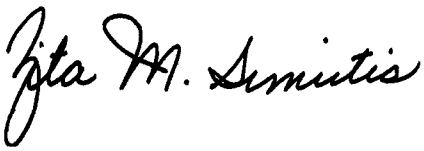
FISCAL YEAR 2004 PROGRAM

U.S. Army Research Institute
for the Behavioral and Social Sciences

U.S. Army Research Institute for the Behavioral and Social Sciences

The mission of the Army Research Institute for the Behavioral and Social Sciences is to maximize individual and unit performance and readiness to meet Army operational requirements through advances in the behavioral and social sciences.

Michael G. Rumsey
Acting Technical Director



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Introduction

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) is the Army's lead laboratory conducting research, development and analysis on Training, Leader Development and Soldier (TLS) issues. ARI also includes the Army's Centers of Excellence for attitude and opinion surveys and for occupational analysis. ARI's focus is on the human element in the Army, with its efforts contributing to the entire Soldier life cycle of recruiting, selection, assignment, training, retention, and mission performance. ARI provides the behavioral science and technology tools to help the Army of the future realize its goals of superior performance across the full spectrum of conflict in all operational environments.

Some of ARI's Past Contributions for the Army

- WWI: First Enlistment Tests for Military Service
- WWII and Korea: First Pilot Selection Test
- Vietnam: Major Advances in Job Skill Training
- Engagement Simulation for Unit Training at the National Training Center
- Rifle Marksmanship Training for Reserve Component
- Self-paced Training for PATRIOT Missile System
- Simulation in Rotary Wing Training

Science and Technology Objectives

Science and Technology Objectives (STOs) are the Army's top priority projects that have the highest potential payoff in major technological advancements. STOs are reviewed annually by the Warfighter Technical Council (WTC), co-chaired by the Director of Technology, Office of the Deputy Assistant Secretary of the Army for Research and Technology (DAS-R&T), the U.S. Army Training and Doctrine Command (TRADOC) Assistant Chief of Staff for Combat Development, and senior representatives from the major commands (MACOMs). The STOs are approved at the two-star level by the Army Science and Technology Working Group (ASTWG). The Army currently has approximately 200 STOs and each STO project typically has a timeframe of three to six years. Volume 2 of the Army Science & Technology Master Plan (ASTMP) describes each STO and provides budget information for each one.

ARI currently has four STOs as part of its program, and work on these STOs is performed through multiple projects across the Research Units.

STO IV.SP.2003.06 Training Small Unit Leaders and Teams

- *Objective Force Warrior Training*
- *VICTOR: Virtual Individual and Collective Training for Future Warriors*

STO IV.SP.2002.02 Methods and Measures of Commander-Centric Training

- *UNIT-T: Unit Training Technologies for Future Forces*
- *MEASURE DIGITAL: Defining and Measuring Digital Skill Proficiency*
- *FUTURE-TRAIN: Techniques and Tools for C4ISR Training of Future Brigade Combat Team Commanders and Staffs*

STO IV.SP.2002.01 Selection, Classification, and Performance Metrics for the Objective Force Soldier

- *SELECT21: Selection, Classification and Performance Metrics for the Future Force Soldier*

STO III.PE.2004.01 Accelerating Leader Development

- *Accelerating Leader Development*
- *Advanced Technologies for Leader Development*

Organization

As shown in Figure 1, ARI is strategically located to be close to our primary work areas. This facilitates our research and the partnerships necessary for leveraging our scientific expertise to provide higher payoffs for the operational Army. Our program approach has addressed, and will continue to address, the short-term needs and long-term goals of the Army related to training, leader development, and personnel.

Figure 1: ARI locations in Alexandria, Virginia, and Army installations

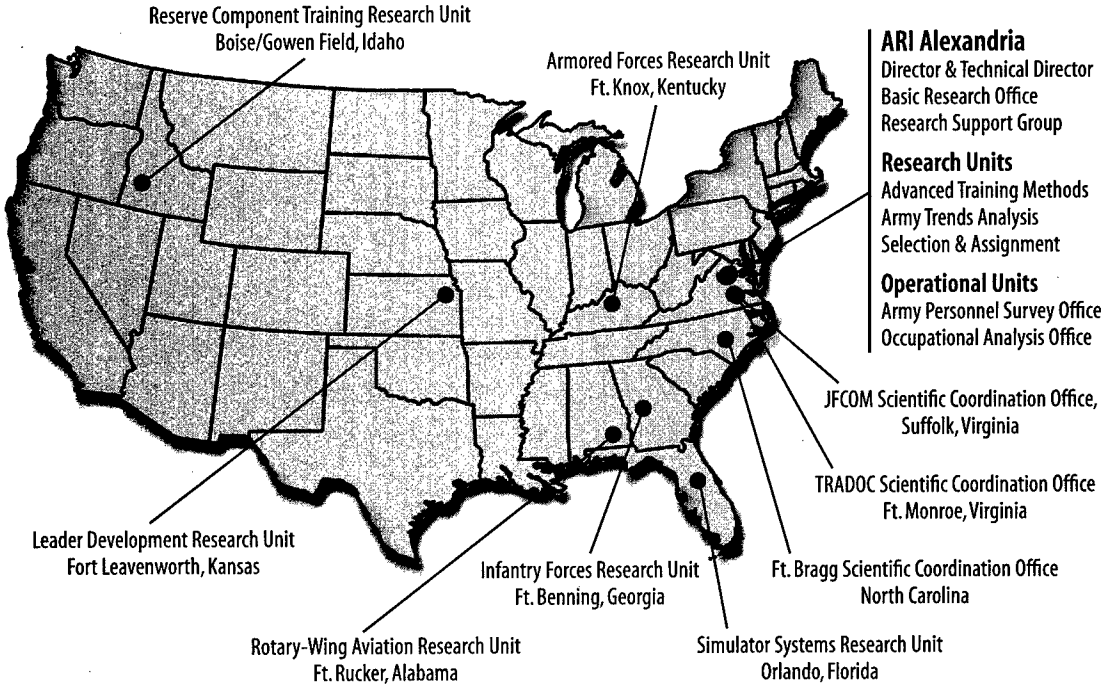
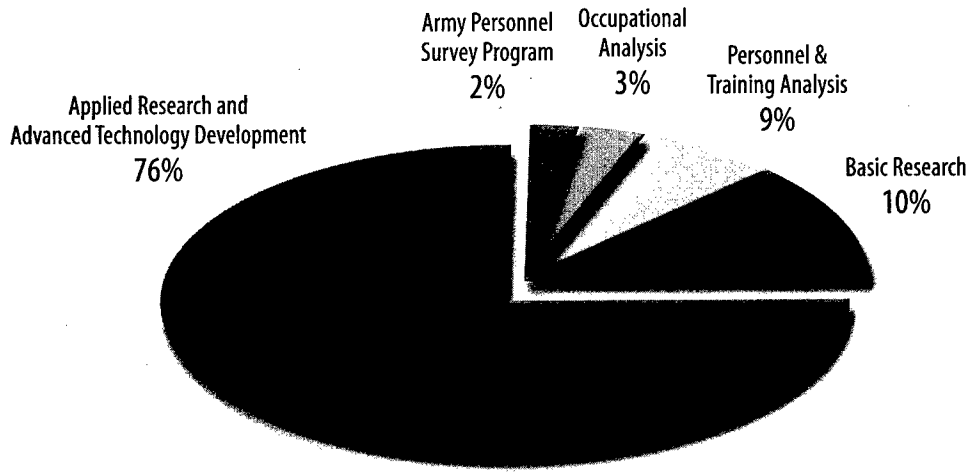


Figure 2: Percentage allocation of ARI FY2004 funding



ARI Program for

Training

ARI's Training S&T Program includes projects that develop innovative technologies and strategies for training versatile, multiskilled Soldiers and leaders, preparing units for Future Force missions, maximizing the effectiveness of simulation-based training, and capitalizing on web-based, distributed learning techniques to provide instruction wherever and whenever needed. The goal is to transform Army training to better prepare future combat systems Soldiers and units to win on future battlefields.

