunger--but never on the scale encountered in combat. At the end of 1992 the 212th Mobile Army Surgical Hospital (MASH) deployed to Zagreb, Croatia, to provide medical services for the 20,000 members of the United Nations Protection Force in the former Yugoslavia.[24] The 212th MASH was the core unit of a medical task force with a full range of medical capabilities. Though there was often gunfire nearby, and any unpaved ground had to be treated as infested with mines, the unit was on an airport protected by UN combat units. No members of the 212th MASH Task Force engaged in combat or became casualties.

The principal source of stress was a Byzantine command structure. Above the 212th MASH there was a proliferation of headquarters and three separate chains of command. The Army chain of command was through 68th Medical Group

to III Corps Support Command to V Corps. The hospital with its attachments comprised Joint Task Force Provide Promise (Forward), which had its own command staff. The Task Force reported to US European Command. The Task Force was also under the operational control of the Force Medical Officer of the UN Protection Force.

A few vignettes illustrate how the command structure affected the troops: (1) The mission proved to require only 20 percent of the capabilities of the task force, but command vetoed suggestions to offer humanitarian treatment to injured Yugoslavs or to send medical teams into the field to treat UN personnel. (2) Junior enlisted personnel were subject to a unit chain of command and a hospital chain of command that often spoke with different voices, and the information from each passed through so many levels that it was often garbled. (3) The hospital commander authorized seven-day leaves to Germany. After the policy had been in effect three months, someone at a higher headquarters learned of it and complained that he had not been consulted. There was a threat that leaves already approved would be canceled, but ultimately the leave policy was approved provided that the manning level of the hospital was maintained at a higher level. (4) The Task Force staff, though it had only one unit to supervise, took for itself comfortable offices in pre-fab structures or permanent buildings. The hospital staff, which had a real mission, had to do its work in crowded tents. (5) The numerous commanders invited generals, politicians, and reporters to inspect 212th MASH. The troops saw these visits as self-promoting, not as aimed at recognizing the work of junior personnel or assisting in the accomplishment of the mission.

Among the attachments to 212th MASH was a mental health specialist from the US Army Medical Research Unit-Europe. He reported that he observed no apparent symptoms of stress among the soldiers who deployed to Croatia. But the soldiers had witnessed a major medical resource standing idle while sick and injured people suffered. They knew their own time and abilities were being wasted, and they saw their unit used as a backdrop for photo opportunities for senior officials. Their contributions, passive though they were through no fault of their own, went unrecognized. The effects of the top-heavy command structure have not been measured empirically, but the anecdotal evidence indicates that they could have compromised morale, cohesion, and psychological readiness.

Haiti (1994-1996)

Though the deployment to Haiti (Operation Uphold Democracy) was planned as a forced entry using helicopters launched from an aircraft carrier, the reality was a minimally dangerous operation in support of the civilian government.[25] The principal sources of stress reported were living conditions, separation from family, the ambiguity of the mission, and the command climate in certain units.

Eighty-four percent of soldiers surveyed two months into the mission complained about poor sanitation: insufficient numbers of portable toilets, toilets that were rarely emptied, foul water, and no showers. Seventy-four percent of the soldiers worried about contracting life-threatening diseases.[26] There were numerous comments about inadequate and monotonous food. Relative deprivation was an issue. Some enlisted soldiers thought that officers lived in air-conditioned quarters, and that enlisted members of other services lived in greater comfort than they themselves did.[27] Poor living conditions characterized the early stages of the deployment, but were improved as the theater matured.

Many combat soldiers perceived the mission to be pointless, to be unrelated to their military qualifications, and to be prolonged excessively. Several expressed disillusionment because they did not think the activities of the Army did anything to improve the lives or prospects of the Haitians.[28] Some leaders were unable to provide their subordinates with information that could have convinced them that their contributions were important or that their discomforts served a purpose. Some junior soldiers believed that the emphasis on force protection, which included a requirement to wear complete body armor in hot weather, was unnecessary. A relatively large number of soldiers and junior leaders complained of being micromanaged and the lack of trust that it implied. A theme in many soldiers' comments was that they were treated like children.[29]

Some complained that senior commanders inappropriately treated the operation as a maximum effort that transcended any personal needs of their subordinates. Specifically, soldiers were forced to deploy when they had only joined their units a few days before and had not had time to settle their families, and soldiers who had children born during the deployment were not permitted to return to be with their wives for the birth process.

In spite of their complaints, a majority of the soldiers supported the mission in Haiti, and almost all performed their

duties in a professional manner.[30] Standardized and well-respected measures of psychological well- being indicated that soldiers showed less evidence of stress in Haiti, where there was no danger, than in Somalia, where there was danger, and much less than in Operation Desert Shield, where serious danger lay in the immediate future. This finding is anything but surprising, but there is a lesson in the deployments that did not involve combat: most stress is avoidable if commanders implement basic precepts of leadership--taking care of the troops, making sure that troops' time, energy, and abilities are used productively, and telling troops the whole truth early and often. When the whole truth is that the leader does not know, he or she should say so.

