

The U.S. Army Concept for the

Human Dimension

*in Full
Spectrum Operations*

2015 - 2024



11 June 2008

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Foreword

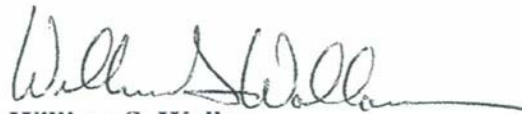
From the Commanding General U.S. Army Training and Doctrine Command

In August 2006, I directed a study to take a thoughtful and detailed look at what we are calling the *Human Dimension*. In looking to an uncertain future in the years 2015 to 2024, we envision an increasingly complex operational environment that will challenge individual Soldiers, their leaders, and their organizations in unprecedented ways. I want this concept to serve as a point of departure for wide-ranging discussion, research, and investigations into what impacts the performance, reliability, flexibility, endurance, and adaptability of an Army made up of Soldiers, their families, civilians, and contractors.

The Army cannot afford to focus only on current operations as a predictor of the future. It must prepare people so that future commanders can sustain operations in a time of persistent conflict. Approved Army concepts describe the employment of Soldiers in the future. The *United States Army Concept for the Human Dimension* goes further to explore human factors in war across the range of military operations. This concept reaches beyond the issues of equipping Soldiers with hardware tools of war into the more subtle moral, cognitive, and physical components of Soldier development. This concept derives from TRADOC Pamphlet 525-3-7-01, *The U.S. Army Study of the Human Dimension in the Future 2015-2024* that I recommend as an accompanying reference document.

The Army will always rely on an array of capabilities developed by other Services and the larger joint community in order to achieve its goals. Similarly, the entire joint force will regularly participate in multinational and interagency operations. Thus, I strongly encourage the use of the *Human Dimension* concept and study in our interactions with other Services and joint organizations, both to advance the intellectual dialogue regarding future operations and to strengthen the basis for defining future Army and joint requirements, in the spirit of joint interdependence. In the same vein, recognizing that the Army and other Services operate in support of the Nation and that many of the required capabilities this study reveals are beyond the capability of the Department of Defense, I welcome and encourage comments from an even wider community.

As with all concepts, the *Human Dimension* concept will be in continuous evolution. I expect it to spur thought, motivate investigation and illuminate, through a structured approach, a strategy for the coordinated and holistic development of future capabilities. I think of it as an agent of change, change necessitated by an uncertain future in which the Army must be capable of responding to everything from humanitarian assistance to major combat. It will be refined and updated as new learning emerges from research, operational experience, and the results of continuing investigations into future operations.


William S. Wallace
General, United States Army

Executive Summary

Introduction

The human dimension encompasses the moral, physical, and cognitive components of Soldier, leader, and organizational development and performance essential to raise, prepare, and employ the Army in full spectrum operations. Army concepts acknowledge the Soldier as the centerpiece of the Army, but none, individually or collectively, adequately addresses the human dimension of future operations. This concept provides an integrating and forcing function that draws on other joint and Army concepts to describe those aspects of a highly nuanced human dimension interacting at all levels.

The Operational Problem

Current trends in the global and domestic operational environments will challenge the United States' ability to maintain a future responsive, professional, All-Volunteer Force. Soldiers will operate in an era of persistent conflict amongst populations with diverse religious, ethnic, and societal values. Faced with continuous employment across the full range of military operations, the Army will require extraordinary strength in the moral, physical, and cognitive components of the human dimension. Existing accessions, personnel, and force training and education development efforts will not meet these future challenges, placing at grave risk the Army's ability to provide combatant commanders the forces and capabilities necessary to execute the National Security, National Defense, and National Military Strategies.

Solution Synopsis

The Army will need to increase its focus on the human dimension in both the operational Army and the Generating Force in order to meet future challenges and operate in an era of persistent conflict. Improved capabilities must address the broad range of human dimension actions necessary to prepare, support, and sustain this force. The Army must maintain a proper balance of moral, physical, and cognitive development with contributions from science and technology that can enhance Soldier physical and mental performance. The Army must widen the community of practice in the human dimension to continue to explore how we can best recruit, train, and retain an All-Volunteer Force that can operate across the range of military operations.

Department of the Army
Headquarters, United States Army
Training and Doctrine Command
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Military Operations

THE U.S. ARMY CONCEPT FOR THE HUMAN DIMENSION
IN FULL SPECTRUM OPERATIONS – 2015-2024

FOR THE COMMANDER:

OFFICIAL:

DAVID P. VALCOURT
Lieutenant General, U.S. Army
Deputy Commanding General/
Chief of Staff



RANDALL L. MACKEY
Colonel, GS
Deputy Chief of Staff, G-6

History. This pamphlet is a new U.S. Army Training and Doctrine Command (TRADOC) concept and is part of the Army Concept Strategy for the future Modular Force. It is based on TRADOC Pamphlet (Pam) 525-3-7-01, *The U.S. Army Study of the Human Dimension in the Future 2015-2024*, which provides the background study and analysis for this concept.

Summary. This pamphlet outlines the future operational environment and its impact on the triad of the moral, cognitive, and physical components of the human dimension. It addresses as well the impact and considerations of stress, human capital strategies, science and technology, and leadership on the human dimension.

Applicability. This pamphlet applies to all Department of Defense, Department of the Army, and TRADOC activities that identify and develop doctrine, organization, training, materiel, leadership and education, personnel, and facilities solutions to human dimension initiatives. All active Army, Army National Guard, and Army Reserve operating forces, and the Army Materiel Command may use this pamphlet to identify future human dimension trends in the Army. This pamphlet may also serve as a reference document to agencies within the joint community that are planning or are concerned with the human dimension.

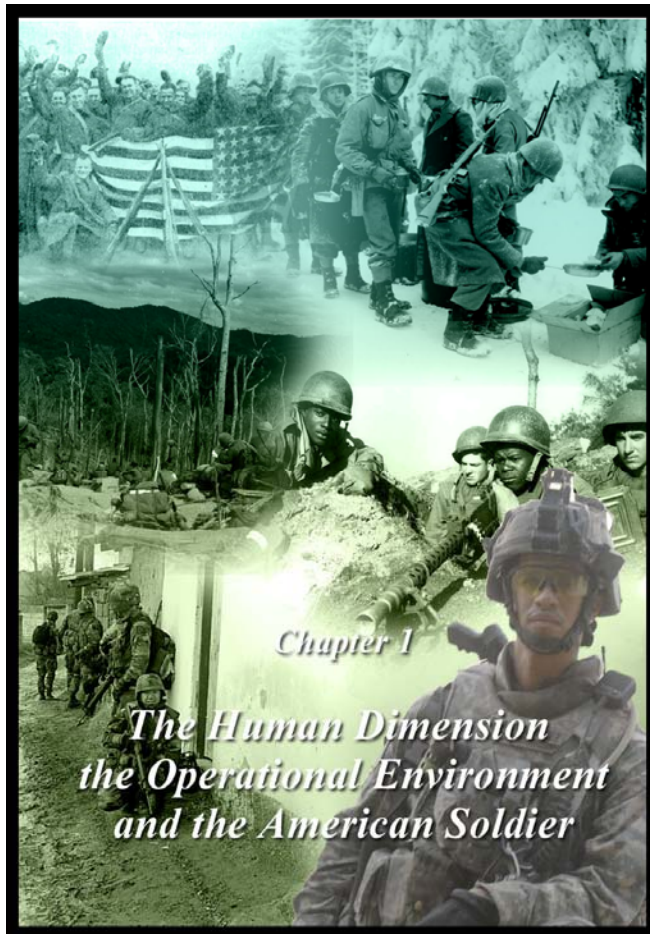
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Suggested improvements. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Director, ARCIC (ATFC-ED), 33 Ingalls Road, Fort Monroe, VA 23651-1061. Suggested improvements may also be submitted using DA Form 1045 (Army Ideas for Excellence Program Proposal).

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1-1. Introduction

The human dimension encompasses the moral, physical, and cognitive components of Soldier, leader, and organizational development and performance essential to raise, prepare, and employ the Army in full spectrum operations. This definition recognizes that Soldier readiness—everything from training proficiency to motivation to well-being—is fundamental to the Army’s future success. It introduces the concept of holistic fitness, a comprehensive combination of the whole person including all components of the human dimension triad. The human dimension definition also acknowledges that war, notwithstanding the inevitable changes in the purposes, ways and means, will remain a savage clash of wills.

This concept derives from the *United States (U.S.) Army Study of the Human Dimension in the Future 2015-2024*, Training and Doctrine Command (TRADOC) Pamphlet 525-3-7-01. The study is the baseline for a dynamic and

ongoing effort that will stimulate further research and dialogue. The study contains questions for further study, required capabilities, and a series of vignettes that highlight the key ideas of this concept. While both the study and the concept are stand-alone documents, the comprehensive research underlying both resides primarily in the study. This study is available for use as an accompanying reference document at <http://www.tradoc.army.mil/tpubs/pamndx.htm>.

1-2. Organization of the Concept

The *Human Dimension* concept is unique among Army concepts not only in its subject matter, but also in its organization. It begins with the operational problem and a discussion of a future of persistent conflict, identifying trends that will affect the human dimension in both the global and domestic operational environments (OE). It continues with a discussion of the Army as a profession and of the future challenges facing Soldiers including members of the Army family.

Chapter 2 introduces the preeminent role of commanders and leaders at all levels in comprehending and applying all aspects of the human dimension to accomplish the Army’s mission. It sets the stage for the human dimension triad.

Chapters 3, 4, and 5 introduce the triad of the *moral*, *physical*, and *cognitive* components of Soldier and organizational development and performance. The last chapter summarizes the concept and lays down a challenge to today’s Soldiers and leaders to take action proactively to

insure that the Nation continues to invest its energy and resources in the right way to maintain and evolve the preeminent land forces of the future.

1-3. The Future Environment and Unchanging Nature of Conflict

Every war is going to astonish you in the way it occurred, and in the way it is carried out.

Dwight D. Eisenhower

In future conflicts, the U.S. Army will not have the luxury of choosing its adversary. Potential opponents are unlikely to challenge our strengths directly, but they can be relied on to find novel means of gaining their ends. Potential adversaries already acquire alternative low cost weapons or develop military applications of commercial technology to attack the U.S. asymmetrically—in ways that avoid American strengths.

While conventional combat remains a possibility, the most likely future clashes will be against opponents that will approach warfare from radically different perspectives that do not conform to U.S. or Western practices. They will view American moral, political, and cultural values as vulnerabilities to exploit without constraint. Typically, such adversaries would seek to win by prolonging combat and attacking the political and popular support of U.S. and coalition forces rather than attempting to destroy their armed forces. The U.S. and its military forces, often with allies and other interested nations, can expect to engage in complex, sometimes intermittent, power struggles worldwide in order to protect national interests. For Army forces, this strategy of continuous engagement in an era of persistent conflict places a great premium on understanding the human dimension.

The Art of War. Future conflict will remain complex and chaotic, and human frailties and irrationality will continue to characterize war's nature. Ambiguity, danger, physical exertion, friction, and chance, constitute the climate of war, which contributes to the fog of war with which commanders must contend in future operations. Technology, intelligence, and operational design can reduce uncertainty. However, commanders must still make decisions based on incomplete, inaccurate, or contradictory information. These factors will continue to play a predominant role in the environment of future full spectrum operations.



1-4. Future Operational and Domestic Environment Trends

The U.S. may not feel the full impact of the discernable trends in the contemporary OE until 2025 or later. Nevertheless, their influence is shaping the world today. Many of the trends—population growth, climate change, depletion of natural resources among them—are difficult to predict with any degree of certainty into 2020 and later, but they help define the challenges the Army will face in the future.

The joint OE provides a framework for considering the future and for determining the impact of the OE on joint force operations. It discusses critical variables, trends, and the range of possible conditions shaped by those trends. Finally, the joint OE considers the implications of these trends on the way the military will train, equip, and employ the future joint force.

Today the U.S. faces several challenging, dangerous, and potentially inescapable geo-strategic trends. These trends include social and cultural factors; the dynamics of geopolitics and

governance; the globalization of economics and resources; the revolution in science, technology, and engineering; and, global climate change.

While globalization is not a new phenomenon, the rapidly accelerated blending of business, technology, and culture coupled with near instant media coverage offers both opportunities and threats for the future. The effects of globalization include interdependent economies, the empowerment of non-state actors, porous international boundaries, and the declining ability of the nation-state to control fully its own territory and economy, and to provide security and other services. Globalization shrinks the world and forces the interaction of differing societies and cultures.



Ubiquitous and cheap access to the World Wide Web and telecommunications has made knowledge universally available and facilitate targeted information engagement. Ready access to information will increase the awareness of those left behind in the climb toward global prosperity, in essence, creating a condition of global relative deprivation—an increase in awareness of a widening gap between the haves and have-nots.

Oil and natural gas will continue to provide a significant fraction of the world's energy usage. As demand continues to rise and growth of production declines, there will be inevitable competition for access to these resources. China and India will increase their consumption by factors of two and three respectively. Current investments aimed at reducing demand, increase supply, or seek alternative sources of energy, are insufficient.