Leader Development

ARI's Leader Development S&T Program focuses on: methods to support decision-making and quick thinking on the battlefield; ways to provide accelerated development of Army leaders; methods that improve interpersonal and team-building skills; and new simulation-based environments to develop the digital command staff. One major goal is to leverage cognitive and instructional technologies in ways that improve critical thinking skills and the adaptability needed by future leaders.

Soldier

ARI's Soldier S&T Program includes projects that develop new technologies to recruit, assign and sustain quality personnel. The goal is to maintain and enhance the quality of the Army through research on managing attrition and retention, improving selection, assignment, and promotion procedures, and understanding Soldier concerns. The S&T Program will produce tools and techniques to aid the Army to predict successful performance in future Army jobs, and help retain quality Soldiers and leaders of the Future Force.

Fiscal Year 2004

ARI Program fo

Basic Research

ARI's Basic Research Program focuses on combinations of the Training, Leader Development, and Soldier requirements of the future.

Occupational Analysis

ARI's Occupational Analysis Office is the Army's Center of Excellence for analyzing, synthesizing, and reporting data on the job requirements of officer and enlisted occupations in the Active and Reserve Components.

Personnel Surveys

ARI's Army Personnel Survey Office is the Army's Center of Excellence for attitude and opinion surveys of Active Component Soldiers and their dependent family members.

Personnel and Training Analysis

This ARI program issues an annual call for fast turnaround Army requirements in the Training, Leader Development, and Soldier areas.

Directory

ARI Unit Information

Fiscal Year 2004

Techniques and Tools for C4ISR Training of Future Brigade Combat Team Commanders and Staffs

(PART OF STO IV.SP.2002.02)

Development of the Future Combat System (FCS) for a maneuver force that is highly mobile, quickly deployable, and extremely reliant on information networking capabilities creates a parallel challenge to develop, through training and experience, the thinking, confident, versatile, adaptive, and seasoned leaders required at the tactical level. The vision that the FCS will include an integrated training capability for individual platform task training as well as for commander/staff training creates critical R&D issues to ensure that the advanced training technologies and methods are designed, developed, demonstrated and evaluated in lockstep with the development of the FCS.

R&D is being conducted to identify and address key training issues for command group training of FCS-equipped forces at the brigade level and below, with emphasis on Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) functions. We are using controlled laboratory simulation of future battlefield situations to identify and measure individual and collective skills of future commanders and staffs that will impact performance in the C4ISR functional areas. We formed a partnership with the Defense Advanced Research Projects Agency (DARPA) and initiated development of concepts of FCS-cell command group functions and support requirements. We developed and assessed a measurement method for command group functions within the framework of the DARPA partnership. ARI also designed a sequence of simulation-based experiments to address research requirements within selected functional areas, with emphasis on the FCS command group C4ISR requirements. The experiments will maximize the use of simulation-based techniques and tools to develop and then demonstrate exemplar training packages in warfighter experiments and Advanced Technology Demonstrations (ATDs). In addition, the results will provide empirically derived input to the FCS training system acquisition process.

In FY2004, we will:

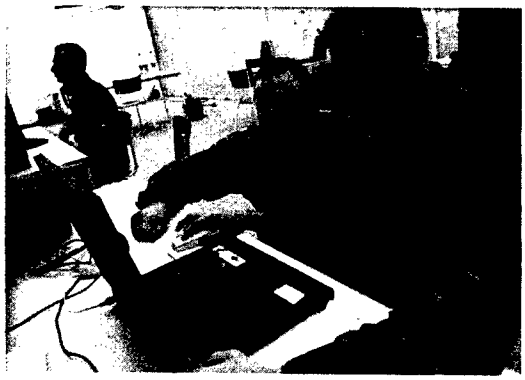
- Experimentally evaluate alternative performance measurement approaches in support of training methods/techniques for selected key C4ISR skills
- Evaluate training requirements and usability of alternative approaches to support command group reachback and knowledge management
- Use warfighter-in-the-loop simulation to evaluate training methods and measurement techniques for command and control of future robotic systems

Proponent: U.S. Army Armor Center
ARI Unit: Armored Forces Research Unit

Defining and Measuring Digital Skill Proficiency

(Part of STO IV.SP.2002.02)

The Army must be capable of assessing the growth in skills and proficiency acquired by Soldiers, staff, commanders, and units as they train on Army digital C4ISR systems. Focusing digital skill measurement on the application of C4ISR systems (e.g., using C4ISR systems to maintain an awareness of unit locations relative to threat situations) helps ensure the value of the work will not be reduced by the evolution of C4ISR systems and might guide the evolution of these systems.



Top-down and bottom-up approaches led to the identification of four groups of digital skills addressing the goals below:

- maintain digital connectivity,
- make it easy to find critical digital information,
- assess and improve upon the currency, accuracy, and completeness of digital information on the tactical situation,
- exploit digital capabilities to support tactical operations.

Each group of skills sets the stage for those that follow, enabling proficiency level concepts that can be used to tailor training to fit unit needs.

We have prepared two sets of guidance for trainers to use in providing feedback to units regarding their application of C4ISR systems in the context of collective training exercises. One set is concerned with the use of platform-based C4ISR systems. The other is concerned with the use of tactical operations center (TOC)-based C4ISR systems to support battle staff functions and the integration of battlefield operating systems. We have also identified measures that can be quickly and inexpensively applied to estimate the digital proficiency level of units.

In FY2004, we will:

- Validate digital proficiency measures and proficiency level concepts in the context of collective training exercises
- Complete the comparison of Army C4ISR proficiency lessons learned with those of other services and domains

Proponent: III Corps G-3 and Battle Command Training Center
ARI Unit: Simulator Systems Research Unit

Unit Training Technologies for Future Forces

(Part of STO IV.SP.2002.02)

The Army is transforming to highly mobile forces, rapidly responsive to a wide variety of contingencies. This leads to the requirement for unit training that is available anywhere, any time, and rapidly adaptable to address any situation. There is need for transformation of unit training tools and techniques to parallel the transformation of forces.

This R&D unit focuses on the training of commanders, team leaders, and small units in the Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) arena. It will develop, assess, and refine training tools and techniques initially identified, examined, and tested in laboratory research and demonstrations. This includes development of prototype training support packages (TSPs) and related training and performance support technologies for application in a variety of operational unit environments. Emphasis is being placed on tools and techniques for easily adapting training to meet rapidly changing dynamic unit needs using a variety of training delivery media, ranging from small handheld wireless electronic devices to networked unit equipment. Key issues that are being addressed include design of continuously accessible unit training and performance support systems, methods for semi-automated tailoring of training to fit unit needs and available delivery media, techniques for embedding performance measurement and feedback within training support packages, and management of knowledge networks underlying training and performance support systems. The products of this effort will exemplify and help specify training and simulation requirements early in the process of developing future networked systems, providing support to training systems acquisition decision makers. Ultimately, the products will form the basis for operational unit training methods and strategies.