Managing Stress

An Army Medical System Program Review conducted in 1984-85 developed doctrine and organization for the control of combat stress in high-intensity, fast-moving operations on the lethal battlefields expected in a war with the Soviet Union.[31] However, by 1989 when the current pattern of frequent intervention began, little training had taken place, few mental health positions were staffed, and the single Active Army mental health detachment existed only on paper. During Operations Just Cause and Desert Storm, commanders, chaplains, and mental health professionals responded to the need for combat stress control on an ad hoc basis. They found that in managing combat stress the key process was debriefing, with validation and decompression playing supporting roles. The fragmentary evidence from the deployments to Somalia, Croatia, and Haiti suggests that validation is most important, with debriefing and decompression in support.

Validation

Validation is the set of efforts to reassure soldiers that their actions and feelings in performance of their duties were acceptable. Validation is an essential prerequisite to enable combat veterans to put their horror, fear, doubt, guilt, and shame behind them; it is also the most important factor in preserving vertical cohesion during and after peacekeeping and humanitarian operations. We have identified three categories of validation that appear to be effective in mitigating combat stress: substantive, institutional, and commemorative.

Substantive validation comes from the comrades and immediate leaders with whom the soldier participated in the operation: "We sat around with Sergeant P and went over what we did. He'd say things like `That must have scared you,' and I'd think, `Yeah,' and somebody else would say he felt scared and then it would seem like, okay, I wasn't any more yellow than anyone else." This type of validation is similar to debriefing, but it can continue for a prolonged period after the event: "We had a secret place for the platoon and we fixed it up. We'd go there at night and talk it through. The lieutenant always came. Little by little I got less uptight."

Institutional validation is the process of conferring the approval of the Army, the government, and the public on the soldier. It is a responsibility of command to see that soldiers and units who endured great stress and made significant contributions receive awards. It is equally important that senior commanders assure that all of their units receive attention in the news media. Several soldiers who participated in combat deployments voiced the opinion that since their units had received no television coverage, "We might as well not have been here." Soldiers who carry out the noncombat interventions that attract less attention have more pressing needs for institutional validation, and commanders will have to exert more effort to arrange that they get it.

Commemorative validation is for soldiers who have died. Its importance lies in the affection that the survivors have for the departed, and in soldiers' awareness that they are in a rough business, that they might be next, and that they do not want to be forgotten. Commemorative validation consists of memorial services and shrines in the unit. Memorials must be handled with regard for the feelings of those who were closest to the deceased. Memorials can strengthen cohesion, but it is easy to make mistakes that alienate the troops: "The company service in Panama was healing. But the colonel had another back home. All the senior brass came, and the press. It looked like a photo opportunity for the Old Man. Bunch of PR bullcrap."

Validation proved to be elusive in Somalia, Croatia, and Haiti. The most likely reason is that interventions that do not include fighting will leave many combat soldiers feeling insecure. Their competence in mission-related activities is the foundation of their confidence and their source of positive feedback. Dependent as always on their leaders, they look

to them to validate the deployment, their discomfort, and their separation from their families.

The leaders' task in peacekeeping and humanitarian operations is to minimize their troops' discomforts while validating those that they must endure and trying to engage in activities whose validity is evident. It is a confusing task, because there may be little apparent validity inherent in the operation, and what valid action is possible may be foreign to the expertise of the unit. Soldiers have shown that they can adapt to unfamiliar missions, and that they will do jobs even when they think they are not appropriate for them. They will take the stress. But vertical cohesion, which is the strongest buffer against stress, starts to unravel when leaders are not candid or make demands that are manifestly unreasonable without acknowledging their unreasonableness.

Successful validation lies in honesty from the top down, discretion for subordinate leaders to make decisions about the welfare of their troops, and a command climate that supports treating troops with the respect due professional colleagues. Commanders must distinguish between a war in which the success of the mission and the survival of personnel are dependent on every team being complete, and an operation in which the military presence is more symbolic. For example, when commanders decree that an arbitrary percentage of soldiers must deploy, they limit their subordinate commanders' ability to take care of their troops. They also demonstrate disdain for the welfare of newly arrived junior soldiers whose families are not yet settled.