The character of the world's developed nations is changing. Declining birth rates and increasing longevity contribute to an aging population in Europe, Japan, Russia, and elsewhere. In Europe, immigration swells the ranks of minorities, whose greater birth rate may displace native majorities. Japan and Russia have no significant immigration and their populations are actually declining. Demographic patterns in developed nations threaten their continued stability and economic success.

Increases in the world's urban population indicate that by 2030 over 60 percent (4.9 billion) will live in urban areas. Several mega-cities such as Mexico City, Sao Paolo, and Jakarta, will have populations exceeding 20 million. Much of this urban growth will be concentrated in coastal areas, with the majority of urban populations (57 percent, 2.8 billion people) living within 60 miles of coastlines by 2025. The large concentration of people will push the urban infrastructure to its limits. Urban areas will experience an increase in unemployment, drug abuse, crime, and homelessness and will constitute a different and difficult OE.

During 2005-2020, organized crime is likely to thrive in resource-rich states experiencing political and economic transformation, such as India, China, Russia, Nigeria, and Brazil. While crime in itself is not a new challenge, its potential for growth in the next decades and the extent to which criminal elements cooperate with weak politicians, insurgents and other agents of instability is a cause for growing concern in the future OE.

Information-based societies must maintain educational excellence, or attract the best and brightest foreign students, to maintain their excellence. Because skilled individuals migrate to where jobs are available and devote their skills to the most rewarding enterprises, nations,

businesses and political movements must compete for talent. The information technology educational gap is growing rapidly. While the number of advanced degrees issued worldwide is rapidly increasing, the global illiteracy rate—currently established at 18 percent—is likely to rise.

Climate change has the potential to result in multiple chronic conditions occurring globally intensifying the causes of instability and persistent conflict. The predicted effects of climate change include extreme weather events, drought, flooding, sea-level rise, retreating glaciers, habitat shifts, and the increased spread of life-threatening diseases.

Demographic and economic pressures multiply as world population grows and the distribution of wealth and resources change. Higher rates of resource consumption, more intense competition, and continuing pollution will pose new problems for diplomats and regional leaders and generate new conflict. These global trends will involve the U.S. in new forms of economic, political, and even military competition directly challenged by domestic dynamics that impede the ability to meet such competition.

There is a real danger that the U.S. is losing its economic and military dominance, and, along with it, its preeminent position as leader of western civilization. As global trends raise the level of the U.S.' economic, political, and even military competition, the domestic environment continues to challenge its ability to meet that competition.

Even though the U.S. remains a leader in innovation and advanced technology, 70 percent of science and technology (S&T) research occurs outside of the United States. American S&T communities now compete with growing economies around the world such as those of China, India, and South Korea for investment and profit.



The U.S. also remains one of the most favored destinations for immigrants, legal and illegal. Unchecked and uncontrolled illegal immigration is having and will have a profound effect on U.S. social, legal, medical, and educational systems. Increasingly, new immigrants are resisting the broad assimilation that formerly typified emigrants.

People born between 1980 and 2000 will have the greatest influence on the nature of the Army in 2015-2024, either as experienced Soldiers or new recruits. Ethnically and culturally, these “Millennials” are a diverse and fragmented generation. They are emerging as a tolerant, pragmatic, ambitious, and optimistic group. They believe themselves to be influential and unique. They are familiar with all things digital. Their values are not constants.

This growing and diverse population has mixed success in traditional U.S. education systems. By many measures of success, the U.S. educational system is failing to prepare young people for the future. A politically charged debate as to the reasons behind this failure remains unsettled, but the consensus holds that the U.S. is losing ground among other industrialized nations in the overall educational standard of the population.

A simple review of any article on America’s current obesity epidemic points to problems for the future Modular Force. Overlay on these statistics the need for future Soldiers to perform in a

physically demanding, emotionally stressful operating environment, and the challenge the Army faces in developing Soldiers’ physical performance is readily apparent.

Implications of the future operational environments. The OE sets the conditions that may lead to conflict. An ever-shrinking pool of vital resources, (food, water, energy), combines with the growing global population to stress the capacity of the world to provide an acceptable quality of life for all. At the same time, the information age has dramatically expanded people’s access to knowledge and information. These phenomena—shrinking resources, growing populations, ubiquitous access to real-time information—interact and merge to create a global relative deprivation. Collectively, these trends in the domestic and worldwide OE will affect the Army’s most critical resource, the Soldier.

1-5. Army Service and Being a Professional Soldier

The OE and domestic environment trends will oblige the Army to change the way it recruits, organizes, trains and develops leaders, but change and these challenges are not new to the Nation. Courage, discipline, and faithfulness to the Constitution and to one’s fellow Soldiers, have been values of American Soldiers antedating the creation of the American Army in 1775. Following the war in Vietnam, it became the custom to codify official Army Values. Today there are seven. They focus on the Army’s responsibility to remain a values-based institution that embodies the Nation’s values, ingrains them in recruits, and sustains them through years of professional service to eventual reintegration into civilian life.

To promulgate a more individual expression of the Soldier’s identity than the values and their associated virtues, the Army issued a statement of the *Warrior’s Ethos: I will always place the mission first, I will never accept defeat, I will never quit, I will never leave a fallen comrade*, and its encompassing **Soldier’s Creed**. The Soldier’s Creed parallels the oaths of enlistment and office taken by Soldiers and leaders. It reflects the Army values and expresses the essence and enduring virtues of the American warrior, the expectations of all uniformed Army members for themselves and their fellow Soldiers. The creed and these values are part of every Soldier’s acculturation to military service. While their form or language may adjust in the future, they are unlikely to change in their intent.

1-6. Summary

The Nation will face serious challenges in accessing, training, developing, and retaining Soldiers and their families with existing All-Volunteer Force policies. The Army must exploit current and emerging human dimension developments to increase the effectiveness of our human dimension programs and policies. Army *decisionmakers* will have to support that effort by identifying the most critical required capabilities across all doctrine, organization, training, materiel, leadership and education, personnel, and facilities domains. Then Army policy

The Army Values

Loyalty: *Bear true faith and allegiance to the U.S. Constitution, the Army, your unit, and other Soldiers.*

Duty: *Fulfill your obligations.*

Respect: *Treat people as they should be treated.*

Selfless Service: *Put the welfare of the Nation, the Army, and subordinates before your own.*

Honor: *Live up to all the Army Values.*

Integrity: *Do what’s right – legally and morally.*

Personal Courage: *Face fear, danger, or adversity (Physical or Moral).*

executors will have to partner with the *influencers* who specialize in the components of the human dimension and the art and science of leadership in order to recruit, lead, and manage the next generation of Soldiers.

Ultimately, a strong professional military ethic and moral character are the foundation for the warrior spirit that must permeate the entire force today and in future full spectrum operations. Soldiering has always been tough and the future OE does not portend any relaxation in the demands on American Soldiers. Actions taken by one junior enlisted person can have international ramifications. Therefore, our training system and operating units must address how the institution, unit and leaders create and foster a value system that cause a Soldier to intuitively do the right thing and follow the warrior ethos, even under the most arduous of circumstances, at all times.

While preserving its core values, the U.S. Army must ensure that its Soldiers and leaders have the skills and the tools to fulfill their duty and perform their mission to fight and win the nation's wars. TRADOC Pam 525-3-7 introduces a multi-disciplined strategy to meet those obligations and stimulate professional discussion. It is only with an understanding of the future OE, an appreciation for the components of the human dimension, and the complexity resulting from their interaction that the Army can generate the changes necessary to man, train, equip, and employ the future Modular Force to conduct full spectrum operations.



2-1. Introduction

Leaders set the standards for everything the Army does and make the decisions that determine success or failure. Since leading and motivating Soldiers is so critical in planning and executing military operations, this concept places great emphasis on how Army leaders integrate the components of the human dimension. Leadership weaves throughout this concept both explicitly and implicitly. Field Manual 6-22, *Army Leadership*, describes leadership in detail and from many perspectives. Assuming the fundamentals of leadership outlined in Field Manual 6-22 and in countless other references will not change significantly in the future, this concept reinforces the leader's role in dealing with changing leadership challenges. It highlights considerations that will help the Army to better prepare leaders for tomorrow by looking at the selection and development of Soldiers from accession to career completion.

2-2. Leadership Challenges in a Complex Future Environment

The crucible of combat both requires and forms leaders. The complexity of the future OE creates new demands on future leaders, most evidently in information management. Today, individual Soldiers from the lowest to the highest echelon follow the situation across entire theaters of operation. Knowing more and sharing a common operating picture reduces uncertainty, increases situational awareness and understanding, and enables mission command and self-synchronization—tenets of both current battle command doctrine and future battle command concepts. Having such visibility may also create stress and the potential for information overload.

Developing the means to manage knowledge and to get the right information to the right people has both technical and human solutions. Successful leaders learn what is critical and what is not. This skill or talent rises from experience more than any other source. It suggests that one of the critical issues in leader development in the future will be creating opportunities for leaders to cope with complex information and high-pressure rapid decisionmaking.

First and foremost, the Army is Soldiers. No matter how much the tools of warfare improve; it is Soldiers who use them to accomplish their mission. Soldiers committed to selfless service to the Nation are the centerpiece of Army organizations.

FM 1, The Army

Full spectrum operations demand the ability to transition from major combat to humanitarian assistance, and everything in between, repeatedly and rapidly. Soldiers will face life and death decisions with little time to reflect. A commander at the company level might have a platoon in direct combat calling for his direct and immediate attention, while a second platoon deals with a humanitarian crisis, and yet a third is disarming enemy explosive devices. The variety inherent in full spectrum operations at virtually every level calls for extraordinary leader skills, knowledge, and ability.

Persistent conflict presents another present and future leadership challenge. Humans respond relatively well to short bursts of tension followed by periods of respite. Soldiers steeled for a lengthy deployment in a non-linear conflict of indeterminate duration must respond in a new way. In such conflicts, Soldiers must focus on mission progress while tolerating setbacks and understanding that settling the basic conflict may take years. Unpredictability and changing circumstances tax even the best of highly motivated units. Leaders must learn to mitigate this for their subordinates and cope with it in themselves.



The effects of long commitment with little relief in sight can lead to anger, indifference, carelessness, and lack of attention to detail. This danger of compounding stress and fatigue only increases with the level of engagement and the duration of commitment. Given that these dimensions of the future will grow, the Army must consider ways to mitigate their effects and ways to coach leaders to anticipate and recognize those effects.

At the same time, it is equally likely that future operations will entail short-notice deployments to unanticipated problem areas. Fast transition from peace to war, violent combat over a brief period and subsequent withdrawal also pose special demands for Army leadership.

Factors that undermine identification with the unit leaders threaten the legitimacy of their leadership, their efforts, and the image of the larger organization and the Army, while increasing battlefield stress. All of these influences combined reveal potential gaps in current leadership selection and development processes.

2-3. Changes to Improve Leadership

Selection. The Army needs to examine how it accesses potential leaders, and selects those for leader development and increasing levels of responsibility. Nearly all Army officers and noncommissioned officers (NCOs) undergo the same programs of instruction and education in leadership development. This cookie cutter approach proceeds from the assumption that every officer and every NCO must be prepared to lead—an unassailable assertion. However, not every individual is suited to lead and not all leadership resides in command.

A different command tracking system may warrant exploration. Similarly, the Army needs to look at changing evaluation systems such as leadership assessments by peers and subordinates—a 360-degree leadership review—providing data that is available as a component of the evaluation process.

It takes time to develop leaders, many years in the case of battalion level officers and NCOs and professional specialists. For example, in 2020, a lieutenant colonel eligible for battalion command theoretically received his or her commission in 2004. A staff specialist fully qualified to lead others in a joint or high level Army headquarters develops over about the same time. Those intervening sixteen years represent an enormous amount of growth and experience. The Army must ensure that this process is tracked and progressive.

Leadership in the future more than ever will require adaptive decisionmaking based on an assessment of the situation as viewed through the eyes of subordinates armed with the commander's intent and support. Research will focus on how to improve leader adaptability across the full spectrum of operations, including personal and interpersonal skills such as perspective taking, self-awareness, and influence techniques within the chain of command and across organizational and cultural boundaries. Leader stability, optimism, open communications, and frequent presence at training are essential to developing an environment of confidence, trust, and respect. Research efforts will develop and empirically validate measurement and feedback techniques to assess and improve leader effectiveness.

Historically, successful Army leaders have differed in personality and personal interests. The best of them, however, have been alike in professional skill and in promoting strong morale, cohesion, and mental preparation in their subordinates. In units with strong vertical bonding—the free flow of information and empowerment up and down the chain—Soldiers reflect their leader's professional values, and report that core Soldier values are very important to them. Without such bonding and positive leadership some otherwise highly cohesive units have adopted dysfunctional norms and behaviors. This socialization process reflects the Soldier's internalization of these values as his or her own.