In FY2004, we will:

- Develop prototype TSPs and conduct trial implementations to expand and refine selected techniques and tools for training future forces
- Monitor and participate in virtual simulation experiments to determine feasibility for implementation of selected collective performance measurement approaches

Proponent: U.S. Army Armor Center
ARI Unit: Armored Forces Research Unit

Objective Force Warrior Training *(Part of STO IV.SP.2003.06)*

Objective Force Warrior (OFW)–equipped small unit leaders will operate in highly complex decision environments with technological tools and information capabilities never before available. The technologies in development promise to provide revolutionary advances in small unit effectiveness, but their potential will only be realized if leaders and Soldiers can be trained to take full advantage of the new capabilities and operational concepts. OFW decisions will be based on increasing amounts of information from a wider variety of information sources. Leaders must develop the thinking skills necessary to make rapid, appropriate decisions based on the increasing and varied levels of available battlefield information and commander's intent.

This R&D unit will demonstrate selected training methods that allow small unit leaders and teams to leverage new OFW technologies, operational concepts, and tactics, techniques, and procedures. It will develop guidelines for efficient, effective thinking skills training to facilitate rapid, accurate decision making, and develop and validate tools to assess leader decision making and information utilization.

The research will identify successful training methods and technologies currently being used by high performing teams in the private sector and DoD and adapt those to training OFW Soldier and leader skills, or develop new ones as appropriate. We will begin by identifying state-of-the-art training technologies that address generic small unit technology-related training requirements in the areas of mobility, lethality, survivability, sustainability, and situation awareness. As decisions are made regarding the selection of specific OFW technologies and subsystems, we will adapt the training methods and measures to the specifics of the selected OFW technologies.

In general, the research will leverage advances in situation awareness training and measurement, tailorable training, computer gaming, and intelligent tutoring. When necessary we will replicate OFW capabilities and information technologies as a means to assess the effectiveness of the new training methods. We will also develop and validate tools to assess decision quality and use of information. To the extent possible, we will work with the OFW Lead Technical Integrator and will provide initial guidelines on what to train and how to train small unit leaders and teams to effectively prepare for an Advanced Technology Demonstration (ATD). We will later refine the OFW training guidelines following assessment of the ATD train-up and execution.

In FY2004, we will:

- Develop measures for evaluating leader decision making and information utilization
- Conduct analysis of unique OFW small unit leader decision tasks and decision dynamics
- Develop prototype thinking-skills training methods for adaptive thinking and visualization

Proponent: U.S. Army Infantry School
ARI Unit: Infantry Forces Research Unit

Virtual Individual and Collective Training for Future Warriors (Part of STO IV.SP.2003.06)

As described in the CSA Concepts for the Future Force (2001), "Technology is not a panacea. The integration of the human and technological enablers, as well as all of the DTLOMS areas, is critical to a successful transformation to the Future Force." Soldiers and leaders will need to be trained in both the operation of OFW equipment and in the tactics, techniques and procedures for using it in combat and non-combat operations. They will need to achieve and maintain a high level of proficiency, which indicates a need for training while deployed or deploying. Soldiers at the lowest levels may be making key decisions linking sensor information to weapons employment. Embedded training is seen as the centerpiece of Future Force and OFW training. There are few demonstrated instances of cost-effective embedded training in the Army today. Furthermore, the majority of the research and development focus is on embedded training hardware and software, particularly for vehicles. Little attention has been paid to what and how to train using these embedded training systems. Existing guidelines for selecting tasks for embedded training are a decade old and are largely platform oriented. Their suitability for application to future Soldier-oriented systems has not been determined.

This R&D unit addresses two "Training Capabilities" identified in the Future Combat Systems Statement of Required Capabilities:

- Enable operators, maintainers, unit leaders, and staff planners to be trained in system functions by leveraging any or a combination of networked, embedded, virtual, constructive, or live training mode anywhere, any time.
- Develop, through training and experience, the thinking, confident, versatile, adaptive, and seasoned leaders at the tactical level required for the digitized, rapidly deployable future force.

The effort will develop and evaluate procedures and techniques for using embedded training, low-cost simulation, and augmented reality to enhance the fighting capabilities of digitally equipped dismounted individual Soldiers and leaders. This will include training for individual Soldiers in the operation and use of technologically sophisticated individual weapons and equipment, and leader training in the tactics and techniques for their employment in combat.

In FY2004, we will:

- Complete revised guidelines for selecting tasks for embedded training
- Conduct initial experiments to investigate suitability and usability of technologies such as augmented reality and personal digital assistants
- Initiate development of innovative training approaches and strategies suitable for use with these technologies

Proponent: U.S. Army Infantry School
ARI Unit: Simulator Systems Research Unit

Simulation-Focused Collective Aircrew Training

The training of Army aircrews at the unit level was characterized in the past by practice in the live flight environment. Due to rapid changes in unit missions, the scarcity of airspace and flight hours, increasingly sophisticated weapons systems, and frequent deployments, the opportunity to practice perishable skills in live flight has diminished. Aviation unit commanders have seen the wisdom of providing a means of practicing collective tasks in a virtual environment, which will ensure an efficient and effective mechanism for learning new unit-level tasks and maintaining skills required for continued unit readiness. Commanders also need an objective means of determining the most effective alternative among three types of training environments (live, virtual, and constructive) available to them for a given set of collective tasks.

This R&D unit will determine the training objectives and tasks, techniques, and procedures that virtual simulation can best support in Army Collective Aircrew training; will define and assess the training effectiveness of alternative mixes of training aids, devices, simulators, simulation, and actual aircraft, to exploit the training capabilities of the live and simulated environments for training Army aviation units in collective tasks; and will investigate and develop new methodologies for collective instruction capitalizing on advances in computer science and artificial intelligence.

In FY2004, we will:

- Assess the methods employed in Army aviation units to train collective tasks
- Identify components (e.g., roles of simulation devices and live aircraft training) of a model for simulator-focused collective aircrew training

Proponent: U.S. Army Aviation Center
ARI Unit: Rotary-Wing Aviation Research Unit

Strategies and Tools for Maximizing Active/Reserve Component (AC/RC) Performance

Today's Army relies on numerous AC/RC force integration initiatives to strengthen its ability to meet military commitments at home and abroad. For these initiatives to be fully successful, leaders of composite units must have knowledge of inter-component operational and cultural differences, easy access to lessons learned by their predecessors, and the latest information on ways to foster mutual trust and respect among unit members. Accordingly, the RC must be prepared to accept the integration challenge to attain and maintain higher levels of readiness without the benefit of additional training time. The RC, therefore, needs to train and evaluate itself more efficiently than ever before while finding ways to ensure that enough company-grade officers are on board to guide the process. Because a good portion of RC-available time is spent on small-arms training/qualification, R&D is needed to (a) develop a streamlined training/evaluation process for maximizing the payoff from the resources (e.g., time, ammunition) spent, and (b) identify steps for ensuring that sufficient numbers of company-grade officers are available to effect successful implementation of this process at the unit level.

The objective of this effort is to develop tools that satisfy the information needs of AC/RC composite unit leaders, support innovative approaches for maximizing the efficiency of RC small-arms marksmanship training and evaluation, and increase the number of company-grade RC officers. In so doing, we will develop (a) a world-wide-web-interactive, CD-ROM-based information reference tool to help composite unit leaders meet the challenges of AC/RC integration, (b) easy-to-use, simulation-based tools for predicting small-arms marksmanship proficiency, (c) recommended frequency for simulation vs. live-fire-based qualification performance assessment, and (d) recommendations for increasing the number of company-grade officers through enhanced state Officer Candidate School (OCS) enrollment.

