



Assistant Secretary of the Navy (Manpower and Reserve Affairs)



Human Sciences Research and the 21st Century Warfighter

*Summary of Conferences in support of the
Department of the Navy Human Capital Strategy, held on
20 October 2006, 21 March 2007, and 13 June 2007*

KEY INSIGHTS:

- Our forces, both military and civilian, are deployed globally in some of the most culturally challenging environments. Operational conditions range from full combat to peace-keeping and nation-building. Success in these environments demands sensitivity to cultural relations and local practices as depicted in retired Marine General Charles Krulak's "Three Block War" and retired Army Maj. Gen. Bob Scales's concept of "World War IV: the social scientists' war."
- Human Sciences Research (HSR) must provide our forces the tools they need to successfully prosecute current and future operations as they live, work, fight alongside, and fight against different groups of people in various foreign lands.
- The Department of the Navy (DON) has adopted a 21st Century Human Capital Strategy (HCS) aimed at producing a more agile, deployable and capable Naval Force. The DON recognizes that its research, training and education policies and programs must produce personnel who can function well in many different environments and cultures.
- The DON sponsored three recent conferences at which leaders and policymakers met researchers from all services and DOD to learn about HSR programs and opportunities. Participants agreed that we must continue to explore how we might better focus, coordinate and optimize our efforts to improve scientific knowledge and deliver its benefits to those who face the challenges of 21st Century conflicts.

Introduction.

In 2001, the Assistant Secretary of the Navy (Manpower and Reserve Affairs) (ASN (M&RA)) initiated the transformation of the Department of the Navy's Human Capital Strategy to meet the challenges of the 21st Century. In the arena of Human Performance Optimization, the ASN (M&RA)'s initiatives involve improving Department of the Navy (DON) personnel management processes in three topical areas: Human Sciences Research, Health and Productivity Management, and Human Systems Integration.

After examining the Human Sciences Research (HSR) area, three directions emerged. First, improve the processes of determining Navy and Marine Corps HSR requirements. Second, challenge HSR scientists and their programs to adopt a research agenda aligned with newly identified requirements. Finally, determine alternative ways to deliver HSR findings to better inform DON personnel decision-making; HSR products should be designed to be accessible for use in operational planning, during training, deployment, and in actual combat operations. To address these issues, the ASN (M&RA) sponsored three one-day gatherings to gain a better understanding of HSR processes in the Department of Defense:

- **HSR and the 21st Century Warfighter:** HSR Issues Seminar/Workshop for invited experts held at the Center for Naval Analyses, 20 October 2006.
- **Harnessing Talent for Complex Environments:** HSR Colloquium for DON leadership and research community held at and co-sponsored by the National Defense University (NDU), 21 March 2007.
- **New Approaches to Warrior Development:** HSR Conference featuring selected researchers and authors presenting to DON, DOD and Hill leaders, also held at and co-sponsored by NDU, 13 June 2007.

Background.

As modern asymmetric warfare significantly impacts our military strategy, we recognize this may change our approach to selecting, training, and maturing our battle space warriors. In examining this subject, the ASN (M&RA)'s HSR advocates took as keynote challenges many of the premises and principles outlined by two prominent leaders and military analysts, retired General Charles C. Krulak, former U.S. Marine Corps Commandant, and retired Major General Robert H. Scales, former U.S. Army War College Commandant.

General Krulak, in his 1999 paper, "The Strategic Corporal: Leadership in the Three Block War," described *Operation Absolute Agility* to focus attention on the tremendous responsibilities and pressures young Marines face as they confront the challenges of military operations-other-than-war combined with mid-intensity conflict. As more decision-making responsibility is pushed to lower levels in the chain-of-command, young Marines are expected to be agile enough to meet contingencies across the entire spectrum of tactical challenges in the span of a few hours, and even within the space of three contiguous city blocks. Basic riflemen must be enabled to make the right decision at the right time at the point of contact – that is, to be *strategic corporals*. General Krulak asked: How are we to prepare Marines for the complex, high-stakes, asymmetrical battlefield of the three block war?

General Scales crystallized the matter in his 2006 article, "Clausewitz and World War IV," in which he contended we have already entered World War IV, the war of the social scientist. To win it, the military must be culturally knowledgeable enough to thrive in an alien environment, in which victory will be defined more in terms of capturing the psycho-cultural rather than the geographical high ground. "Understanding and empathy," he said, will be important tools of war. He raises the question of whether or not we need to build two armies: one to fight the kinetic war and one to administer the peacekeeping and nation-building that follows the fighting.

Should the new soldiering paradigm focus on identifying General Krulak's strategic corporal who can always intuitively make the right decision at the right time? Will strategic corporals also be expected to be civil affairs specialists when the shooting subsides? Do we engage social scientists to help us develop small teams of soldier-warriors – the Army's "pentathletes" – who understand cultural context and who are skilled in

governance, statesmanship, and diplomacy, so they can thrive in an alien environment to capture that psycho-cultural high ground?