Training and education. Developing future leaders will require rebalancing the combination of training, education, and experience the Army currently uses. Training develops skills and techniques through practice and observation. Educating leaders must include emphasis on developing a cooperative leadership style that releases authority to the lowest level of competence. Training and education on theory and application of both cohesive and leader team building skills and conflict resolution is necessary at all levels of the professional military education system. Mid-level and senior leaders will have to learn to function in joint, civil-military, and coalition-based operations, understanding the differences in style, culture, and expertise necessary in those settings. Experience will remain progressive and will influence selecting and pairing of leader teams for compatibility not in terms of similar attitudes or complementary leadership styles, but in terms of their ability to work together and respect each other's views.

The shift from training for operations within sharply defined institutional chains of command, to the conduct of highly decentralized, politicized, and collaborative operations involved in future full spectrum operations, has placed a high value on negotiation skills. Traditionally Army leaders have a great deal of experience negotiating but not necessarily in contexts of ambiguous authority, limited political guidance, and significant cultural diversity. This set of trainable skills needs to be progressively more sophisticated as leaders increase in grade and responsibility.

2-4. Combat Leadership¹

Competence, trust, loyalty, and empowerment are leadership imperatives that span a variety of contexts, but nowhere are these qualities more important than in operations under conditions of imminent physical danger presented by combat. Observers have found that men and women who lead other people in places and through situations that most would find intimidating, if not outright horrifying, behave in ways that may provide insights into developing future leaders for the Army. Such leaders and situations referred to as *in extremis* or, “at the point of death,” place a premium on leaders that are passionately motivated and well prepared.



Influential leaders are authentic. Authentic leaders are competent, confident, and optimistic people of high moral character who are aware of their own thoughts, behaviors, abilities, and values. In short, they are self-aware leaders. They are also attentive to these characteristics in others and the situational context in which they operate. This collective awareness assists them in adapting their leadership to the conditions inherent in the combat setting.

Future leaders must excel in their ability to build rapidly adaptive, cohesive, and high performing teams. Future Soldiers must excel in their ability to be effective team members and effective followers. Geographical dispersion will heighten the need for shared understanding of the commander’s intent and teamwork built on trust. Emerging communications methods (force tracking, on demand teleconferencing, instant messaging, virtual collaboration, e-mail, text messaging, podcasting) will become the norm for interactions among team members and between leaders and their teams. Teams and task forces will form and operate without opportunities for face-to-face encounters between leaders and subordinates. Leaders and their followers must learn the principles of effective teamwork at a distance and understand the roles and impacts of various communication media in building effective distributed teams.

Recent studies also show that subordinate leaders and Soldiers frequently think that some of their superiors fail to effectively communicate, provide meaningful, effective training, or exhibit clear thinking and reasonable action under stress. Soldiers see such leaders as trying to enhance their careers by micromanaging for short-term success at the expense of long-term effectiveness.

2-5. Leadership and Human Capital Strategy

The term Human Capital Strategy implies careful planning and long-term considerations that develop sound policies with which to meet future personnel requirements. Given the complexity of the future OE, and its impact upon the triad of moral, physical, and cognitive components of the human dimension, the Army must continue to examine existing policies and practices for staffing the force. Too often, the tendency is to think of policies and procedures, especially in personnel actions, as administrative functions governed by regulations and *managed* by the bureaucracy. The fact is that all things related to personnel are *leadership* functions related to the components of the human dimension.

¹ See the *U.S. Army Functional Concept for Battle Command*, TRADOC Pamphlet 525-3-3 for a full discussion of the elements of battle command in 2015-2024.

While current personnel systems have served the Army and its Soldiers well, the potential strain of decades of persistent conflict will likely fail to meet future needs. The dual challenges of new force structure and continual deployments to multi-dimensional battlefields strongly suggest the need to modify the Army's personnel systems so that they more effectively embrace creativity, risk-taking, and flexibility. This calls for strong leadership at the highest levels of the Army where the decisions reside and where influence over even higher level leaders becomes critical.

2-6. Recruiting the Force and Career Development

The Army must maintain the quality and viability of the All-Volunteer Force. The Army needs to expand the recruiting pool while maintaining a high level of quality. Future research efforts need to explore measures of cognitive ability, such as ability to learn and mental flexibility and on the selection and classification on non-cognitive measures of Soldiers. The Army must be able to draw from all strata of society. Some intelligent young people (those with the strong cognitive skills the Army requires) tend to view the Army as a less attractive option than civilian positions. To attract this group the Army uses a prohibitively expensive approach—money, or incentives of intangible value.



Despite its historical utility, the cost of relying too heavily on monetary incentives can become prohibitive. Current initiatives such as Army Advantage Fund and the Integrated Career Plan combine attractive pay with other inducements and suggest a direction for future consideration.

Non-monetary categories of incentives include; time of service, military occupational specialty (MOS) selection, and duty location, along with other intangibles such as job satisfaction. As the population evolves, perception of what individuals believe to be important (the price they are willing to pay) will also change, thus the Army must establish a process that balances the needs of the Service with the expectations of individuals.

Changing the perceived value of Army service is very difficult, but there are initiatives currently underway that may help. The first includes increasing public appreciation of duty and honor and service to country. The second is advocacy. The third is encouraging public service. Increasingly, individuals will continue to demand more choice and flexibility in their career options. An example might be the ability for individuals to customize their enlistment package. While the Army must meet the needs of the service, sound personnel management practices will allow some degree of individual choice and interaction.

For sectors of the population that do not initially meet the Army's expectation, but seek to serve, the Army will need to implement processes that shape these candidates into fully qualified Soldiers. Future population demographics will drive the Army to develop a more comprehensive accession programs.

The Army currently screens applicants prior to enlistment. In the future, this aspect will become more critical to our ability to staff the Army. Current screening-out tools such as the Armed Services Vocational Aptitude Battery do not accurately predict successful service. The requirement for a high school diploma, once the gold standard for enlistment, is rapidly losing

credibility as a measure of potential. Many current screening tools reflect requirements and ideas from past recruiting needs and policies. It is clear that the Army must update these tools to reflect future needs.

The Army must consider expanding its direct entry recruiting at potentially higher grades. Technically skilled individuals, along with medical and legal personnel, benefit from direct entry recruiting at higher grades. For example, a highly trained automotive mechanic takes many years of training and experience to achieve master technician status. Recruiting this type of skilled individual can reduce costs.

Promotion and selection laws and policies reinforce the values of the organization and make clear what the Army considers necessary for advancement. Promotion and selection systems require scrutiny and or modification to assure that the Army selects the most qualified individuals in an inherently fair manner. A promotion process that balances local and centralized input could provide a more effective process. Additionally, the Army should consider modifying the promotion system from the current “up or out” to a “perform and stay” system. Such changes would require congressional action and would affect other Services. Policy changes could include expanding promotion zones and allowing officers to choose their promotion consideration timeframe within time-in-grade milestones; adjusting pay scales for officers remaining in grade longer; and, offering non-monetary incentives, such as geographical stability. The Army should also consider continuum of service policies that enable Soldiers to fluidly transition across components with minimal degradation of skills and opportunities.

Performance appraisals should place greater emphasis on innovation, creativity, and adaptability. The Army should consider adding a 360-degree appraisal across the force with subordinates, peers, and supervisors providing input about a candidate’s receptivity to ideas from below and efforts to put them into action. A 360-degree appraisal would not replace traditional evaluation methods, such as test scores and fitness reports, but provide supplementary information about dimensions of performance. If civilian and coalition co-workers participated in such appraisals, the Army would gain especially useful insights on a leader’s future service potential. Research on attrition focused on the development of behavioral models of career intention, the behavioral factors that influence retention, and developing retention counseling skills will help to keep highly qualified individuals in the Army.

Personnel systems that support an Army Human Capital Strategy must balance the needs of the force as a whole and the needs of the individual. In this regard, the readiness of units and the ability of the institution to support operational forces are more important than the needs of the individuals that make up the force.

The Soldier, the family, and unit readiness. The Army family has a major impact on combat readiness today and there is every reason to believe this impact will be just as critical in the future. Experience and extensive research demonstrate a synergy between the unit, the Soldier, and the family that can positively affect retention and commitment to the unit, the mission, and the Army.

Unit leaders have the greatest impact on reducing military-family tension, improving family satisfaction with military life, and enhancing unit readiness. Current trends indicate that Army families in the future will become ever more like their civilian counterparts. They will represent ethnic diversity and face commonly stressful issues such as finances, childcare, and physical and

emotional challenges. They will also have increased access to other family members, spiritual resources, community services, and friends.

National Guard and Army Reserve families face a unique set of stressors related to comparatively short periods of preparation. Increased deployments and family separations will require an increased commitment from employers, Soldiers, and their families. There may also be concern that the service member's job will not be available upon return, despite federal legislation designed to ensure job protection for reservists.



Military leaders must be able to assist Soldiers' and families having trouble and at the same time ensure that the unit's mission is accomplished. Leaders require the skill and knowledge to direct Soldier and family members to military and civilian services designed to correct or mitigate family related stress. Leaders that respected and trusted subordinates, made off duty time predictable, treated Soldier and family problems as unit problems, and fostered family readiness groups, found that attention to family support added to the Soldier's warfighting capabilities.

2-7. Army Service in a High Tempo Future

The high operational and personnel tempos experienced in the Army over the last decade are likely to continue in an era of persistent conflict. Personnel management initiatives to support the future Modular force promise to provide some stability, but the Army must anticipate that Soldiers and families will continue to experience frequent deployments. Such factors will continue to stress the force.

To remain strong the future force must be large enough to meet strategic requirements, staff both the operating and generating forces, provide Soldiers the opportunity for quality training and education, and assure adequate reset time between deployments for both Soldiers and families. Therefore, in addition to developing policies and capabilities that address the elements of the human dimension, it is also important that senior leaders address the issue of force size to ensure that the Army has sufficient numbers of Soldiers and resources to meet the demands of the operational tempo. Examining these dynamic and interdependent factors determines how they should influence the size of and retention in the future force, and this too is a leadership function.

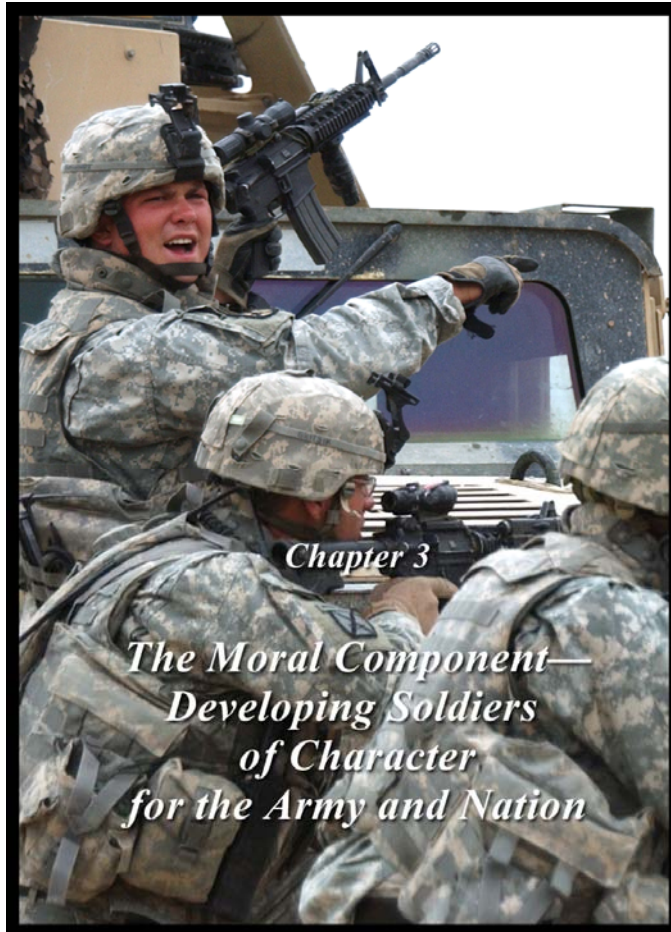
2-8. Conclusion

Leadership is the thread that ties the TRADOC Pam 525-3-7 together. The essential integrator will ensure the Army's continued success in accomplishing its mission. Leadership can be the quintessential human endeavor. However, traditional face-to-face leadership methods alone will not suffice, nor will all the sophisticated network tools of the future produce effective leaders. The Army must consider ways to modify career management policies on the selection, preparation, and assignment of leaders. This may include tracking selected NCOs and officers for command positions; identifying and grooming mid level leaders for senior level positions; and accepting non-traditional career paths that provide opportunities for non-command personnel. When available, the Army should exploit S&T enablers in leadership, decisionmaking, organizational science, and networked operations.

Manning the All-Volunteer Force will be increasingly difficult. The Army must be willing to adapt accessions programs, policies and entry-level standards, adjust retention programs to meet expectations of Soldiers and their families, and enhance initial entry programs to close cognitive and physical gaps in the future recruiting pool.

Selecting and advancing the very best leaders in a broad field of specialties will create excellence in large segments of the force without raising the perception or reality of exclusivity in parts of the leadership. Seeking balance, this concept recognizes that the Army will need an increasing number of specialized Soldiers skilled in linguistics, anthropology and other social sciences, and a variety of technical skills. The challenge for personnel management will be to create meaningful career paths and opportunities for advancement for all Soldiers without favoring those in leadership tracks.