The U.S. Army Reserve (USAR) intends to (a) distribute the CD-ROM reference tool to Army unit leaders participating in both stateside and overseas AC/RC force integration initiatives, and (b) use the marksmanship-related products to maximize small-arms qualification rates, reduce the live-fire time and ammunition needed to do so, and serve as proof-of-principle for using simulation to satisfy yearly marksmanship training and evaluation requirements when live-fire range facilities are unavailable. The Army National Guard (ARNG) intends to use the OCS-related recommendations for reducing its current company-grade officer shortfall.

In FY2004, we will:

- Quantify ammunition savings from application of simulation-based boresighting
- Develop simulation-based strategies/tools for predicting machine gun qualification scores

Proponent: Chief of Army Reserve
ARI Unit: Reserve Component Training Research Unit

Training for Interactive Distributed Environments

There is no effective capability for collaborative training with remote colleagues within the Army or across the Services. Emerging training, doctrine, and force structures advocate the need to rapidly deploy units with personnel who may be unfamiliar with each other. These units may include Soldiers, members of other Services, and non-military personnel, whose assignments require electronic networking and collaboration with partners they have never met. Their missions may require specific-content training-on-demand along with the need to collaborate. The Army is funding the increased use of distributed learning technology to meet future training needs for a responsive and versatile Future Force, but there is little known about how to apply this technology to motivate learning through collaboration, such as distributed peer tutoring or multi-player online games.

This R&D unit will develop methods, best practices, and guidelines for employing collaborative learning environment and multi-player game technologies for training individuals and teams in Soldier-centered Future Force tactical and digital skills.

In FY2004, we will:

- Identify key variables as well as conduct market survey of online game products and collaboration tools for experimental training use
- Conduct experiments on use of online peer tutoring for enhancing digital skills

Proponent: U.S. Army Training and Doctrine Command
ARI Unit: Advanced Training Methods Research Unit

Developing Leaders in A Changing Army

During the implementation of the Future Combat System (FCS) and Unit of Action (UA) force structure, the U.S. Army's leaders will face myriad new challenges addressing a full spectrum of missions ranging from intense combat to stability and support operations, to stopping terrorists. Army leaders will be faced with ambiguous, high-risk situations for which no SOPs have been developed; the effective development of these leaders is a continuing challenge. Future military operations will require communication expertise for increasingly precise coordination of dispersed forces within a rapidly changing information warfare environment. Leadership Communication and Sharing Intent in this age of rapidly expanding knowledge, networks, and dynamic information environments requires new expertise and new scientific understanding of leadership. Future Army leaders will need to promote human capital and knowledge, develop teams, resist stress, and adapt quickly and effectively in volatile unstructured environments. The Army must conduct fundamental research and expand understanding of expert development to create leaders with wisdom that encompasses these new technologies and conceptual and interpersonal skills. Commanders with effective decision-making skills, information warfare agility, flexibility, and the ability to adapt to changing circumstances will lead the future Army to success.

The research objective is to expand the art and scientific knowledge of leader development, and to use that scientific edge in technologies to develop and demonstrate procedures and approaches for improved battlefield communication, institutional education, and self development. Fundamentally, experience-based adult development and growth of expertise and wisdom are key to

the long-term growth of leadership. Self-awareness, supplemented by external feedback, supports the consolidation of tacit knowledge and experiences with formal knowledge to establish the core knowledge, skills, and attitudes that support leadership. Our research will address the collection of command stories that distill existing expertise and share it within military networked communities of practice and traditional publications. We will develop field measures of leader behavior and performance as well as self-assessment tools and instruments, with the objective of providing substantive feedback to inform the Soldier and improve the leader development process. A program for training communication competence for multinational teams and team leaders will be developed and evaluated. This objective will be sustained with technologies to move battlefield experiences into the schoolhouse, complemented by new technologies for self-development opportunities for the growth of professional wisdom, and improved reachback to the institutions for better leverage of operational experience.

In FY2004, we will:

- Validate leader adaptability assessment and self-development tools in web-based leader development work and handheld personal digital assistants
- Supplement Baseline Officer Longitudinal Data Set (BOLDS) database with data from non-West Point commissioning
- Design multinational team leader training

Proponent: U.S. Army Command and General Staff College
ARI Unit: Leader Development Research Unit

Assessing and Developing Leaders for Special Operations Units

The Army needs improved personnel methods and procedures to ensure leadership training and leader succession within small, highly trained semi-autonomous units to meet the challenges of the Future Force.

This R&D unit will produce assessment and development tools that enable Special Operations leaders to maximize their individual self-development and thereby improve their team's performance; will better prepare small unit leaders for their role in assessing, developing, and mentoring team members; and will transfer these tools to units in the conventional Army.

In FY2004, we will:

- Develop mentoring programs or tools that small unit team leaders can use to foster leadership skills and performance in subordinates
- Evaluate and fine-tune products and tools in their application to the Future Force

Proponent: U.S. Army John F. Kennedy Special Warfare Center and School
ARI Unit: Fort Bragg Scientific Coordination Office

Advanced Technologies for Leader Development

(Part of STO III.PE.2004.01)

Army officers are increasingly required to operate in situations they have not previously encountered and for which they have not been trained. In these situations, the ability to critically think through a problem, rather than apply previously learned solutions and procedures, is crucial to Army success.

This R&D unit will develop and evaluate training for six critical thinking skills. These skills will better equip Army officers to deal with the novel, uncertain and complex requirements of future Army operations. The training is suitable for self-development via distance learning or Army schoolhouse instruction. This effort began in 2000, with the development of a theoretical model of critical thinking and the identification of eight high pay-off critical thinking skills for Army Battle Command. These skills were validated in interviews with Army officers. This unit will design, implement on the web, evaluate, and demonstrate training for eight critical thinking skills for Battle Command. The eight skills are: frame the problem; recognize main point in a message; visualize plans to see if they achieve goals; construct a plausible story that ties all incidents together; recognize fallibility and bias in own opinion; generalize from specific instances to broader classes; adopt multiple perspectives in interpreting events; determine when to seek more information. Web based training has been developed and evaluated for the first two skills.

In FY2004, we will:

- Design and implement web based training for six remaining critical thinking skills.

Proponent: Center for Army Leadership
ARI Unit: Leader Development Research Unit

Accelerating Leader Development

(Part of STO III.PE.2004.01)

Future military operations will require astute leadership of deployed forces throughout a rapidly changing environment. Many predict a quantum leap in the level of ambiguity and complexity that Army leaders will experience across the full spectrum of military operations. The variety of missions will demand Army leaders at all levels of command that can not only cope with the complexity and fast pace but can thrive under these conditions. Future Army leaders will need to promote human capital and knowledge, develop high-performing teams, and ensure full commitment to mission performance. They will need to think critically and creatively and to shift perspectives as the situation demands. In contrast to traditional officer development, which has focused on the acquisition of technical and tactical knowledge, the Army must take further strides to help leaders develop versatile relational and thinking skills to adeptly influence followers and others to reach mission goals. As dispersion pushes critical decisions to lower echelons, development of key cognitive and interpersonal skills must be accelerated. Commanders with effective decision-making skills, strong interpersonal skills, and high resilience to stress will lead the future Army to success.