Three HSR Public Forum Meetings.

HSR Issues Seminar/Workshop (October 2006). The ASN (M&RA) quest for engaging the HSR community to address the questions posed above brought together a number of critical thinkers, both military and social scientists, for a seminar/workshop in October 2006. Several procedural next-steps were mapped out at this gathering.

In examining the perceived need for adaptive "strategic corporals," discussions explored the social-psychological implications of the "World War IV" warfighters dealing with indigenous civilians in the battle space. A broadbased description of what actually entails HSR was discussed. It was recognized that a wide diversity of ongoing human sciences research work carried out in numerous places may impact the shaping of the DON's Human Capital Strategy.

If the goal is to better inform the DON on how to recruit, select, place, train, and retain high quality people to meet future needs of the Navy and the Marine Corps, then we first needed to hear more specifically what human sciences research is currently being done within and outside of DOD pertinent to meet the DON's needs. Second, we must identify the HSR actionable information gaps that must be met to inform DON policy, determine what HSR requirements are not being addressed, and then engage HSR scientists to tackle those tricky questions.

HSR Colloquium: Harnessing Talent for Complex Environments (March 2007). A community of ASN (M&RA) stakeholders, DoD HSR scientists, and research program managers listened to a description of the DON's 2007 Human Capital Strategy and participated with five panels and presentations by 18 speakers who provided brief, broad-brush coverage of recently completed and ongoing HSR programs in U.S. military research laboratories. The panels covered a wide array of HSR programs insofar as the research might relate to the DON Human Capital Strategy. These panels were:

- *Applications of cognitive and neurosciences to warfare.* Presenters were Dr. Karl Van Orden, Naval Health Research Center (NHRC); Colonel Michael Russo at the Army Aeromedical Research Lab; Dr. Paul Gade, Army Research Institute (ARI) for the Behavioral and Social

Sciences; and Dr. Thomas McKenna, Office of Naval Research (ONR).

- *Medical research to sustain and enhance military performance.* Captain Kerry Thompson, NHRC commander, described occupational medicine research in five Navy medical research laboratories. Lieutenant Colonel Carl Hover presented on the comprehensive program in operational medicine research conducted by the Army Medical Research and Materiel Command and its subsidiary laboratories. Dr. Henk Ruck, director of the USAF Human Effectiveness Directorate, provided descriptions of the Air Force's multifaceted occupational hazards research programs. Colonel Paul Bartone spoke on Stress Hardiness and Resilience in troops and military leaders
- *Advances in technology, IT, and Human Systems Integration.* Drs. Frank Garland of NHRC, Ray Perez and Michael Letsky of ONR, and Laurel Allender of the Army Research Laboratory described progress in the endeavors to improve the people-to-machine interface in a myriad of Army and Navy materiel development efforts.
- *Impact of organizational and social sciences.* Drs. Jerry Lamb of the Naval Submarine Medical Research Lab, Jay Goodwin of ARI, and David Alderton, director of the Naval Personnel Research Studies and Technology (NPRST) Center, each discussed innovative programs directed at improving organizational effectiveness and advances in training research.
- *Personnel life-cycle management and economic decision-making of Sailors and Marines.* Dr. Tonia Heffner of ARI covered identification and assessing of quality personnel while David Cashbaugh and Dr. Tanja Blackstone of NPRST described programs dedicated to personnel planning, policy analysis and econometrics of Navy and Marine Corps personnel retention.

The service lab presentations pointed to new HSR breakthroughs, including advances in progressive neuroscience, cognitive science, medical research, personnel assessment, and training and simulation research. Advanced state-of-the-art technologies permit new methodologies for studies of human performance in numerous challenging military work environments.

Most of the HSR programs described were tangentially related to the ASN (M&RA)'s new Human Capital Strategy initiatives. Few directly addressed the topical needs of the keynote charges issued by Generals Scales and Krulak: to develop strategic corporals, pentathletes, or culturally intuitive leaders to fight in the social scientist's World War IV.

The presentation by Army research psychologist

Colonel Paul Bartone, titled "Resilience under Military Operational Stress: Can Leaders Influence Hardiness?" warrants particular note. He suggested that although many military personnel suffer physical and mental health decrements following exposure to stress, many others show remarkable "resilience" and remain healthy despite high stress levels. If we can identify and understand the factors that account for this resilience, we can learn to enhance it even for those individuals most vulnerable to stress. Identifying "personality hardiness" as a potential pathway to resilience, Colonel Bartone's research suggests highly effective leaders can increase hardy, resilient responses to stressful circumstances by increasing hardy cognitions, attitudes, and behaviors in groups of military personnel during highly stressful operations

NPRST personnel researchers described numerous steps in answering personnel life-cycle management econometric questions, especially with regard to personnel retention. This work impressed the audience with just how complex and labor-intensive such work can become when DON policy makers ask researchers what might seem like straightforward questions to inform their decision-making. The idea of having personnel policy makers meet periodically with the HSR community to learn each other's needs was fostered by this discussion.