As the Army struggles to identify what the future will demand and how to prepare leaders for those demands it needs to be wary of trying to create Soldiers that are jacks of all trades as the Army has tended to do in the past. If the Army wants masters of battle command, it must identify those best suited for the challenge and tailor their careers to capitalize on those experiences that will produce and encourage truly extraordinary practitioners of military art and science.



3-1. Introduction

This chapter examines constituent elements of the moral component: The Warrior Spirit, with its moral-ethical foundation, and socio-cultural awareness. The moral component strongly relates to the physical and cognitive components of the human dimension. The Army must balance all three to develop well-rounded holistically fit Soldiers for the future Modular Force. The moral component directly affects the Army's combat effectiveness. It also affects how the Nation sees the Army and how in turn the broader world in which the Army operates sees the U.S. The Army must remain a values based institution and those values must become part of every Soldier's character.

Character defines a person. The moral component of the human dimension is rooted in character, and from character comes behavior. Military character and a professional ethic form the bond of trust between the Army and the Nation. What

the person stands for determines behavior and provides the courage and will to act in accordance with beliefs and values. From the military perspective, the Soldier's character sustains the warrior spirit and provides the physical courage to fight in the harrowing conditions of combat, and the moral courage to act in accordance with, and to enforce, the profession's values and ethics.

Soldiers must learn to make good moral decisions through practice and following good examples. When the correct moral course of action is unclear, well-developed character can reduce the temptation to make immoral choices and decisions. The Army's obligation is to assist in this process in order to develop Soldiers who consistently represent the highest moral character in and out of uniform.

Becoming a person of character, and a leader of character, is a lifelong process. One of the leader's primary responsibilities is to maintain an ethical climate that supports development of strong character. When an organization's ethical climate supports moral behavior, people will, over time, think, feel, and act morally. Individual Soldiers are responsible for continuing their own search for moral meaning in life within their role as Army professionals.

More than any other single factor of combat readiness it is the way Soldiers feel about themselves, their fellow Soldiers and their outfit that is most likely to carry the battle.

General Creighton W. Abrams
Army Chief of Staff, 1972-1974

3-2. Developing the Warrior Spirit

Combatants possessing the superior will or spirit to win will continue to determine the outcome of future combat. For the U.S. Army, the *Warrior Ethos* reflects that spirit. The concept of selfless service to the Nation and fellow Soldiers, with the concomitant obligation and willingness to sacrifice one's self on their behalf, is not an innate belief or virtue.

The Human Spirit. The traditional understanding of the human spirit is that it is a life sustaining force that in Soldiers translates to a strong indomitable will to win that refuses to accept defeat in the face of the horrors and hardships of combat. It is this spirit, indicative of pride, determination and self-confidence, and embodied in the Soldier's Creed, that calls Soldiers to risk their own safety and possibly to sacrifice their lives for their Nation and their fellow Soldiers.

Spirit, as used in this concept, is that intangible sense of self and of purpose, which provides drive and motivation. Spirit is what an individual athlete or team possesses that somehow enables them to triumph over others in competition. The Army places great emphasis on its proud heritage of selfless service, discipline, the wear and appearance of uniforms, customs of the Service, values, and teamwork to build *esprit de corps* and cohesive teams and units. Developing the human spirit includes self-reflection and self-awareness, and individual assumption of responsibility for developing a broad concept of a meaningful life, faith, and social awareness.

Faith is the strong belief in what constitutes ultimate truth or value. Faith includes an allegiance to duty, a person; or often something for which there is no proof of material existence. Faith requires trust and it provides both direction and will to persist in the face of the life's challenges. One of the world's religions provides the basis for the faith of many Soldiers. Though not everyone finds faith through religion, most people develop some level of faith in a person, philosophy, an institution, or a nation.

When Soldiers first enter the Army, they are frequently still searching for or confirming the source of their faith. The Army, like American society in general, protects the right to follow the faith of individuals' choice and supports that right with the chaplaincy and with other opportunities for spiritual development at individual initiative. In military life, an individual's faith often provides a foundation of values and principles that encourage personal comfort, assurance and courage. Although faith is a private matter, the history of past combat demonstrates the value of faith to individual Soldiers and its positive influence in units under stress.

Morale is an intangible, dynamic characteristic that strengthens confidence in oneself, one's equipment, the unit, and the unit's leadership. Morale generally consists of common purpose,

The Soldier's Creed

I am an American Soldier.

I am a Warrior and a member of a team.

I serve the people of the United States and live the Army Values.

I will always place the mission first.

I will never accept defeat.

I will never quit.

I will never leave a fallen comrade.

I am disciplined physically and mentally tough, trained and proficient in my Warrior tasks and drills.

I will always maintain my arms, my equipment, and myself.

I am an expert and I am a professional.

I stand ready to deploy, engage, and destroy the enemies of the United States of American in close combat.

I am a guardian of freedom and the American way of life.

I am an American Soldier

identity with, and a personal commitment to a unit; and confidence, enthusiasm, and persistence within a military framework. High morale is a characteristic of effective units.

The determinants of morale are both individual and group-related, reflecting their interdependence with unit cohesion and esprit de corps. The characteristics and perceived legitimacy of the mission affects morale. Mission factors become especially important in operations whose purpose, objectives, definitions of success, and duration change over time, but nothing has a greater influence on morale than perceived success in accomplishing the mission. Living conditions and rations naturally concern Soldiers. Leaders must balance efforts to provide creature comforts with maintaining fighting fitness and accomplishing the mission. The Army must continue to provide the best possible care and living conditions to the Soldier now and in the future, but never at the expense of the mission.

Esprit de corps and cohesion, while less tangible than weapons systems, can prove the old axiom of the whole being greater than the sum of its parts. In a military context, cohesion is the bonding of Soldiers within their organizations—their morale, will to fight and commitment to each other, the unit, and mission accomplishment. Like morale, esprit de corps is a dynamic relationship whose strength is dependent on many factors.

Unit cohesion aids commanders in establishing the environment to anchor individual morale. Unit cohesion will help to extend the reach and coverage of units. Primary cohesion has two components: horizontal, or peer bonding, and vertical, or Soldier to leader, bonding. Military group cohesion develops beyond just primary groups at four interrelated levels: peer (horizontal), leader (vertical), organizational (battalion, regiment) and institutional (Army). Building cohesive units is important today and in the future, because it contributes to building and maintaining morale and because it enhances unit performance and reduces discipline problems.

Elite units, such as Rangers and special operations forces, develop strong bonds and reputations for perceived excellence and uniqueness. So do conventional forces and even headquarters when they see themselves as successful as or more capable than most other units. The future Modular Force may benefit from personnel stabilization policies that strengthen unit cohesion in a similar manner. Army personnel assignment and professional military education policies have an even greater impact upon primary and secondary group cohesion. Indeed, all Army organizations strive to develop a special identity. This sense of unit identification can be a source of healthy competition that increases cohesion.



Societal cohesion consists of the Soldier's perception of the relationship the Army has to the society it serves. The all-volunteer Army must remain connected to society. Army culture and values must be consistent with America's traditional values embodied in the Constitution and the laws governing the Nation and the Army. Army service characterized by competence and integrity enforces the bond of trust between society and the Army. Similarly, when Soldiers believe society appreciates the sacrifices they make, pride becomes a motivating factor that enhances morale and cohesion and eases Soldier reintegration into society at the completion of their service. Shaping and maintaining this connection with society is the responsibility of leaders at all levels but especially the Army's senior leadership.

Considering the human spirit, faith, morale, esprit de corps, and cohesion as interrelated elements provides a point of departure for developing the warrior spirit. Moral-ethical development must go beyond building the warrior spirit.

3-3. Moral-Ethical Foundation

Institutional and professional values and principles. In light of the unconstrained methods employed by many of our current and future adversaries, some argue that ethical considerations are meaningless and may even hurt the Army's ability to operate effectively. The opposite is true. While armies are organizations dedicated to missions that frequently result in death and destruction, a credible ethical culture is an essential foundation for unit effectiveness and combat power, not to mention institutional reliability. Ethical systems are components of culture that guide behavior and human interaction by defining the values and actions that are acceptable and unacceptable. Making such a system consistent across the Army is a critical goal to remove as many ambiguities as possible.

Morale, *esprit de corps*, and cohesion call for collective efforts from initial socialization to on-going integration into units and extended service. These efforts integrate with the strong institutional and professional values that make up the moral-ethical content of Soldiers' development. The objective of moral development must be the practice of the

military and civic virtues and the internalized dispositions to live by those values all day, every day, professionally and in the Soldier's private life. This is what integrity is all about—aligning individual and professional values in such a way that beliefs and behaviors are internally consistent.

If Soldiers are to function in an environment of moral ambiguity and chaos, they are dependent on an ethical culture that enables them to persevere in accomplishing missions while protecting their sanity and character. Americans trust their Army largely because of its collective adherence to these professional values. Inculcation of values and virtues involves more than training or education to establish cognitive understanding. Simply following rules or performing required duties will not ensure avoidance of moral dilemmas. In the complex, dynamic, ambiguous, and lethal environment of the future, there is great potential to do harm or commit criminal acts, and there is often insufficient time to apply rules self-consciously, or calculate the consequences of wrongdoing. In the aftermath of a roadside bombing, for example, with friends dead or seriously injured, there can be a powerful and natural drive to lash out at potential perpetrators who may be no more than innocent bystanders. When that occurs, it undercuts the successes of the force by demoralizing its Soldiers and by de-legitimizing them at home and in the community in which they operate. Therefore, soldierly conduct must involve the practice of values and virtues until doing the right thing becomes habitual virtuous conduct that takes on the qualities of duty. Courageous, competent, and resolute Soldiers, who are morally sound, form cohesive and competent units.

Building morally sound Soldiers—a framework for moral development. The years immediately after high school or during college—precisely the time young Soldiers enter the

When you put young people, eighteen, nineteen, or twenty years old, in a foreign country with weapons in their hands, sometimes terrible things happen that you wish never happened. This is a reality that stretches across time and across continents. It is a universal aspect of war, from the time of the ancient Greeks up to the present.

Stephen E. Ambrose
Americans at War

Army—are critical periods during which individuals establish coherent and evolving world-views. However, this foundation may be incomplete or insufficiently strong to withstand the demands of military life or the shock of battle. This challenge will only grow in the future if the recruiting pool dwindles.

Freedom of thought and action are essential to growth. For Soldiers this search for an independent path may appear to be incompatible with the demands of military service with its emphasis on discipline, teamwork, selfless service, and professional standards of conduct. Individual growth results from the process of addressing the tension created between individual desires, military objectives, and professional responsibilities. The tendencies for unquestioning obedience of orders, groupthink, or uncritical willingness to follow the majority opinion and the desensitizing nature of combat can all pose problems for individual responsibility. Being able to recognize certain boundaries within which an individual can exercise judgment and independent action grows with experience and maturity, enabling Soldiers to practice and appreciate discipline both as individuals and as members of groups without stifling the initiative future concepts encourage.

The Army must guide and prepare commissioned and noncommissioned leaders in their efforts to develop moral and ethical Soldiers. Leaders must know how to advise subordinates and when to seek spiritual or behavioral health assistance. The Army must develop and implement similar instruction for initial entry training cadre and recruits, synchronized with the NCO Education System and the Officer Education System so that Army leaders know how to develop Soldiers' characters both through training and by example. Army chaplains will continue to play a critical role in building Soldier and family resilience through pastoral care and counseling while protecting the Constitutional right of free exercise of religion. Together, leaders and chaplains are the primary spiritual support that the Army provides to harden Soldiers against the effects of combat stress.

When battling asymmetric enemies unconstrained by accepted convention the moral landscape may be more challenging. Moral reasoning will involve the process of recognition, judgment, intention, and behavior. Soldiers must be able to recognize the moral implications in a given situation, reason through the situation to form a moral judgment, develop the intent to act, and finally, summon the courage and conviction to carry through with the intended behavior. A breakdown or inability to carry through with any one of these steps can result in inaction or the wrong action.

For war is the hardest place: if comprehensive and consistent moral judgments are possible there, they are possible everywhere.

Michael Walzer
Just and Unjust Wars

Leaders serve as moral exemplars by their conduct. Leaders may also improve moral development of their subordinates by establishing a climate that requires and supports moral behavior. Deliberately integrating ambiguous moral situations into training to replicate those Soldiers are likely to face in the future will force Soldiers to reassess their understanding of moral issues.

The Army must develop Soldiers who have the autonomy and capacity to challenge unethical decisions and address ethical dilemmas regardless of the will of their subordinates, peers, or superiors. When making moral judgments in complex situations, followers normally defer to the higher authority. Disengagement from the responsibility to act explains why subordinates did not

intervene to prevent the My Lai massacre in Vietnam and the Abu Ghraib abuses in Iraq. Soldiers with a well-developed sense of morality are better able to recognize the moral implications of a situation, determine the right thing to do, take responsibility, and summon the courage to do the right thing.