Leadership has traditionally been associated with generalities about demeanor or style of the person in charge, rather than addressing the specifics of how the successful leader influences the behavior of his subordinates to meet organizational goals. This research identifies the competencies leaders must apply in their jobs and examines how the essential skills can be acquired, sustained and amplified throughout an individual's career. Related research has concentrated on

cognitive skills, but will be expanded to encompass interpersonal skills, i.e., how a leader understands others, what he or she expects from others, how he or she should influence others to work together to accomplish mission objectives.

The research objective is to develop tools and techniques that will accelerate the development of leadership competencies. The underlying concept is that experience-based learning and growth of connections among concepts are key to the long-term development of leaders. Self-awareness, supplemented by external feedback, supports the consolidation of tacit knowledge and experience with formal knowledge to establish the essential competencies that support leadership. Our research will address the development of vignettes which challenge and exercise Soldiers' judgment in tactical and/or interpersonal contexts and provide substantive feedback to improve the leader development process. The ultimate objective is to promote excellent leader development practices in the transformed Officer Education System, complemented by and integrated with self-development opportunities, and improved use of reachback to the institutions for better leverage of operational experience.

A previously developed instructional system, called Think Like a Commander – Excellence in Leadership (TLAC-XL), will serve as an integrating focus in which to incorporate and test the various complementary objectives.

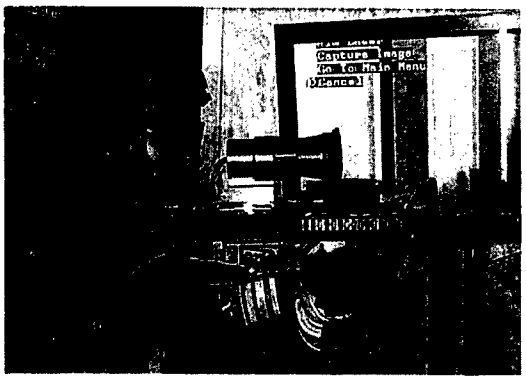
In FY2004, we will start the development of a leadership assessment and self-development system for officers, incorporating cognitive and interpersonal leadership skills:

- Develop and evaluate a prototype self-awareness assessment instrument
- Develop and evaluate a prototype self-development instruction program
- Develop initial experiential and performance-based models and measures of leadership development
- Develop improved methods to guide Think Like a Commander leadership instruction and to interpret trainee comments

Proponent: Center for Army leadership
ARI Unit: Leader Development Research Unit

Selection, Classification, and Performance Metrics for the Future Force Soldier (STO IV.SP.2002.01)

The Army's transformation seeks to capitalize fully on Information Age capabilities and processes and to ensure its readiness to respond to changes in national priorities and the dramatic changes in doctrine, equipment, and organization that will occur. The Army must engineer its personnel selection and classification system to reflect future job demands that require Soldiers who are adaptable, stress tolerant, self-directed, and effective information processors and problem solvers.



This R&D unit will provide the Army with: (1) personnel tests for measuring Soldier attributes that predict the effectiveness of performance in future entry-level jobs, (2) prototype measures of future Soldier performance and organizational commitment, and (3) recommendations for use of the predictor tests as part of the Army's procedures for selecting and assigning new enlisted Soldiers to jobs of the future.

In FY2004, we will:

- Develop candidate personnel tests of Soldier attributes critical for performance of the future entry-level jobs
- Develop measures of job performance for use in evaluating how well the new personnel tests actually predict performance

Proponent: Department of the Army Deputy Chief of Staff, G-1
ARI Unit: Selection and Assignment Research Unit

Performance Measures for 21st Century Soldier Assessment

Around 1990 the Army abandoned its Skill Qualification Test (SQT) program due to the downsizing crunch and the costs for SQT maintenance and implementation. Cancellation of the SQT program left a void in the Army's capabilities for certifying a Soldier's qualifications for job performance. The Army now needs a cost-effective testing, evaluation, and developmental assessment system that accommodates both current jobs and the changing jobs and job structures expected with transformation toward the Future Force.

The objectives of this R&D effort are to (1) identify and validate prototype measures for certifying Soldiers' qualifications for performance of assigned jobs, (2) design a system for measuring job performance with reference to explicit criteria and standards, and (3) provide recommendations for an Army-wide system to certify the skill qualifications of Soldiers for job performance. The effort will also provide guidelines for use of the certification measures in developmental self-assessment tools.

In FY2004, we will:

- Evaluate the prototype common core skills assessment program through pilot testing and analyses
- Develop all prototype measures of technical performance for several representative military occupational specialties (MOS)
- Conduct pilot tests for these MOS using a variety of testing approaches

Proponent: Department of the Army Deputy Chief of Staff, G-1
ARI Unit: Selection and Assignment Research Unit

Improved Screening Tools for Recruiters and Station Commanders

Since the inception of the All Volunteer Force, the Army has strived to fill its ranks with high quality youth. In the late 90's, recruiting became more challenging, and the Army has had difficulty enlisting sufficient numbers of high quality individuals. The goal of this effort is to develop the R&D base for identifying the best recruiters who can sustain a sufficient flow of highly qualified new Soldiers to meet future demands. New personnel tools will be developed to identify and select individual recruiters and station commanders who can effectively sell the Army to future prospects.

This effort will develop and validate personnel screens to improve recruiter productivity and station commander performance. It began with a comprehensive recruiter job analysis to inform the development of new screening measures. In 2001 ARI developed a preliminary recruiter screening instrument. Starting in January 2002 this screening instrument was administered to new recruiters as they reported for the Army Recruiter Course at Fort Jackson, SC. These new recruiters are being tracked during their recruiting duty, and test scores will be linked to measures of production and performance to establish the predictive validity of the instrument. A web-based version of the instrument has also been developed and implemented at the Army Digital Training Facility. In FY2003 ARI completed a station commander job analysis and has preliminary data on the key competencies required for successful performance in this position. The DA Deputy Chief of Staff, G-1, the U.S. Army Recruiting Command, and the Army Human Resources Command can use the products of this R&D to identify individuals who will be highly productive recruiters and station commanders.

In FY2004, we will:

- Complete a preliminary predictive validation of new screening and assessment tools for station commanders
- Identify and evaluate implementation strategies for the station commander screening battery
- Identify and evaluate implementation strategies for the recruiter screening battery

Proponent: Department of the Army Deputy Chief of Staff, G-1, and U.S. Army Recruiting Command
ARI Unit: Selection and Assignment Research Unit

Soldier Attitudes and Opinions in A Changing Army

Senior leaders have a continuing need to accurately assess the command climate of the Army and to identify the issues that concern Soldiers. This effort on Soldier attitudes and opinions provides input for Army policies and for program decision making.

This program has developed a methodology for assessing Soldier attitudes and opinions and conducting assessments of command climate. ARI will continue to provide data on Soldier attitudes and opinions and develop improved methods for assessing them. This will allow the DA Deputy Chief of Staff, G-1 and other senior leaders to gain insights into Soldier concerns, track trends, identify emerging issues, and provide timely solutions to Army problems.

In FY2004, we will:

- Identify new issues of concern to Soldiers
- Determine trends over time
- Conduct annual assessment of Army command climate

Proponent: Department of the Army Deputy Chief of Staff, G-1
ARI Unit: Army Trends Analysis Research Unit

Attrition Determinants and Management

Lately, more than one-third of Soldiers leave the Army before they have completed their first term of enlistment. This high attrition rate imposes burdens on recruitment, increases training costs, and reduces the personnel stability needed for unit readiness. The Army needs a more solid understanding of the causes of attrition and ways of reducing it.