In assessing the next steps to take, Lieutenant General Bill Reno (USA, Ret.) suggested HSR lab managers and scientists should properly market the importance and direct application of their research findings to resolving the military's current "hot issues." They need to demonstrate how their HSR findings either contribute to fighting the *Global War on Terrorism* or by boosting our combatants' abilities to operate in *asymmetric warfare*. This could markedly improve a HSR lab's chances for continuing or obtaining increased program funding needed to sustain critical personnel research programs.

HSR Conference: New Approaches to Warrior Development (June 2007). This conference provided more detailed presentations by speakers from the Defense Advanced Research Projects Agency (DARPA), the Institute for Defense Analyses (IDA), the Marine Corps Center for Advanced Operational Cultural Learning, the Navy's Human Performance Center, and by defense contract researchers in academia and university research centers.

- Professor Peter A. Hancock, of the University of Central Florida, provided a comprehensive look into the HSR community's need to pay heed to evolving cognitive science theory, while also being aware of the

hazards of extrapolating laboratory-collected data to real-world military scenarios where an impressive array of stressors and operational nuances make it difficult to predict human behavior under the exigencies of combat. Practical examples of visual and time perception illustrated key points.

- Commander Dylan D. Schmorrow gave a dynamic multi-sensory presentation of DARPA's high-tech, advanced research program on augmented cognition as HSR and computer scientists attempt to marry up the computer with neuroscience to embellish combatant performance in select crew-served weapon system designs. All conference attendees received a CD describing DARPA's Augmented Cognition research program and a special issue journal dedicated to operational applications of cognitive performance enhancement technologies.
- Dr. Chris Carr, an accomplished professional and college sports psychologist, described potential applications of the principles of *sports psychology* for training and during operations with our Sailors and Marines.
- Vice Admiral Donald C. Arthur, the Navy Surgeon General, discussed current advances in combat casualty care in Iraq and Afghanistan, as well as the latest initiatives on preventing or treating combat stress, traumatic brain injury, and with post-traumatic stress disorder. Admiral Arthur also called for more research on soldier and leader resilience and stress hardiness.
- Dr. Montgomery McFate, a noted socio-anthropologist at IDA, provided a direct amplification of General Scales' theses regarding the need for a significant role for social-scientists. Dr. McFate pointed out how such highly skilled experts could contribute to the understanding by DoD and combatant commanders of the cultural nuances of our adversaries, our allies and friendly nations.
- Colonel Jeff Bearor (USMC, Ret.), Director of the Marine Corps Center for Advanced Operational Cultural Learning (CAOCL), described innovative training that imparts substantial cultural awareness to Marines before their deployments to Iraq and Afghanistan, and the plans to broaden that and other training programs at the Quantico Marine base.

- Janet Weisenford presented on the science of learning, human performance improvement, and warrior development being carried out in the programs at the Navy's Human Performance Center in Virginia Beach, Va.

What Next.

Conclusions from the HSR Conference included general agreement that the naval services, as well as the entire Department of Defense, would substantially benefit from enhanced educational and research programs that accentuate the anthropological and full cultural study of the local population of the countries where we deploy our troops. Such anthropological study should include any area where we have or may have significant national security interests. The need to foster this renewed emphasis on socio-cultural studies and education of our leaders was seen as one of the significant action take-aways from the conference.

Another action item was the decision to encourage or sponsor several publishable articles by conference speakers on "hot topics" heard at the three public forum meetings. Such articles, published in appropriate outlets, might encourage greater enthusiasm in these evolving topics.

Finally, the conferees agreed that institutionalizing regularly scheduled meetings, in which personnel policy makers and the HSR community could exchange ideas and information, is a worthwhile endeavor. Mutual agreements with interested organizations in the DON, the other Service Departments, and DOD will be pursued to ensure the idea is carried onward.

References.

- Assistant Secretary of the Navy (Manpower and Reserve Affairs). Human Sciences Research web page at National Defense University: www.ndu.edu/hsr/.
- Krulak, C.C. The Strategic Corporal: Leadership in the Three Block War. U.S. Marine Corps Gazette, 1999; 83: 18-22.
- Scales, R.H. Clausewitz and World War IV. Armed Forces Journal, July 2006: 15-24.

More information on the Department of the Navy's Human Capital Strategy can be obtained at www.donhq.navy.mil/mra/. Additional information on ASN (M&RA) Human Sciences Research initiatives, including agendas, biographical sketches of conference speakers, copies of most of the slides used in presentations, and numerous scholarly articles serving as a supplemental information source for the involved HSR community can be found at www.ndu.edu/hsr/.

The full Proceedings of the Human Sciences Research Conferences will be published in the near future.