Moral confidence comes from the belief that one has the capability to act successfully in the face of a moral dilemma. It also includes the ability to intervene effectively, using strong interpersonal skills to communicate the dilemma to others while overcoming any potential resistance. These skills develop through frequent and deliberate exposure in training to complex and realistic moral dilemmas followed by open discussion *in advance* of deployment. As Soldiers increase their experience through these situational exercises they refine their judgment, which further builds self-confidence. Once deployed, leaders must continue discussing the circumstances, decisions, and outcomes in order to help Soldiers make sense of their experiences, improve moral reasoning skills, and build confidence. Over time these experiences transform Soldiers into confident moral individuals better able recognize and make judgments on complex moral issues.



The moral development of Soldiers is complex. The rules of engagement carefully established for every operation still cannot foresee every situation that Soldiers will face. In order for the Army to be a moral organization, it is essential for Soldiers to understand the moral reasoning process, moral recognition, moral judgment, moral intent, and moral behavior. More than understanding, Soldiers must repetitively exercise their moral judgment while making decisions and taking actions consistent with professional military values. To navigate through this process with confidence and courage requires developing in Soldiers early and continuously the three key capabilities of dealing with moral complexity, accepting moral agency and achieving moral efficacy. These capabilities establish the foundation of moral development.

3-4. Developing Socio-cultural Awareness

Developing an understanding and respect for the importance of *culture* is an essential element of the human dimension. There is a very real tendency for Americans to look down on other countries or to assume an air of moral superiority in dealing with unfamiliar cultural practices. Education and socialization must mitigate this tendency and sharpen Soldier's awareness and patience. Culture is the collective sum of the subjective worldview everyone forms around him or herself. Developing such an understanding is part of developing character. It will require an increased emphasis on language training and proficiency, the acquisition of which increases socio-cultural awareness.

Broadly then, commanders require the capability to understand and address the "human terrain," of social, cultural, historical, political, economic, and population and urban geography of the area of operations.

Since the Army conducts operations in a joint, multinational, and interagency environment now and in the future, Army leaders will increasingly confront the need to negotiate and coordinate operations both abroad and in homeland security operations. The stakes are frequently enormous.

Cultural variety requires awareness and adaptability. There are an infinite variety of groups with unique norms and practices. Armies themselves have cultures that influence their members' worldview. These beliefs arise from the nature of the military function; the nature of the government and parent society; and from history and traditions. How an Army thinks about itself affects its ability to adapt to new requirements.

Soldiers deployed in future operations will have to understand and be sensitive to cultural differences between the Army and other military services, and the military and other government agencies. Representatives of non-Department of Defense executive departments provide a very large share of the expertise and capability to help failed states gain their footing and provide necessary services and functions to the local population.

All services rely on dedicated contract personnel; yet, institutionally the Services, the Congress, and the Nation must come to terms with where contractors fit within the joint coalition team, particularly during conflicts. In the future finding ways to assimilate contractors whether in combat or normal operations will pay great dividends.

Army leaders must realize that allies organize differently; think differently about how command functions, receive authority and operate under a different code of law, may not share the same commitments, and can behave differently. Cultural awareness and sensitivity to nuance and difference is essential. Normally exchanging liaison officers will continue to be essential to a healthy working relationship to bridge cultural differences or at least to make differences known in advance before they become operationally significant.

Military operations are a manifestation of U.S. foreign policy. Actions at all levels must be consistent with national law and norms of conduct while meeting the expectations of the American people, or they are doomed to fail. The media plays an essential role, but often sees the military as simply one actor in a set of events, statements, conditions, and victims that they report on from their vantage point. Army leaders at all levels must understand this view and learn to communicate with the press in full knowledge that the press has its own objectives.

3-5. Conclusion

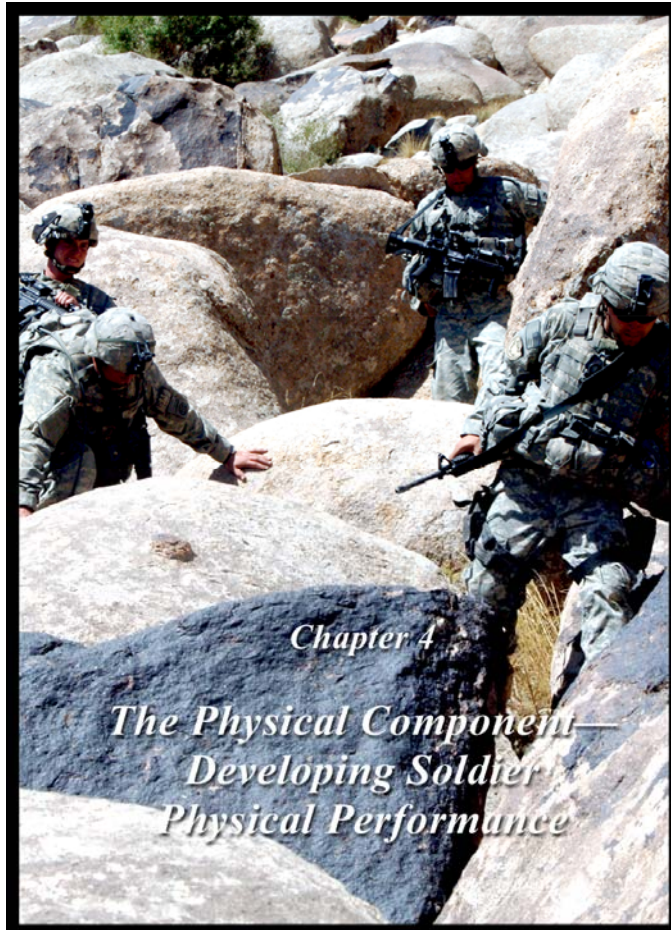
Soldiers will face increasingly difficult operational dilemmas that challenge their abilities to perform effectively in ambiguous, multi-cultural actions and effectively employ means other than military power to achieve the desired end state. Conditions will challenge not just Soldiers' moral and ethical judgment, but also their ability to understand and accept cultures whose standards may differ from ours. To ensure that our Soldiers make the correct choice in such challenging situations, the Army must first adapt training programs to inculcate Army values,

Cultural awareness will not necessarily always enable us to predict what the enemy and noncombatants will do, but it will help us better understand what motivates them, what is important to the host nation in which we serve, and how we can either elicit the support of the population or at least diminish their support and aid to the enemy.

Major General Benjamin C. Freakley Commanding
General, CJTF-76 Afghanistan, 2006

and create opportunities for Soldiers to react to operational challenges in tough ethical and moral situations. At the same time, the Army must increase training and education to improve Soldier understanding of diverse environmental conditions and improve cultural awareness programs, language skills, and invest in humanities educational programs.

The cost of failing to establish and maintain an Army founded in strong moral ethical values, aligned with those of the nation, is so unacceptable that this chapter rises to near primacy in the conveying the importance of studying the human dimension. Yet it is but one of three principal components that make up the human dimension. Much of the foregoing moral component discussion is timeless, well-established treatment of enduring truths about human nature in warfare. What is truly new is the growing complexity of future operations that in turn increases ambiguity confronting the future Soldier with decisions that in the past fell to far more senior and more experienced leaders. The key to building resiliency—holistic fitness—lies in achieving a balance between protective power of high morale, unit cohesion, and good mental and physical health. Even in the harsh environment of combat, holistically fit Soldiers can make meaning out of their experiences, see opportunities to grow and learn, and help others to do so as well.



4-1. Introduction: Physical Fitness Contribution to Holistic Fitness

Soldiers performing full spectrum operations in 2015-2024 will face unprecedented mental, moral, and physical demands. The Army will need to review its current physical fitness policies and programs to assure that they satisfy its needs for an era of persistent conflict. Soldier readiness in the future OE will depend on an approach to fitness that will incorporate both the traditional aspects of physical fitness, such as aerobic capacity, strength, endurance, flexibility, and coordination; while also attending to the nutritional, psychological, and sports medicine contributions for optimal physical performance across a full spectrum of operations. This chapter reinforces programs and standards that permit highly talented individuals to make career-long contributions to the Army in spite of disabilities or the inability to achieve certain combat standards.

Recent combat experience continues to demonstrate the role physical fitness plays in alleviating combat stress. Whether it is building individual confidence, preparing Soldiers for combat operations, or providing a source of decompression, physical fitness programs must remain a centerpiece of unit training programs.

4-2. Challenges to Adapting to the Future OE—Why Change is Necessary

Soldiers stationed in the arctic climate of Alaska on one day may have to deploy the next day to a desert or jungle environment. With no time to acclimate, Soldiers must be in top physical condition to be able to function in such extreme conditions. When temperatures topping 125 degrees Fahrenheit are common, Soldiers outfitted in full body armor cannot escape the heat. Even with improved Soldier systems, the anticipated pace of future operations will tax Soldier's endurance much as combat operations have always challenged the military.

The future Modular Force will see a shift in the role of physical fitness programs from training to meet test standards to developing *holistically fit Soldiers*—physically ready, nutritionally sound, mentally strong, and confident in their own abilities and in those of the members of the team. Leaders must take into account the individual Soldier's goals and needs while continuing to focus on the unit's mission of maintaining combat readiness. Clearly, the physical component links inextricably to the moral and cognitive components of the human dimension. All three support and rely on each other.

The future challenge is not simply to improve Soldier performance, but also to tailor fitness efforts to specific physical performance requirements. Future physical fitness assessment and training techniques must have parity with other training.

Physical fitness evaluation prior to enlistment. Implementation of successful pre-enlistment physical evaluation is one component of an on-going and continuous physical training regime from initial military training, to the first assignment, and throughout the Soldier's career. Currently, Army recruiters and the U.S. Military Entrance Processing Command review a candidate's medical history to identify current or past behaviors or injuries to determine whether an individual is a risk for completing their initial military enlistment. In the future, this evaluation can align a Soldier's physical abilities with those attributes required of a MOS focusing on the Soldier's potential rather than current fitness. This will help in designing physical training programs in initial training to build on Soldier abilities. The assessment covers five broad sections including cardiovascular (aerobic) fitness, cardiovascular (high intensity) fitness, upper body muscular fitness, lower body and shoulder/midsection muscular fitness, and flexibility. It can also include health risk assessment surveys to determine lifestyle practices impacting on general health such as eating habits.

Physical fitness after initial military training. Once Soldiers complete their initial training, unit led fitness programs continue to develop the Soldier with emphasis on the unit tasks and the particular demands of the individual's position in the unit. Future health risk assessments will provide leaders with a start point that also provides the Soldier with a profile of those areas requiring future attention. Performed in either school or unit settings, these may include automated medical record reviews, remote vital signs measurement systems, and other diagnostic tools, that evaluate not only aerobic and anaerobic fitness, but also flexibility and body fat composition.



The Army must tailor fitness programs for the National Guard and Reserve, just as those for active duty Soldiers, to the unit's mission and the specific requirements of each MOS. The challenge the reserve component faces is not likely to change. Guard and Army Reserve Soldiers must have a well-established physical fitness program that capitalizes on both periods of active service and opportunities to maintain combat readiness the rest of the time.

Army physical fitness will be a lifelong concern for Soldiers of all components. With Soldiers serving through middle age and with a number of them remaining on duty for over thirty years, the program will focus as much on mature Soldiers as it does on first-term Soldiers. The program will also meet the needs of injured or otherwise incapacitated members as they recover.

4-3. Physical Development

Structured physical development. The Army must design a physical development plan to provide a general strategy and goals for a year-to-year sequence of training and education. The plan should include timing of evaluations, scheduled competitions, and potential deployments. The annual plan should consist of a series of intervals and phases arranged in units or cycles. The plan must describe in detail the specific skill development, exercise selection and training

volume, intensity, and duration of the training. Each phase and cycle has a specific objective; arranged to facilitate, enhance, and optimize the learning process and physical development to achieve the desired outcome.

4-4. Fitness Training in an Operational Setting

Extended operations or training exercises are not a new situation for the Army. While each deployment is unique in both environment and mission, fitness training will aid in mission accomplishment as well as in helping Soldiers cope with the stress of deployment.

Unit runs, combatives, intramural sports, and other opportunities to compete build cohesion and a sense of unit identity in a garrison environment. Such activities can be restorative and a break from routine when in a field environment or deployed on operations.

Because of the diversity of potential future missions, leaders need access to a variety of methods to maintain the fitness levels of their Soldiers. Methods must allow the leader to tailor exercise routines to the unit's deployed mission as well as available time, and the physical conditions of the deployment location. Leaders should challenge unit fitness trainers to identify aspects of the training, which could double as tactical fitness, allowing the leader to consider incorporating a functional fitness into mission preparation.



Soldiers must be able to acclimatize rapidly in a new area of operations. While bio-medical research will result in technology enablers that decrease the required time, the critical role of fitness training continues. Some acclimatization can occur prior to deployment, during deployment, or after arrival in the area of operations. Unit fitness trainers, in collaboration with the unit's medical and operations staff, will utilize the deployable fitness program to expedite the unit's acclimatization.