Empowering subordinate leaders with discretion in personnel matters is a more powerful leadership tool than is policy. Policy provides a basis for equitable treatment, and it takes the monkey off the commander's back. Basing personnel actions on impersonal policies works in a mass army that discharges its soldiers after a war. But soldiers in a professional army stay, and they depend on each other. Trust, respect, and personal consideration across ranks are the bases of vertical cohesion. It is less important that soldiers know they are entitled to 30 days to get their families settled before deploying than that they know they can trust their commanders to respect their individual situations. The monkey belongs on the commander's back. A commander who has the authority to care for each soldier in the way that he or she needs can reconcile the urgency of the mission with the soldier's situation. The tyranny of policy can render commanders powerless to protect cohesion in their units.

Debriefing

Debriefing has facilitated recovery from combat stress for centuries. In the 1900s soldiers went off to war, fought, and returned with their regiments. During long sea voyages and overland marches they could talk through their experiences, detoxify traumatic events, and receive reassurance about their fears and behavior from the most credible of authorities--the men who had been with them in combat. But in 1917 the US Army introduced individual replacement, in 1944 individual rotation home, and in 1951 fixed-length tours in combat zones. These policies progressively isolated soldiers from their social supports, weakened cohesion in units, and complicated the management of post-operational stress. In the most developed form of these policies, during the war in Vietnam, most soldiers went home by air. There was no time to detoxify their experiences even if, by chance, a comrade or two went with them. Combined with the moral ambiguities and cultural confusion in the Army that existed during the War in Vietnam, these policies led to an unprecedented number of veterans with PTSD.[32]

Since 1989 most units have gone into action together, come home together, and for the most part stayed together after the operation. In addition, most units routinely employ after-action reviews (AARs)--comprehensive debriefings in which everyone participates, regardless of rank. Intended to enhance performance by immediate analyses of training and operational events and to strengthen cohesion by honest acknowledgment and acceptance of errors, AARs also get the sources of guilt and shame out in the open. One soldier said: "I thought I had really blown it when Smitty got hit, but we went over it in the AAR and everybody said they would have done the same thing I did."[33] During and after Desert Storm, mental health professionals conducted supplementary debriefings for groups that had experienced particularly stressful events.[34] Debriefings are useful in managing stress in noncombat operations when soldiers are exposed to traumatic events, and when commanders need feedback about their troops' perceptions of complex or ambiguous missions.

Decompression

There is general agreement that decompression leave following combat is essential. In the words of one particularly

distinguished young officer, "Soldiers need time to dream away the emotional storms they experienced."[35] But few commanders recognize the need for decompression time when there has been no combat. One of the primary purposes of decompression leave is the reintegration of families. Whether the soldier deploys for a combat or a noncombat mission, the family experiences anxiety and has to reorganize to function without him or her. Uninterrupted time together, predictable duty schedules, and the help of family support groups can facilitate reintegration. The sensitivity of leaders to their subordinates' needs for decompression leave can solidify or fragment vertical cohesion.

Conclusion

Research conducted on the human dimensions of the Army indicates that it is beginning to handle the stresses of post-Cold War operations fairly well. Many leaders have experienced the power of cohesion to protect soldiers against stress and are making efforts to keep their units intact before, during, and after operations. Some first sergeants may even think twice before breaking up squads to cross-level their platoons. After-Action Reviews are in general use. They improve efficiency, cement cohesion, reduce stress, and alleviate guilt. Leaders have seen, or perhaps experienced, the problems soldiers and their families have putting their lives back together after a deployment. The same processes--debriefings, validation, and decompression--that alleviate soldiers' combat stress also work to alleviate family members' anxieties and strain. And as the stresses are lifted, both soldiers' and families' emotional resources are liberated to support each other.[36]

The Army Medical Department has a sound doctrine for assisting units that have faced severe stress. It has trained some people to work with line units, and some psychiatrists are getting out of their offices and into the field.[37] During the Persian Gulf War there was cooperation rather than avoidance among commanders, chaplains, and mental health professionals. The bottom line is that the Army is getting better at handling the stress arising from killing, taking casualties, and living in fear and misery.

It is noteworthy that during the post-Cold War era, there have been almost no instances of stress arising from soldiers feeling betrayed by their own leaders. This is important because that is the kind of stress that was the primary source of PTSD and moral disintegration in the Vietnam-era Army.[38] Though we have a lot to learn about stress experienced by soldiers in noncombat interventions, it does appear that some of it is self-inflicted, and that prevention is the key. Prevention will require the same kind of leadership behavior that fosters the development of cohesion--honesty and trust across ranks, respect down as well as up the line, empowerment of subordinates, technical competence, sharing of hardships, and attention to the personal, professional, and familial welfare of one's troops.