This research follows the FY1999 cohort of enlisted Soldiers and tracks them from the time they begin Initial Entry Training (IET), to their first operational assignment, and through their first term of enlistment. We are tracking the personnel, organizational, and extra-organizational factors that potentially influence attrition across the first enlistment term. The research has already identified pertinent career history and other variables influencing the likelihood that IET graduates will drop out or continue in the Army. Data on job and organizational experiences during the first assignment to an operational unit have also been collected. These data, in combination with data on subsequent assignment experiences, will be used to construct a multidimensional model of first-term enlisted attrition. The Deputy Chief of Staff, G-1, the Office of the Assistant Secretary of the Army (Manpower and Reserve Affairs), and the Training and Doctrine Command (TRADOC) will use the findings and products from this research to develop effective initiatives to reduce attrition and build the career force.

In FY2004, we will:

- Identify implications for attrition management

Proponent: Department of the Army Deputy Chief of Staff, G-1
ARI Unit: Selection and Assignment Research Unit

Assessment of an Initial Unit Manning System Implementation

As part of force transformation, the Army has decided to switch from an individual to a unit-based manning system, at least for combat arms units. The resulting heightened personnel stabilization is expected to enhance combat effectiveness by creating greater opportunities for accretive training and by boosting unit cohesion levels expected to promote performance and Soldiers' willingness to fight. To this end, the Army has formed a unit manning task force with the mission to develop the initial unit manning system, assess its viability in selected combat arms units, and modify it as necessary in accordance with lessons learned over time.

This R&D will conduct an assessment of the Army's implementation of the Unit Manning System in the STRYKER Brigade Combat Team 3, located at Forts Richardson and Wainwright, Alaska. A formative, "fix-as-you-go" evaluation will be conducted using longitudinal analysis of measures of performance, cohesion, morale, command climate, leadership, and well being.

In FY2004, we will:

- Conduct baseline survey of all Officers and Soldiers
- Conduct personal interviews with sample of Officers and Soldiers
- Interview additional samples of Officers and Soldiers after three months
- Re-survey all Officers and Soldiers after six months

Proponent: U.S. Army Human Resources Command
ARI Unit: Reserve Component Training Research Unit

Basic Research Program

Identifying New and Promising Technologies

ARI's Basic Research Program is primarily a university-based program that focuses on the personnel, training, and leadership requirements of the future Army. The Basic Research Office maintains close contact with the scientists within ARI and with other Army and DoD agencies conducting basic research to define issues that require fundamental research, to ensure that the basic research program is coordinated across services, and to facilitate the transition of basic research results into applied research programs for eventual use by the operational Army.

Personnel Issues for the New Century

Identifying and measuring the aptitudes and skills that are projected to be required for effective human performance as the Army transforms to the Future Force is a major theme of this basic research effort. As part of this process, we are devising methods that can assess such attributes as persistency and dependability, describe how these attributes develop, and measure their contribution to performance and job tenure. Other research efforts are exploring the sociological and psychological factors that could influence recruitment and retention; understanding how various social structures, such as the family, and population demographics influence Army performance; and investigating the conditions under which turnover hinders or helps team performance. We anticipate that results from these research efforts will make important contributions to understanding and improving organizational effectiveness.

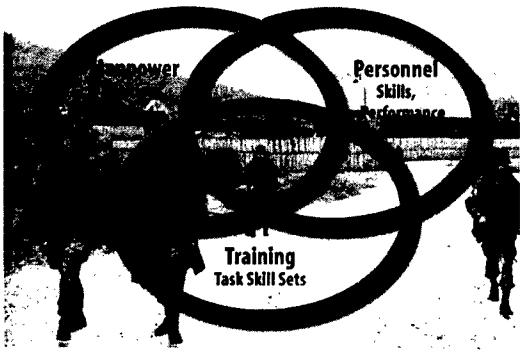
Training for Speed and Knowledge

Basic research in this area is developing concepts and methods for training complex tasks and for sustaining complex task performance. Assessing the impact on the human of Future Force technology requirements arising from digital, semi-automated, and robotic systems is part of this process. Successful projects will transition to our applied research program to test the principles and methods in Army training environments.

Assessing and Improving Leader Skills

The Basic Research Program in leader development is directed toward providing concepts and methods for accelerating leader development and understanding how to develop adaptability and flexibility in a manner that can be tested in the applied environment. One of our major efforts in this area is centered on understanding the dynamics of small group leadership in face-to-face and distributed team environments, and another is focused on discovering and testing the basic cognitive principles that underlie effective leader-team performance. These and other parts of the Basic Research Program address the Future Force requirements for rapidly developing adaptable, flexible leaders.

Occupational Analysis



ARI's Occupational Analysis Office is the Army's Center of Excellence for analyzing, synthesizing, and reporting data on the job requirements of officer and enlisted occupations in both the Active and Reserve Components. Occupational Analyses are generally performed when weapon systems, organizational structures, or tasks change. These analyses focus on the need for Military Occupational Specialty (MOS) design/ redesign, including creation of new MOS and the consolidation of existing MOS. In addition, the task performance, skill, and knowledge requirements of MOS are examined to determine training requirements that best support the occupational structure.

In FY2004, we will:

- Revise and maintain occupational survey Interform Software
- Expand automated survey generator and data analysis capabilities
- Identify critical combat common tasks
- Consult on MOS job analysis surveys
- Consult on MOS mergers
- Consult on TRADOC School Course Evaluation Surveys

Personnel Surveys

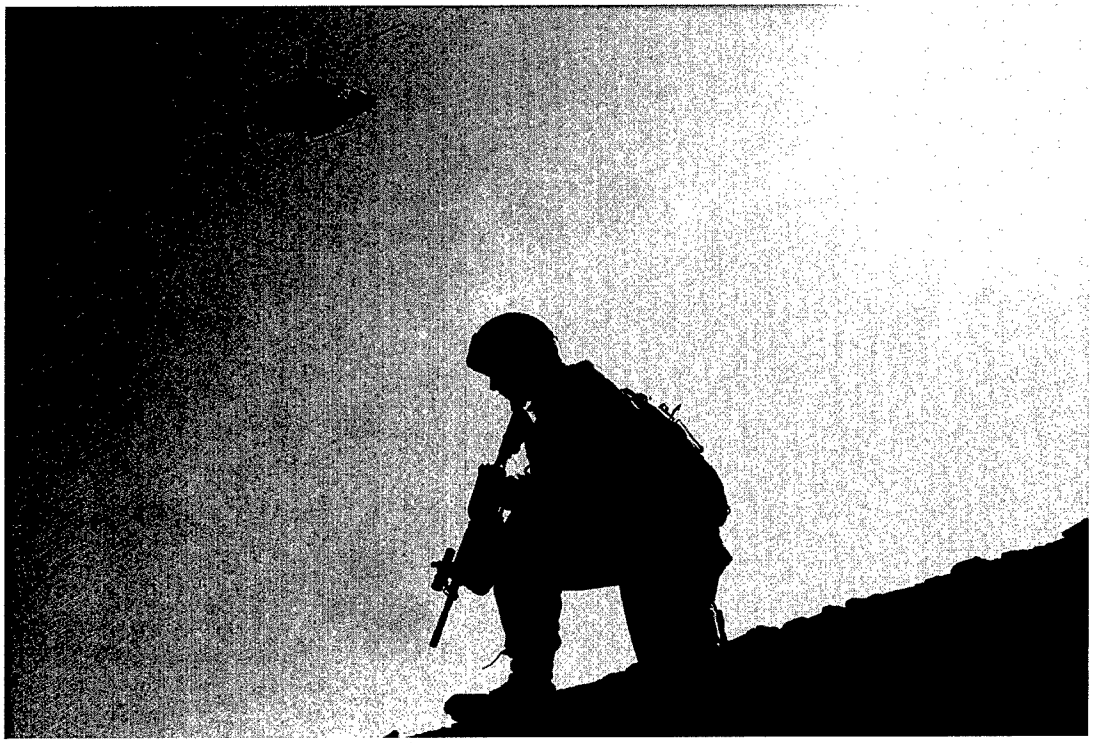
ARI's Army Personnel Survey Office (APSO) is the Army's Center of Excellence for attitude and opinion surveys of Active Component Soldiers and their dependent family members. Top Army leaders use the survey data to "keep a finger on the pulse" of the Army. The survey findings keep Army leaders informed about the well-being and needs of Army personnel. For example, top Army leaders receive survey reports on key personnel issues, such as well-being (quality of life), morale, plans to stay in or leave the Army before retirement. Survey results also are reported to the U.S. Congress in the annual Army Posture Statement.