4-5. Stress and the Physical Component

No matter how well the Army recruits, trains, and prepares its Soldiers for deployment, prolonged exposure to stress, particularly that of the trauma associated with combat, can wear Soldiers down, and reduce the effectiveness of their units. Stress, of course, exists all of the time. It is not limited to combat nor is its effects limited to Soldiers. Families experience stress because of prolonged and repeated deployments, and the strain on the family in turn produces another stressor taxing the Soldier. Combat stress represents one of the more extreme conditions Soldiers experience in war. Some, perhaps most, Soldiers learn to cope with the effects of combat stress, but it is increasingly evident that the effects of stress, whatever the source, can be cumulative, and remain hidden for a long time. Stress occurs and has effects in the moral, physical, and mental components of the human dimension.

Fitness helps offset the wide dispersion of combat units in battle and the stresses of casualties, uncertainty and exertion. It supports the morale, cohesion, and *esprit de corps* necessary to motivating Soldiers in combat, sustaining their fighting spirit, and protecting them against physical or psychological breakdown.

Strong family readiness groups for deployed units serve now and will continue to serve as bastions against the negative effects of stress. Future efforts to keep the deployed Soldier in

contact with their families will continue to work both ways by shoring up the morale of the Soldier while reassuring those left behind of their continued support.

4-6. Combat and Operational Stress Reactions (COSR)

Soldiers engaged in combat and other military operations often witness horrific events. Casualties caused by COSR can be from a single traumatic event or prolonged exposure to combat, and the numbers of psychological casualties can be as high or higher than the number of wounded or killed in action. For combatants in modern war, there is greater likelihood of becoming a psychological casualty than a casualty of enemy fire. There is also the danger of long-term stress or “post combat stress” reactions. Together these effects often extend beyond the lives of those who were there and shape the lives of family, friends, and communities for years afterwards.

In spite of the range of differences associated with full spectrum operations, all Soldiers require emotional, cognitive, and behavioral control over common symptoms of stress. It is common for Soldiers to experience the emotions of fear and hopelessness, mood swings and anger. Soldiers may experience difficulties that are cognitive in nature, such as difficulties concentrating, short-term memory loss, nightmares, and flashbacks. Soldier behavior symptoms can range from simple carelessness, to impulsiveness, to insensitivity and animosity in their dealings with others, to acts of misconduct. Growing evidence points to how many of the symptoms for stress overlap with symptoms caused by mild traumatic brain injuries secondary to the concussive effects of nearby explosions. This reinforces the need for preventive strategies, education, awareness, and interventions appropriate to the cause or source of stress.

Despite the numerous sources of stress they encounter, most Soldiers do not become psychological casualties. Stress is an integral part of military service and leaders must assist Soldiers to develop mechanisms to cope with stress in training and on operations. COSR occurs when intense or prolonged stressors deplete the Soldier’s coping resources creating a sense of helplessness, fear and isolation. Leaders in combat theaters must have means of identifying stress in their units and assistance in relieving its effects through professional counseling, unit care, rest and exercise.

You can reach into the well of courage only so many times before the well runs dry.

Ardant du Picq, *Battle Studies*, 1870

4-7. Burnout



Experts consider burnout as emotional exhaustion, interpersonal insensitivity, and a diminished sense of personal accomplishment that occurs after prolonged exposure to stress. Personnel feel psychologically drained, emotionally exhausted, and believe their coping resources are breaking down to work related stressors. They feel incapable of dealing with any additional stress. The signs and symptoms of burnout and COSR are similar. The differences are quantitative rather than qualitative, differing in the intensity of the stressor (combat versus home station) and the response. Burnout in military personnel poses a threat to morale, cohesion, and unit effectiveness in peacetime *and* in wartime.

When burnout develops, it is not because exposure to stress increased, but rather because the ability to cope with stress has eroded. Expecting subordinates to do more than is possible within the constraints of time and resources is another cause of burnout as is the stress that stems from an incompatibility between work and home responsibilities. The demanding nature of military service often conflicts with family responsibilities. For all military personnel, changes of assignment and temporary duty create additional friction between work and family responsibilities. Collectively the effects of burnout affect performance, retention, commitment, cohesion, morale, and physical health of military personnel. Predictably, prevention of burnout involves the same approach as COSR, competent and caring leaders who create a command climate where Soldier morale and cohesion can grow.

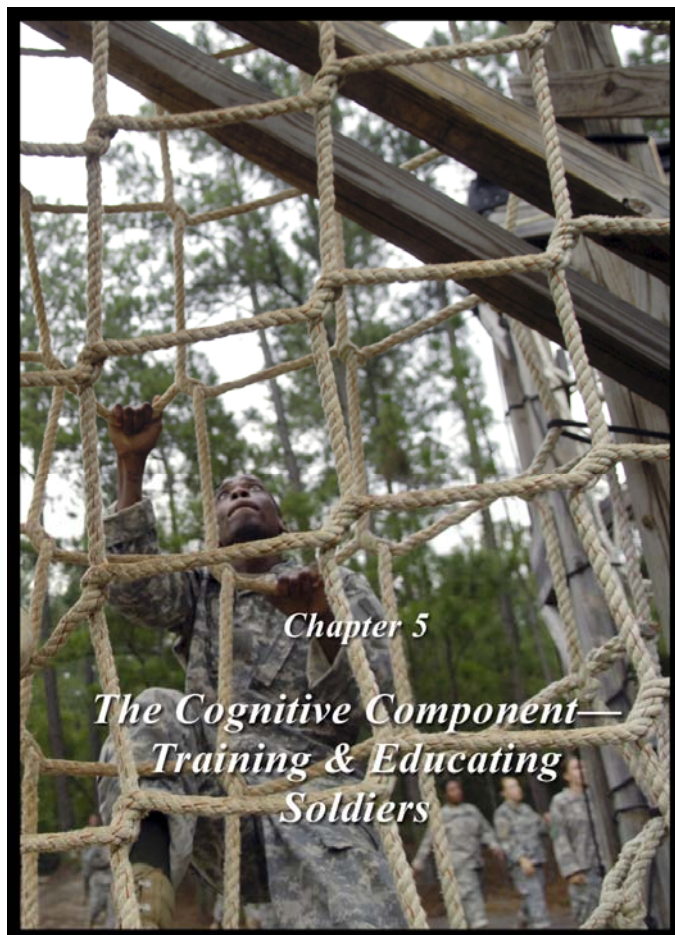
4-8. Conclusion

This chapter calls for changes in the Army's approach to physical fitness to expand existing programs into a more complete or holistic approach that takes into account all aspects of the Soldier's well-being. Thus, the physical domain of the human dimension links inextricably with the moral and cognitive domains. Soldiers who are healthy in body, mind, and spirit can function at their peak no matter what the challenge. To maintain an effective force in the demands of the future OE the Army must seek a balance in all three domains—holistic fitness. Only through such balance will the future Modular Force maintain a sharp edge of combat readiness and the agility that the future will demand.

Combat and operational stress and burnout are part of the unavoidable nature of warfare and military service. They are at the extreme end of stressors as the carnage and horror of war have few equals in everyday life. While first responders such as police, firefighters, and emergency medical technicians see similar extreme life and death experiences, the Soldier in combat faces them for long periods of time, and, due to a future of persistent conflict, will likely face these conditions multiple times in a career of Army service. Ideally, in the future the Army will develop more and better ways to prevent the negative effects of combat and operational stress.

Future Army plans must address reintegration of Soldiers following operational missions. The Army must also look beyond redeployment and into reintegration into society after the completion of Army service. Service in support of persistent conflict characterized by repeated deployments into dangerous and psychologically stressful environments expose many old and some new challenges for returning Soldiers and their families. Many of the emotional and psychological stresses associated with fighting an ill-defined enemy in a hostile environment in far away lands are similar to those that emerged from previous conflicts. Psychological and physical injury and illness are the tragic results of warfare. The Army must learn from the past and adapt these lessons to its current and future OE.

Within these three components of the human dimension, this concept suggests many actions that the Army might take to deal with a future of persistent conflict. The toll of persistent conflict on Soldiers and the shifting demographics of available recruits help to reinforce the importance of assessing, selecting, and educating individuals to ensure their readiness to face the rigorous demands the future. The process of developing the cognitive component of the human dimension is the subject of the next chapter.



5-1. Introduction

The cognitive component of the human dimension consists of the critical competencies required of Soldiers in the future OE, and the processes and tools needed to build those competencies. The cognitive component complements the moral and physical components. It is about learning, thinking, and application. Future Army training and leader development will be Soldier-centered, modular, and integral to effectiveness of the operational force, providing far greater flexibility and precision in the training and development of Soldiers throughout their military careers. An understanding of future Soldier learners and future learning, as well as characteristics of the future OE necessitates a transition to a more Soldier-focused training and leader development approach.

5-2. Implications of Future Changes on Training and Leader Education

Future learners and learning. Future learners will share many of the needs and

preferences of today's adult learners but may also possess unique qualities with implications for Army training and education. The Millennials will have the greatest influence on the Army learning environment of 2015-2024. Millennials know all things digital, having grown up immersed in computer games, MP3 players, DVDs, digital video recorders, cell phones, and the Internet. Some suggest that the brains of this "digital generation" are different from previous generations and that they manifest these differences cognitively. Some predict that future learners will prefer independent learning experiences and have a natural affinity for self-development and lifelong learning, and prefer collaborative learning experiences.

While the nature of future learners is still somewhat unknown, the future learning experience is certain to be profoundly different. Learning will not be a static, institutional event. As boundaries on time, location or sources of learning diminish; learning will become a dynamic, continuing accumulation of knowledge from a variety of places, including knowledge banks, experience, education and training. Learning will have no set beginning or end.

Operational implications—knowledge future Soldiers will need. In the anticipated future era of persistent conflict, Soldiers of all ranks and specialties will have to be intellectually agile. The Army will have to train a broader range of skills in its schools, training centers and units while available training time is unlikely to increase. The balance between specialty skills and common warrior skills will remain important.

Balancing Soldier competencies, skills, knowledge, and abilities. The skill demands on future Soldiers are hard to overestimate. Leaders at all levels must do mission planning and make decisions previously handled at higher echelons. Highly complex decisionmaking under severe time constraints will be the norm. Soldiers performing critical tasks outside their branch must somehow maintain proficiency on core tasks. All of these factors drive the need to expand the skill sets of individual Soldiers while increasing collective capability. The Army must consider many factors to determine the best mix of core, leader and specialty skills for Soldiers and leaders at different levels, and the best mix of those skilled individuals in teams, units and larger organizations.



Acquiring and mastering tactical and technical competence will remain the very essence of the profession of soldiering and a necessity for success in future engagements, battles, and campaigns. As future tactics evolve in response to changing operational requirements and equipment, the Army must rapidly disseminate lessons learned. In addition to changes in tactics, Soldiers must adapt easily and rapidly to the introduction of new, highly sophisticated equipment and equipment improvements where synchronization of resources, both old and new, will be essential to optimize operational effectiveness.

Soldiers must learn to shape the perceptions and win the acceptance of local populations through their cultural competence, and effective interpersonal and social skills. Cultural competence underlies a Soldier's ability to understand, communicate, and coordinate effectively with diverse groups of people including joint, interagency, and multinational elements, as well as the media. There are three primary contributors to cultural competence: awareness, knowledge, and sensitivity. Cultural competence integrates these abilities and brings them to bear to operate effectively in a different cultural context. Perhaps the best laboratory for learning culture is total immersion in an academic exchange program with another country or with industry or federal agencies.

Soldiers must also possess the enduring competencies of self-awareness and adaptability. Self-awareness involves knowing how to assess one's own abilities, knowing one's own strengths and weaknesses in the OE, and learning how to correct these weaknesses. Metacognition (thinking about thinking) skills contribute to self-awareness by enabling learners to think about the how they learn and adjust their learning strategies to accomplish their goals. Metacognition is more than an intellectual exercise. It is an ability to relate specific situations to previous experiences and, in turn, to extrapolate parallels that can assist in choosing new informed actions. The greatest value of such thinking may be in discerning new tactical and operational relationships and ideas.

Interpersonal skills will largely determine a Soldier's success as a follower, team member, and representative of the US Army when deployed. These skills include the ability of Soldiers to understand and manage individual emotions and to help subordinates and peers deal with the impact of emotions on individual, team and unit performance. Managing emotion skills must be part of the training and education system.

Adaptable Soldiers must possess higher order cognitive skills; the ability to synthesize information rapidly and make quick, correct assessments of situations; the ability to conceptualize courses of action rapidly; the ability to maintain situational awareness on the move; and the ability to transition smoothly within a rapidly changing spectrum of operations. This requires an ability to understand and adapt to complex, simultaneous, and diverse operations compressed in time and space. Soldiers leading even the smallest units must also possess the ability to convey their intent to subordinates quickly and effectively. Adaptable Soldiers must be able to think both critically and creatively. They must be capable of adopting a macro-level perspective, seeing the interrelationships among variables, accurately forecasting events when information is ambiguous, and determining how best to influence events given the current situation.