It is hard for leaders to keep their bearings when they have missions that have nothing to do with the expertise of the unit, when there is evidence all around of misery, helplessness, and corruption, and when no one in the unit knows what to do about it. If the purpose of the mission is not clear, it becomes almost impossible for leaders to validate their soldiers' sacrifices and exertions. In the closely knit web of interdependence that is a military unit, if leaders lose their bearings and are less than honest with the troops, trust will wither and vertical cohesion will start to fray. This is a real problem, because the Army will continue to be charged with executing missions that arise from complex political negotiations. Guidelines will often be inconsistent or even contradictory. The solution is for everyone, from the senior commander down, to describe the situation accurately. Then all soldiers can respond on the basis of a common view of reality rather than wondering anxiously whether they are in synch with the current set of euphemisms. Validation is possible only in terms of the soldiers' actual experience; to be less than candid is to be disrespectful of the soldiers' intelligence and risk compromising the vital bond of trust that unites leaders and subordinates.

NOTES

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1. The Department of Military Psychiatry of the Walter Reed Army Institute of Research has conducted comprehensive survey research, interviews, and participant observation with US Army troops following Operation Just Cause in Panama, during and after Operations Desert Storm and Desert Shield in Saudi Arabia and Iraq, during Operations Restore Hope and Continue Hope in Somalia, and during Operation Uphold Democracy in Haiti as well as smaller scale research with troops on almost every deployment since 1989.

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4. Jonathan Shay, *Achilles in Vietnam: Combat Trauma and the Undoing of Character* (New York: Scribner, 1994), pp. 5-22, 69-76.

5. David A. Grossman, *On Killing: The Psychological Cost of Learning to Kill in War and Society* (New York: Little, Brown, 1995), pp. 66-76, 87-95.

6. Amy B. Adler, *Post-Traumatic Stress Symptoms in U.S. Veterans of the Gulf War* (Heidelberg, Germany: US Army Medical Research Unit-Europe Research Report # 20, 15 February 1994).

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8. Thomas Donnelly, Margaret Roth, and Caleb Baker, *Operation Just Cause: The Storming of Panama* (New York: Lexington Books, 1991), pp. 390, 406; Malcolm McConnell, *Just Cause* (New York: St. Martin's Press, 1991), pp. 31, 25, 94, 166, 295; Lorenzo Crowell, "The Anatomy of *Just Cause*: The Forces Involved, the Adequacy of Intelligence, and Its Success as a Joint Operation," in Bruce W. Watson and Peter G. Tsouras, *Operation Just Cause: The U.S. Intervention in Panama* (Boulder, Colo.: Westview Press, 1991), pp. 81-82.

9. The discussion of stress reactions in Operation Just Cause is based on research by the Department of Military Psychiatry of the Walter Reed Army Institute of Research (WRAIR). WRAIR teams interviewed more than 800 soldiers of all ranks from ten infantry battalions and two military police companies that had participated in Just Cause. The research caught the units in the midst of reentry just after they returned to their home stations. Basic data are summarized in Faris R. Kirkland and Morten G. Ender, "Analysis of Interview Data from *Operation Just Cause*" (Washington: working paper available from the Department of Military Psychiatry, Walter Reed Army Institute of Research, June 1991); a summary is in Faris R. Kirkland, Morton G. Ender, Robert K. Gifford, Kathleen M. Wright, and David H. Marlowe, "Human Dimensions of Rapid Force Projection: Operation Just Cause, December 1989," *Military Review*, 76 (March-April 1996), 57-64.

10. L. S. Holsenbeck, "PSYCH-FORCE 90: The OM (Combat Stress) Team in the Gulf," *The Journal of the U.S. Army Medical Department* (March-April 1992), pp. 32-36; James A. Martin and Gregory Belenky, "After-Action Critical Incident Stress Debriefings and Battle Reconstructions Following Combat," and Loree Sutton and Daniel W. Clark, "Combat Psychiatry in the 1st Armored Division," in James A. Martin, Linette R. Sparacino, and Gregory Belenky, *A Shield in the Storm: Mental Health in the Gulf War* (Westport, Conn.: Greenwood Press, in press).

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12. James A. Martin, Mark A. Vaitkus, David H. Marlowe, Paul T. Bartone, Robert K. Gifford, and Kathleen M. Wright, "Psychological Well-Being Among U.S. Soldiers Deployed from Germany to the Gulf War," *The Journal of the U.S. Army Medical Department* (September-October 1992), pp. 29-34.

13. Thomas Taylor, *Lightning in the Storm: The 101st Air Assault Division in the Gulf War* (New York: Hippocrene,

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15. Holsenbeck; Martin and Belenky.

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17. Holsenbeck.

18. Adler.

19. Paul A. Newhouse and Paula Howie, "Psychiatric Consultation to Wounded Soldiers Evacuated to the U.S.," in Martin, Sparacino, and Belenky; Holsenbeck; Pecanno and Hickey.

20. Robert K. Gifford, James N. Jackson, and Kathleen B. DeShazo, "Field Research During Operations Restore Hope and Continue Hope," paper presented at the 35th Annual Conference of the Military Testing Association, Williamsburg, Va., 15-18 November 1993, p. 2.

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