APSO conducts two Army-wide surveys on a recurring basis: the omnibus, semi-annual, Sample Survey of Military Personnel (SSMP) and the biennial Survey on Officer Careers (SOC). Army agencies and activities identify specific topics to be included in these surveys, and the results are reported directly to these proponent organizations. In addition, trend data are collected for the Army by including, on a regular basis, questions on topics such as job satisfaction, satisfaction with housing, leader support for Army families and single Soldiers, equal opportunity/discrimination, and unit climate.

In FY2004 we will:

- Conduct the Spring and Fall SSMPs
- Conduct the SOC
- Conduct other special surveys

Personnel and Training Analysis



This ARI program issues an annual call for fast turnaround Army requirements in the Training, Leader Development, and Soldier areas. The efforts are usually of a year's duration or less, and provide policy makers with relatively immediate answers to pressing TLS issues of the time.

Optimizing the Effectiveness of Helicopter Gunnery Training

This effort addresses the effectiveness of alternative training technologies and instructional strategies for acquiring and sustaining aerial gunnery skills. Training technologies include the use of simulation, dedicated training devices, embedded training, and live-fire gunnery training. In addition to training effectiveness, the cost effectiveness of these training alternatives is also being investigated. The successful completion of this work will provide the Aviation Center with valuable guidance for the design and optimization of gunnery training programs, especially with regard to the functional requirements for simulation and part-task training environments, and simulation-focused, proficiency-based instructional strategies.

Proponent: TRADOC Army Aviation Center
ARI Unit: Rotary-Wing Aviation Research Unit

Applying Adaptive Thinking Training Methodology to Distance Learning

The Army's Adaptive Thinking Training Methodology (ATTM) was formulated to address the need to develop adaptive leaders. ARI refined the methodology in the Think Like a Commander training programs that have been successfully implemented in the Brigade and Battalion courses at the School for Command Preparation, the Armor Captains Career Course, and the resident phase of the Armor Captains Career Course for the Reserve Component.

At the Armor Center, the ATTM has been shown to be an effective training methodology for classroom instruction, but it has yet to be determined whether the method would be effective without the support of a face-to-face mentor. This work evaluates the potential of the ATTM for distance learning and examines methods of replacing the face-to-face mentor.

Proponent: TRADOC Army Armor Center
ARI Unit: Armored Forces Research Unit

Advanced Individual Training School Satisfaction with Basic Combat Training Product

To realize U.S. Army Accessions Command's vision of an integrated holistic accessions process requires an understanding of the perceptions and opinions of the training received by Soldiers at the Army's Basic Combat Training (BCT) installations by the Advanced Individual Training (AIT) Installations. Therefore, this work will determine if Soldiers graduating from BCT are adequately trained to succeed in AIT. The work will identify areas where AIT schools are satisfied and/or dissatisfied with the training received by BCT graduates and provide recommendations to improve the training process. The plan is to develop an Internet survey and to use selected focus groups to query the Command Teams, Training Cadre, and Support Personnel at the Army's 23 AIT locations. An attempt also will be made to collect factual data such as AIT proficiency scores and physical capabilities as a separate source of information to help validate problem areas.

Proponent: U.S. Army Accessions Command
ARI Unit: Occupational Analysis Office

Assessment of the Effectiveness of the CCTT in Preparing Units for War

Recently unit leader opinion data was collected at two sites regarding their use of the Close Combat Tactical Trainer (CCTT). Unit leaders were asked how CCTT fit within their overall collective training strategy, the methods that were being used during CCTT training sessions, and whether the capabilities of the CCTT simulation system were adequate to allow them to meet their training objectives. Findings from that small-scale study were for the most part positive with regard to the value unit leaders place on training in CCTT. This research was carried out prior to units being notified of deployments to Southwest Asia. The purpose of the current effort is to expand on the earlier findings to investigate the methods and utility of CCTT to prepare for combat operations in Southwest Asia. The focus will be on the use made of CCTT during their train-up prior to deployment. The study will collect data from units returning from Southwest Asia and those currently preparing for deployment.

Proponent: Fort Leavenworth TSM-CATT
ARI Unit: Simulator Systems Research Unit

Issues Concerning the Operational Utility of the Non-commissioned Officer Leadership Skills Inventory (NLSI)

An initial screening instrument called the Noncommissioned Officer Leadership Skills Inventory (NLSI) has been developed to augment the Army's capability to select Soldiers with high potential for recruiting duty. Contingent upon positive results emerging from the experimental administration of this instrument, it will be administered in FY2004 for recruiter screening in an operational test. A longer-term vision is to not only use the NLSI for recruiter screening but to tap its potential value to the Army as a broader NCO classification tool that could be used to identify Soldiers who are a good fit with recruiting and other occupational specialties (e.g., Drill Sergeant and Special Forces).

This program addresses two issues concerning the operational utility of the NLSI. The first issue concerns the validity of the NLSI in an operational context against two types of outcomes: production and training success. The second concerns the utility of the NLSI for broader classification purposes. This will be addressed by conducting an initial evaluation of relationships between the NLSI test scores and measures of Drill Sergeant performance.

This program will help the Army to evaluate the value of the NLSI for recruiter screening and provide an initial determination of its value for screening Drill Sergeants.

Proponent: U.S. Army Recruiting Command
ARI Unit: Selection and Assignment Research Unit

Readmitting Sergeants to Drill Sergeant Duty

The 1997 decision to increase the experience and maturity of the Army's Drill Sergeant cadre by using only Staff Sergeants and above in the role of Drill Sergeants is being reexamined in the light of recent performance by Sergeants serving responsibly in leadership positions in operational units. Sergeants have recently performed very competently as combat leaders, team/squad leaders, and section/crew chiefs, and otherwise shown maturity and excellence in job performance. TRADOC has proposed a one-year proof-of-principle pilot test to assess the impacts and effectiveness of using Sergeants as Drill Sergeants.

This work, under sponsorship of the Army Accessions Command, will collect data during the selection and training of E5 Drill Sergeant candidates, and during their performance in units. Current and former Drill Sergeants will be interviewed as part of an analysis to determine the positive attributes of an effective Drill Sergeant, and the ways of measuring effective job performance. Objective outcomes will include information on the degree to which these Sergeants were successful as Drill Sergeants. This will include measures of how well they handled the stress of the job, and how well the more senior Drill Sergeants and the chain of command were able to coach, mentor, and lead the Sergeant Drill Sergeants. The effort will also examine the effectiveness of the criteria used to identify and select qualified Sergeants for this leadership position. Results provided by this effort will provide senior leaders critical insights and information on the benefits of using Sergeants as Drill Sergeants.