A fundamental and unchanging focus of future training and education must be on core Army values and ethics. These values and ethics prescribe conditions that facilitate trust, interdependence and cohesion among Soldiers, set high standards for interaction with people outside of the Army, and directly influence outside perceptions of Army personnel. More innovative approaches to values and ethics training will emerge and issues relevant to the operational situation of the moment will merge into training scenarios.

Units as learning organizations. Successful future teams and units operating in asymmetric environments must possess the best characteristics of learning organizations. A learning organization is one in which members cooperate in dynamic systems that are in a state of continuous adaptation and improvement.

Members of successful learning organizations are aware of their natural tendency to think in traditional ways. They talk with each other about actions and outcomes and take the time to analyze their own reasoning and views to generate new ideas and group knowledge. They attempt to grasp complex new issues before making decisions. Group members are encouraged to contribute candidly. Openness to new ideas and ways of thinking and operating characterize successful learning organizations and enables them to adapt rapidly to changes in their environment as well as to changes in their membership.

As we, the leaders, deal with tomorrow, our task...is to create organizations that are sufficiently flexible and versatile that they can take our imperfect plans and make them work in execution. That is the essential character of the learning organization.

Gordon R. Sullivan & Michael V. Harper (1996)

5-3. Future Training and Education Approach

The concept for how the Army will train and educate future Soldiers, leaders, teams, and units is inherently complex. It attempts to address the needs of Soldiers at all stages of their careers—across the range of initial entry, branch specialty, leader education, and collective skills required for full spectrum operations. The scope of the challenge is immense and the wide variety of skill requirements and training environments requires a diverse and innovative set of solutions.

Time will remain one of the most critical resources driving the Army to seek efficiencies in training and education. The envisioned approach is a continuing movement toward precision in learning—an effort to provide tailored, relevant, appropriately realistic training, education or knowledge, to Soldiers, teams and units when and where needed. Learning must be a lifelong process and the training and leader development system must transform to make lifelong



learning a reality. Individual efforts by Soldiers to improve their own education and state of training are as much a part of the concept as any other. Yet, this approach must remain balanced in order to accommodate different learning styles and higher order education levels.

Expansion and acceleration of leader education and development. The future professional military education system must fully embrace the principles of lifelong learning, thus ensuring that officers and NCOs receive the best possible mix of operational assignments and resident and distributed education. Self-development will assume a greatly increased role within lifelong

learning, evolving into a meaningful competency-based program that encourages individual initiative, enabling highly motivated performers to shape their speed of advancement. There will be at least seven key enablers for effective lifelong learning:

First, building on success in the reserve components, the Army will deliberately integrate well-designed distributed learning into active component leader education. This will increase accessibility, tailorability, and efficiency of training focused on providing the self-directed, self-development activities leaders require.

Second, implementation of lifelong learning requires an accessible comprehensive repository of knowledge and an accompanying knowledge management system. Army schools and centers will take on additional responsibilities as knowledge centers where Soldiers can go to find training and educational publications, assessment and feedback tools, and access distributed learning of all types on demand.

Third, the Army must develop leader assessment tools that support leader selection and promotion, and self-assessment tools that enable leaders to self-monitor their comprehension and mastery of new skills and knowledge.

Fourth, the Army must improve the leader education and development for interpersonal and cognitive skills. The use of technological or other means of compressing learning times, to the extent possible, will be a priority. For example, leaders will have on demand access to experiential learning opportunities such as virtual vignettes, with automated coaches and mentors that enable them to practice the adaptable decisionmaking skills needed to react quickly and instinctively to new operational situations.

Fifth, the Army must intensify learning in operational assignments, including a focus on increasing awareness of experiential learning and taking advantage of and documenting learning that takes place naturally throughout the workday. Army surveys have consistently shown that the best opportunities for leader-development occur in the context of the real duties performed by leaders.

Sixth, education at the Army's schools and through graduate civilian education will continue to play a critical role in preparing leaders to meet the challenges of the future OE. Education will provide the intellectual grounding that contributes to effective decisionmaking in ambiguous operational situations.

Finally, Army training and leader development will provide shared training and educational experiences that will better prepare Officers, NCOs and Warrant Officers to work together effectively.

Improved accessibility of training, education, and knowledge. The future training system must anticipate Soldier and unit training and information requirements to make the right training and information available on demand. The Army will need to deliver, on a push and pull basis, appropriate, dynamic, tactically realistic training to units during deployment, reset, train, ready phase, and redeployment, as well as to Soldiers in the institution, and at home station. Distributed training will use a common operating environment easily accessed by Soldiers, whenever and wherever needed.

Well-designed distributed learning will be one means of increasing accessibility, tailorability, and efficiency of training. Tailoring training to the needs of a specific Soldier, unit and mission will reduce the time and cost to achieve training objectives. Augmented by digital resource materials, face-to-face instruction will be part of an extended learning process that is student and team centered and incorporates on-line structured communities of practice that enable learners to converse with peers. By blending these approaches the Army will enable Soldiers to learn in ways that suit them best, and meet future learning challenges with the most effective and flexible solutions possible.



Knowledge management and communities of practice will ensure Soldiers have the knowledge when needed. The application of knowledge management principles will capture, preserve, and make readily accessible, the individual and collective expertise of warfighters. Army knowledge banks and an extensive array of government, academic, and commercial sites available over the Internet, will meet Soldiers' needs for every possible type of information on demand. Operational observations, insights, and lessons for units and individuals will be available with just a few keystrokes. Units will have live access to one another and to information on their future areas of operation.

Finally, to ensure true accessibility and flexibility of training, Soldiers and commanders must have the capability to train in their units without cumbersome external support. Units will execute training with organic assets, saving time for leaders to focus on execution and retraining instead of extensive planning and coordinating unit training support, resources, and movement. In lieu of the subject matter and instructional expertise of trainers, artificially intelligent tutors, coaches, and mentors will monitor and track Soldier learning needs, assessing and diagnosing problems and providing other assistance, as appropriate. Embedded training will provide much of the needed deployable training capability.

Realistic training. Future training must replicate, to the maximum extent possible, the salient aspects of the OE to ensure that Soldiers and units train as they fight. Realistic training provides the internal mental models necessary to function under great stress and moderate levels of sleeplessness. It improves transfer of learning by enabling Soldiers to practice skills under conditions similar to those in the OE. When under great stress Soldiers draw from behaviors

ingrained in them through repetition. Realistic training supports the development of prudent risk takers. Exposing Soldiers to risk in realistic simulation-supported live training improves decisionmaking skills, provides an opportunity to correct errors without fear of injuring themselves or others, and increases confidence and proficiency.

While constrained resources and training environments will continue to place limitations on live training, the increasing availability of virtual and constructive simulations will both augment and enrich the live training experience. Evolving range and maneuver areas for Army and joint use that link to the emerging joint national training capability is an important goal. Evolving range and maneuver areas for Army and joint use that link to the emerging joint national training capability is an important goal. Networked and interoperable live-virtual and constructive training environments will be robust, scaleable to the size of the training event, flexible, and mobile.

Virtual training will provide realistic training environments that closely approximate the OE. Accessibility, reconfigurability, and usability of virtual training will greatly increase, as will the applications of virtual simulation, from low overhead applications of gaming technology for learning of cognitive tasks, to higher end fully immersive simulations for learning of psychomotor and cognitive tasks. Realistic interactive virtual humans will supplement human role players, and artificially intelligent mentors, coaches and tutors will guide Soldiers through training and provide feedback. Game technologies, integrated into virtual simulations and authoring tools, will enable Soldiers to modify scenarios as needed. As technology advances there will be more widespread application of virtual simulation. Eventually, a repository of many small game-based trainers will be available to Soldiers on demand, providing training for many individual and team level tasks.

Future Battle Command Training Centers and Combat Training Centers, such as the National Training Center, will continue to employ constructive simulations for the realistic simulation of digital battle command systems. However, they will expand training capabilities, and both the centers and the simulations will be increasingly easy to use. Centers will interconnect with one another to share simulations and will communicate directly with active theaters of operation in order to match training to actual conditions. Centers will connect to instrumentation systems in the field and to virtual training systems for mounted, aerial, and dismounted operations. Commanders will simply provide a general scenario they want to train. The training event will be set up for them, and their staff will fall in on real or emulated battle command equipment.

Finally, successful future execution of realistic training will require development of the infrastructure needed to support a truly seamless, holistic synthetic training environment that closely approximates the OE. Such an infrastructure will ensure that all simulation systems, instrumentation systems, command and control systems, and weapons systems operate and interoperate using common databases that accurately represent individual and group behaviors, atmospheric and ground effects, and include virtual terrain that replicates the actual theater of operation.

Responsive training development and delivery. Training and leader development will have the capability to support shorter cycle times by rapidly capturing and integrating collected operational insights and changes. This will enable training, education, and mission rehearsal tailored to the specific skills and knowledge level of the individual Soldier or unit. Linkages between schools and the operating force will enable collaborative training development,

delivery, testing, and evaluation in a distributed mode and ensure rapid sharing of lessons learned and other feedback to improve training and doctrine within and between force components. All Army trainers, regardless of component or location, will have at least a limited local capability to prepare, produce, and rapidly reconfigure training. Schools will proactively serve the needs of the operational Army through a web of interrelated and interdependent initiatives including unit tailored mobile training teams, distributed learning, web-based doctrinal information, and the development of collaborative knowledge sites. There will also be a systematic outcome oriented approach to evaluation of training and leader development effectiveness.

There will also be a systematic outcome oriented approach to evaluation of training and leader development effectiveness. Automated analytic tools along with expert assessment by experienced leaders and specialists will be part of this system. Future evaluations will assess the relevance of training and education, and must include accessibility of knowledge, training and educational courses, and materials; including ease of access and use, and the ability to tailor the material quickly to individual or unit needs. The identification of outcome measures and processes that can provide this type of feedback must be a priority for future training, and leadership education research and studies.

Managing unit performance. Unit commanders will have a greatly improved ability to tailor individual and collective training to the specific needs of their Soldiers because they will have on demand access to relevant performance information on Soldiers in their unit, and the tools needed to plan the necessary training and performance support. Commanders will also be able to preview skill levels of inbound Soldiers, anticipate individual and unit training requirements, and plan accordingly. Access to diagnostic testing of individual and collective skills will enable commanders to hone in on skill deficiencies and fine tune individual and collective training to maximize training efficiency. Once identified, commanders can address performance deficiencies using advanced unit training management tools for effective practice and feedback events for individual Soldiers and units.

Soldiers and commanders will access the prescribed training through reachback, or will use tools available to them to tailor distributed learning, or simulations to their needs. Automated tools will also support rapid team-building, mission planning, and rehearsal to ensure that mission-tailored units achieve the level of readiness needed for rapid deployment. Unit training will facilitate collaborative based on contingency planning. Unit training management tools will conserve time by making training more efficient and effective in order to optimize the time war fighters spend participating in training, vice preparing for training or conducting administrative duties.

Application of human performance improvement (HPI) techniques. As the needs and expectations for Soldier performance increase in breadth, complexity, and difficulty, the time and resources needed for training and education will increase. The Army will follow the lead of industrial and military human resource experts who recommend a focus on human performance and selection from a menu of options for improving human performance, rather than sole reliance on training and education.



The HPI process emphasizes a front-end performance analysis to identify the gap between

desired and actual performance, and a thorough analysis of the cause(s) of the performance problem. Application of HPI analytic techniques will lead to determination of the most effective solution or set of solutions to a problem. Industry benchmarks indicate that by using HPI analysis techniques to understand and resolve performance problems the Army can expect an 8:1 return on investment and a 10 to 20 percent improvement in performance.

5-4. The Role of Science and Technology (S&T) in the Human Dimension

A few decades ago, when the most likely ground combat situation was large scale armored warfare S&T efforts concentrated primarily on the materiel side of warfighting. The Army is aggressively attempting to find the correct balance between human dimension needs and S&T initiatives. This requires that Army research efforts turn to traditional human and behavioral sciences such as medicine, psychology, economics, sociology, anthropology, and political science as well as cross-disciplinary approaches such as network science, neuroscience and information science.

Science will continue to shed new light on the physical, cognitive and, to some extent, the moral components of the human dimension. Advanced technologies that flow from new learning are certain to change weapons, equipment and organizational processes dynamically in the coming decades. In some cases, this will impose new training requirements on the Army, but in others, technical advances will simplify operations. Human needs and requirements define the goals and objectives of Army S&T efforts. Taking advantage of unexpected or breakthrough technologies as they emerge will provide the Army with the best possible means to accomplish its mission. Many factors drive the S&T effort and S&T advancements impact on the characteristics and capabilities of the human dimension.

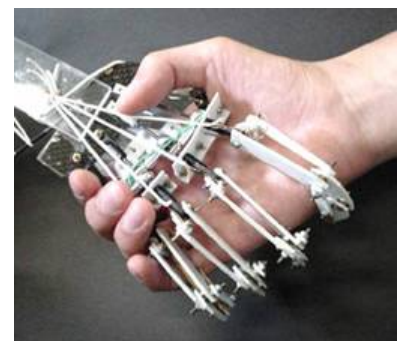
Technological savvy is a desirable attribute for future recruiting and a necessary skill when training, developing, and evaluating the leadership of the future Modular Force. Assessments that identify technical aptitude will assist the Army in putting the right people into training development and will be useful in directing individual training and education.

5-5. S&T Trends

Today's emerging technologies fall roughly into four major categories: biological systems; machines and computers; information, knowledge, communications; and energy. Integration of multidisciplinary technologies (smart materials, agile manufacturing, nanotechnology, biotechnology) across all dimensions will offer a synergistic advancement of technological capabilities. How these new capabilities influence the human dimension of the future Modular Force is of vital interest for the Army to explore.

Biological systems and processes used in many areas inspire sensors to affect manufacturing, self-modify diseases, as well as genetically modify crops, people, and animals. The future trends include robotic miniaturization, quantum computing, improved human-machine interfaces, and new materials. Nanotechnology will lead to miniaturization and micro-production of cameras, sensors, and communications devices and networks.

Future information, knowledge, and communications systems will greatly speed data flow and contribute to global connectivity and interconnectedness. Bio-enabled computing power can facilitate mind-mapping techniques to enhance significantly the



efficiency and effectiveness of computer-assisted decisionmaking. Pervasive information, combined with lower costs for many advanced technologies, will result in individuals and small groups having the ability to become super-empowered.

5-6. Integration of S&T

Technological efforts to improve human performance aim to enable Soldiers to perform at peak efficiency. In the near future, such enhancements will rely on mechanical augmentation, drugs, and psychological behavior modifications. In the longer term, gene manipulation may strive to improve human performance while nanotech implants dispense advanced drugs to increase efficiency of the physical processes.

As the S&T trends take shape, the tools available to research and development entities will greatly expand the potential solutions. By 2030, the ethical and moral questions of human enhancement and behavior control may be more of a limitation on the process than the scientific and technological capabilities.

Advanced computer technologies will provide significant assistance to future human decisionmaking. These include providing improved training to the human decisionmakers, improved forms of communication and coordination, external memory or perceptual aids, enhanced access to relevant data and information, and active decision support systems where the computer is an active participant in the problem solving and decisionmaking process.

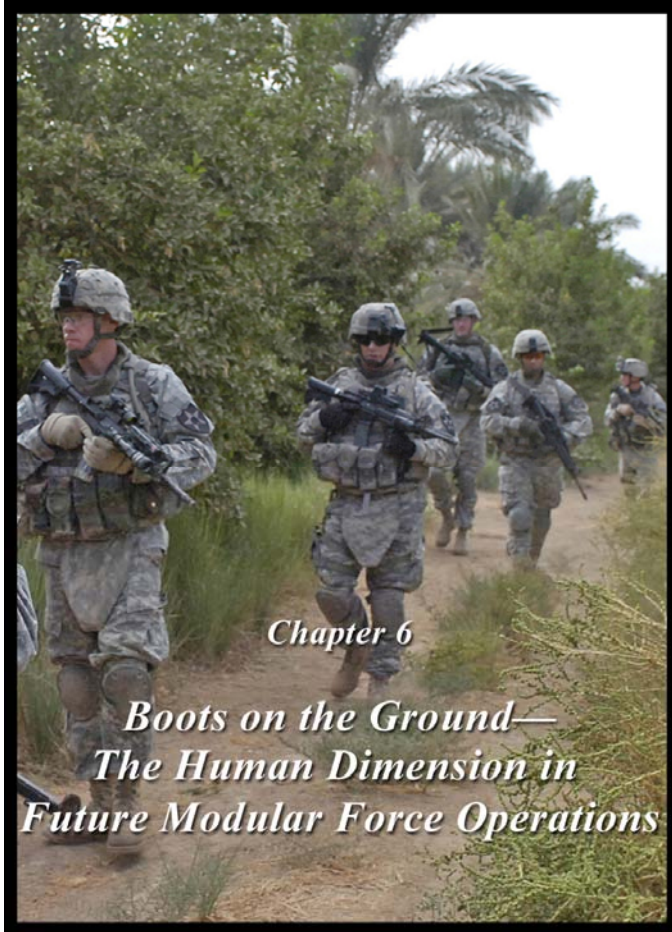
5-7. Conclusion

The Army's challenge is to think beyond traditional business practices and to identify and adopt the methods and technological advances needed to provide the right knowledge, training and education to Soldiers when and where needed in order to make a qualitative change in their performance. Although this has been the direction of the Army's thinking for some time, embracing precision training and education will require a new mindset, new insights about knowledge and learning, and new tools and technologies.



Simultaneously, the Army must update its professional education system. The service must follow and shape developments in adult education to assure cognitive superiority of its NCOs and officers. Professional military education will occur at service schools, through improved distributed learning and in units. Civil education will become increasingly important as Army leaders confront technically and culturally complex missions and work ever more closely with civilian bureaus, non-governmental agencies and foreign leaders.

There is a pressing need for S&T research, experimentation and studies to provide the discoveries and deepened understanding needed to realize the future vision. Preceding chapters include a number of imperatives, things the Army must do to adjust to the changing future OE. Combining these imperatives with S&T solutions to improve the human dimension cognitive and physical components is a leadership challenge. Maintaining such advances while remaining a values-based Army responsive to the demands of the moral component of the human dimension must remain a paramount goal of training and leadership education. Collectively, integrating the three human dimension components is the responsibility of all Army leaders.



6-1. Conclusion

The human dimension has always been the most critical dimension of military operations. Soldiers as individuals and in groups are the ultimate locus of ground operations. The complexity of current and future full spectrum operations makes this statement even more relevant today than in the past. As history repeatedly demonstrates, it is extremely difficult to anticipate with any certainty what future conflicts U.S. joint forces will face.

While the All-Volunteer Force and current recruiting programs and personnel systems have served the Army and its Soldiers well, it is unclear whether these systems will hold up under the strain of an environment of transformation while engaged in persistent conflict. In recruiting and developing the Soldiers for service in future full spectrum operations, the Army envisions increased demands for responsibility and innovation all levels.

The dual challenges of new force structure and continued deployments to multi-dimensional conflicts point to a need to adjust the Army's personnel systems in order to support creativity, risk-taking, and flexibility while sustaining the family and encouraging service in the Army as a profession. Systems and procedures that empower individuals are essential to encouraging continued service and professional development. This requires developmental experiences in repeated assignments in the operating force enriched by professional education and meaningful assignments in the generating force. In short, supporting the adaptive and agile force required for the OE of 2015-2024 will require reassessment of existing recruiting programs and personnel management systems.

In approaching future challenges the temptation to focus on the more tangible elements and mechanics of conflict; weapons, command and control systems, logistics, doctrine, training and organizations will remain strong. In fact, warfare will always be a mixture of the human with the tactile tools of warfare. This concept consistently argues for a holistic approach that recognizes that the human element—trained, motivated, well led, and indomitable—has always been the foundation for achieving this balance.



In addressing the preeminent component of the human dimension triad—the moral component—equipment and weapons

are useless without personnel who have confidence in and are dedicated to each other and their units, are motivated to achieve the mission, and are physically and psychologically resilient in the face of hardship, loss and death.

Finally, within the moral domain, the Army culture that previously focused on major combat operations must begin to shift to a culture that recognizes changes in the Army's role and responsibilities including a broader range of military operations. Instilling Soldiers with the warrior identity includes the development of other professional identities related to humanitarian assistance, peacekeeping, and policing functions must support a robust culture of rapid and continuous learning that accelerates the development of Soldiers to meet the challenges of the twenty-first century.

Physical demands on Soldiers will continue to challenge human limitations. Given the trends already described, deployments to harsh environments are likely to be more demanding than ever before. Physical preparation will involve a holistic development and assessment of the health, physical fitness, and physical performance of Soldiers. The verifiable contribution physical fitness adds to cognitive processes and psychological resilience as well as to mission success makes it an essential component of Soldier development. Future technological and biomedical advances promise to enhance physical and cognitive performance; however, there are ethical thresholds the Army must address before adopting them safely and effectively.

COSR and burnout are facts of war. They will continue to affect Soldiers in the future, but the Army can and must find better ways to prevent stress casualties. When prevention fails, future treatment of these victims must continue to be humane with considerable care to avoid stigmatization and return Soldiers to duty.

For units to operate effectively, Soldiers will require an extremely broad and complex range of competencies, skills, and knowledge attributes and abilities—the cognitive component of the human dimension. The ongoing challenge will be striking the right balance between training and professional education. Training is expensive and frequently pays the bill for equipment and operating costs. The Army must, of course, take advantage of the latest technology and incorporate it into units and other organizations to complement and augment Soldiers.

S & T can contribute to all three components of the human dimension. New systems to maintain and monitor Soldier health, improve strength and endurance, and enhance performance of military tasks show great promise. Research into human behavior, sociology, and stress management will also continue to provide improvements in Soldiers' morale and well-being. Networked systems of weapons, communications, intelligence, reconnaissance, and related functions will extend the Soldier's reach and further enable the Army to employ the future Modular Force.

6-2. Leadership Integrating the Human Dimension

The thread that links all the components of the human dimension together is competent, caring leadership that understands how to develop a unit climate in which cohesive, effective units can grow. Leadership climate, unit effectiveness, Soldier satisfaction and morale, and psychological resilience are closely interrelated. The leader's

We must develop the confidence to grant authority to those we send to conduct these complex operations with the responsibilities laid on their shoulders. . . . This confidence will only come with selection and training the right people.

General Rupert Smith
*The Utility of Force: The Art of War
in the Modern World, 2007*

behavior has the greatest impact on unit climate and effectiveness. Trust in leaders is essential to units, especially in combat and requires a special spirit and bond among members that leads to belief in the unit's purpose, their value to the team and their role in achieving success.

The Army understands effective leadership is the key to understanding the human dimension. Trust, respect, building bonds of mutual affection among unit members, taking care of Soldiers and developing subordinates has been a part of Army leadership doctrine since its founding. Exploit this understanding and experience will be the deciding factor in preparing the Army for future full spectrum operations. The Army of the future must remain a values-based organization manned and equipped with the best possible Soldiers and units our Nation can provide. TRADOC Pam 525-3-7 opens the door to changes the Army must consider to meet future challenges. Written with purpose, it encourages discussion and instigates further research into all the domains that make up the human dimension—centered on the most critical element, the American Soldier.

Appendix A References

Section I

Required Reference

TRADOC publications and forms are available at [TRADOC Publications at http://www.tradoc.army.mil](http://www.tradoc.army.mil).

TRADOC Pam 525-3-7-01

The U.S. Army Study of the Human Dimension in the Future 2015-2024.

Section II

Related Reference

A related publication is a source of additional information. The user does not have to read a related reference to understand this publication.

FM 6-22

Army Leadership: Competent, Confident, and Agile.

TRADOC Pam 525-3-0

The Army in Joint Operations: The Army's Future Force Capstone Concept 2015-2024.

TRADOC Pam 525-3-3

The United States Army Functional Concept for Battle Command 2015-2024.

Glossary

Section I

Abbreviations

COSR	combat and operational stress reactions
HPI	human performance improvement
MOS	military occupational specialty
NCO	noncommissioned officer
OE	operational environment
S&T	science and technology
TRADOC	Training and Doctrine Command
U.S.	United States

Section II

Terms

360-degree appraisal

The formal evaluation of an officer's performance by superiors, peers, and subordinates.

adaptive decisionmaking

Leadership actions based on an assessment of the situation as viewed through the eyes of subordinates armed with the commander's intent and support.

cognition

The processing of information, applying knowledge and changing preferences.

cognitive component

Within the human dimension, what a Soldier must know and understand in order to perform essential tasks and functions. The intellectual domain includes cognition and learning.

cohesion

The bonding together of members of an organization/unit in such a way as to sustain their will and commitment to each other, their unit, and the mission. Cohesion has two distinct forms - primary and secondary cohesion.

combat and operational stress reactions (COSR)

The expected, predictable, emotional, intellectual, physical, and or behavioral reactions of Service members who exposed to stressful events in combat or military operations other than war.

human dimension

That which encompasses the moral, intellectual, and physical components of Soldier, leader, and organizational development and performance essential to raise, prepare, and employ the Army in full spectrum operations.

moral component

In relation to the human dimension, it consists of three elements; warrior spirit element, moral-ethical development, and socio-cultural awareness.

moral-ethical

In relation to the human dimension, Soldiers aligning individual and professional values in such a way that their constantly evolving personal set of values, beliefs and behaviors are internally consistent with the ethical norms of the profession.

physical component

Traditional aspects of physical fitness such as strength, endurance, flexibility, and coordination, along with holistic fitness, an approach that considers mental and medical contributions to physical performance. (Human Dimension concept).

socio-cultural awareness

In relation to the human dimension, a requisite that Soldiers understand and be cognizant of how their actions have different meanings to different environments of the local and global audiences and to understand the consequences of their actions within these environments.

Soldier life cycle

Begins with the Army's efforts to recruit quality people followed by initial training, education and acculturation; unit integration and training; employment; redeployment and reset/train.

stress

A combination of the physical and emotional responses of the human brain and body to physical conditions and external events.

Section II**Special Abbreviations and Terms**

This section contains no entries.