Proponent: U.S. Army Accessions Command
ARI Unit: Infantry Forces Research Unit

Analyses to Evaluate Competency Testing for Noncommissioned Officers (NCO's)

ARI researchers are in the second phase of a feasibility project concerned with NCO competency assessment. The present effort supplements the ongoing competency assessment research by addressing two compatible objectives in transitioning NCO competency assessment Army-wide to the operational environment. First, a self-assessment program, compatible with a demonstration competency assessment program (DCAP), will be developed, tested, and analyzed. Second, supporting analyses designed to align the DCAP with operational opportunities and restrictions will be conducted.

Proponent: U.S. Army Combined Arms Center
ARI Unit: Selection and Assignment Research Unit

Analysis to Support Refining the Semi-centralized Noncommissioned Officer (NCO) Promotion System

ARI researchers have identified a set of junior NCO knowledges, skills, and attributes (KSAs) required for the present and future forces. The research on KSAs and potential measures of these KSAs has generated possibilities for semi-centralized (junior NCO) promotion system changes. These changes include modifications to the current promotion system, commonly known as the promotion point worksheet, and the implementation of tests and assessment tools for selecting and promoting NCOs.

In FY2003, additional job analysis data were collected and the data collection procedures were digitized in anticipation of FY2004 predictor data collection. The outcomes of this program will be a database for Soldiers' predictor scores, and the analysis of the digitized assessment measures with such outcomes as the Soldier's rank order on the promotion list and performance after promotion.

Proponent: Department of the Army Deputy Chief of Staff, G-1
ARI Unit: Selection and Assignment Research Unit

Trends in Influences on Attrition in Initial Entry Training (IET)

The high levels of attrition within the Army are costly in terms of lost recruiting and training investment. ARI has been tracking the FY1999 cohort of enlisted Soldiers to determine what factors influence attrition. However, to preclude results being influenced by factors idiosyncratic to the FY1999 cohort, this analysis will focus on the FY2004 cohort to develop tools and procedures for TRADOC to routinely use in collecting information on the entry characteristics, attitudes, and values of cohorts entering IET. This information will provide the basis for monitoring trends and evaluating attrition-reduction programs.

Proponent: U.S. Army Accessions Command and TRADOC, DCST
ARI Unit: Selection and Assignment Research Unit

Development of an Army Selective Reenlistment Bonus Management System

The purpose of this project is the development of a system to more effectively manage the Selective Reenlistment Bonus (SRB) program. Phase I began with the development and testing of a prototype SRB spreadsheet utility tool for comparing the retention effects of alternative 'mainline' SRB programs. The predictive capability of this tool is based upon extensive econometric analyses using retention data over the 1990 – 2000 period. The aim of the (ongoing) Phase II is to build a more powerful and flexible engine to power an integrated SRB management system. The integrated system would probably be WEB-based, and will be designed for compatibility with the Defense Integrated Military Human Resources System (DIMHRS). In parallel to the design and testing of the integrated system, additional retention work is also underway to develop predictive models for the larger family of SRB programs (Targeted SRB, Bonus Extension and Retraining, Broken Service SRB, and Critical Skills Reenlistment Bonus).

Proponent: Department of the Army Deputy Chief of Staff, G-1, and U.S. Army Human Resources Command
ARI Unit: Selection and Assignment Research Unit

Soldier Absence Without Leave (AWOL) and Desertion

During the past five years, discharges from the Army due to desertion have increased. These increases contribute to the Army's struggle to maintain its personnel strength. The Army has information on desertion obtained from recent analyses and from past systematic study of wartime desertion during such conflicts as Vietnam. While useful, the available information has not provided full understanding and solutions for the desertion problem today.

This effort will build upon findings from past desertion analyses. To increase understanding of what motivates Soldiers to go AWOL, interview/questionnaire data will be collected and analyzed from AWOL Soldiers who have been returned to military control. The data from a sample of returned Soldiers will be augmented with information from the commands (obtained through interviews, questionnaires, or records) that the Soldiers had left. These data will be analyzed to understand and gather ideas for formulating programs, policies and practices to reduce AWOL and desertion.

Proponent: Department of the Army Deputy Chief of Staff, G-1
ARI Unit: Selection and Assignment Research Unit

Non-intrusive Field Test Evaluation of the Enlisted Personnel Allocation System

Benefits of improved Soldier performance and human resource utilization would be realized from optimization in the classification process; i.e., the better matching of recruits to initial training and job assignments. The Enlisted Personnel Allocation System (EPAS) is designed to enhance the Army's current training reservation system known as REQUEST. EPAS will allow REQUEST to offer more optimal training opportunities and assignments to incoming recruits. This field test will not impact the current assignment procedure, thus being a non-intrusive data collection. The test will yield results on whether the EPAS enhancement assigns Soldiers to (1) meet the Army's qualification goals for each MOS and (2) increase Soldier quality across all MOSs.

This field test evaluation contains three phases. The first is collection of applicant transactions data that permits the creation of enhanced lists of job training opportunities outside of REQUEST, keeping that function within the EPAS subsystem. The Army's REQUEST system has made modifications to provide the requisite transactions data. The second phase is production development (design, code, and test) of a sequential assignment algorithm (in addition to the EPAS batch procedure), and the coding of the simulation routines for the evaluation. The third phase is the field test evaluation per se, with a focus on the effects of the EPAS enhancements upon the REQUEST list of job training opportunities and the classification gains provided by the enhancements, addressing procedural and efficiency issues.

Proponent: Department of the Army Deputy Chief of Staff, G-1
ARI Unit: Selection and Assignment Research Unit

Impact of the Deployment for Operation Iraqi Freedom

Soldiers today and tomorrow can be expected to deploy more frequently and for longer periods than in the past. At the same time, the Army is undergoing additional changes (e.g., in structure and manning) to adapt to the nation's needs. Soldier acceptance and support of these changes is critical to the success of the All-Volunteer Army.

The objective of this project is to examine the impact of longer and more frequent deployments on the retention of the all-volunteer force. Surveys and interviews will be conducted to determine career intentions, factors that impact them, and possible mitigators. This project will provide the Army with early indicators of retention and emerging issues related to deployments.

Proponent: Department of the Army Deputy Chief of Staff, G-1
ARI Unit: Army Trends Analysis Research Unit

Evaluation of Attrition Screening Measures

Approximately one-third of all Army enlisted recruits fail to complete 36 months of service. This is a tremendous waste of resources, as thousands of dollars are spent recruiting and training each first-term Soldier. A variety of strategies is being considered to reduce attrition. As part of this process, there is a need to continue examining pre-accession screening tools, be they biodata, demographic, or cognitive, but targeted at the Army's largest applicant group, the high school diploma graduate.

This work will examine the effectiveness of using various forms of applicant data to predict attrition, including biodata, self-report motivation measures, demographic data, health data (height/weight), attitudinal data, and cognitive data. Data from previous work, as well as recent data from operational and experimental sources, will be analyzed to develop models for using screening instruments to predict attrition. The emphasis in this analysis will be on prediction of attrition of high school diploma graduates. The effort will culminate in recommendations for new, pre-accession screening tools that improve the Army current screening capability. In addition, the analysis will identify further steps needed to implement such tools and the estimated return on investment.

Proponent: Department of the Army Deputy Chief of Staff, G-1
ARI Unit: Selection and Assignment Research Unit

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