Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	PE 0602785A: *Manpower/Personnel/Training Technology*

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	16.358	22.198	18.946	-	18.946	19.258	19.127	19.166	19.638	Continuing	Continuing
790: *Personnel Performance & Training Technology*	16.358	22.198	18.946	-	18.946	19.258	19.127	19.166	19.638	Continuing	Continuing

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The objective of this program element (PE)/project is to conduct behavioral and social science applied research that provides non-materiel solutions to ensure that Soldiers can adapt and excel and improve the Army's capability to fully leverage advances in networks, systems, and technologies as they evolve. This research provides the scientific basis to recruit, select, assign, promote, educate, train, and retain Soldiers and leaders that comprise a ready and relevant Landpower capability. The human science applied research conducted in this program element provides knowledge-products, methods, techniques, and tools that will enable the Army to: select Soldiers who are predicted to perform well in future jobs; assign Soldiers to Military Occupational Specialties (MOS) and jobs that better match their skills and abilities; retain an effective career force through improved strategies and behavioral incentives to influence Soldiers to stay in the Army for longer periods of time; accelerate the development of leader critical thinking and interpersonal skills through virtual practice so that junior leaders are more adaptable and prepared for uncertain, rapidly changing missions; develop innovative training strategies for complex battle command skills in network-enabled environments; and design training tools for dismounted squad leadership and team maneuver with ground Soldier systems technologies. Additional research is focused on training techniques and procedures that make it easier for trainers and training developers to rapidly respond to changes in mission or operational requirements and provide a more synergistic training and education process (e.g., automated and improved diagnostics, coaching and mentoring, performance measures, and feedback methods). This program leverages efforts and coordinates research with a number of other Laboratories and Research, Development, and Engineering Centers including, the Simulation and Training Technology Center (STTC) and Army Research Laboratory - Human Research and Engineering Directorate (ARL-HRED) (PEs 0603015A, 0602308A and 0602716A), and the Communications-Electronics Research, Development, and Engineering Center (CERDEC). Research in this PE is related to and fully coordinated with efforts funded in PE 0603007A/project 792.

The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

This project is managed by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI), Arlington, VA.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	**R-1 ITEM NOMENCLATURE** PE 0602785A: *Manpower/Personnel/Training Technology*

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	16.614	22.198	19.022	-	19.022
Current President's Budget	16.358	22.198	18.946	-	18.946
Total Adjustments	-0.256	-	-0.076	-	-0.076
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.256	-			
• Adjustments to Budget Years	-	-	-0.076	-	-0.076

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army									DATE: February 2011	

APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*				R-1 ITEM NOMENCLATURE PE 0602785A: *Manpower/Personnel/Training Technology*				PROJECT 790: *Personnel Performance & Training Technology*		

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
790: *Personnel Performance & Training Technology*	16.358	22.198	18.946	-	18.946	19.258	19.127	19.166	19.638	Continuing	Continuing

Note
Not applicable for this item.

A. Mission Description and Budget Item Justification

The objective of this program element (PE)/project is to conduct behavioral and social science applied research that provides non-materiel solutions to ensure that Soldiers can adapt and excel and improve the Army's capability to fully leverage advances in networks, systems, and technologies as they evolve. This research provides the scientific basis to recruit, select, assign, promote, educate, train, and retain Soldiers and leaders that comprise a ready and relevant Landpower capability. The human science applied research conducted in this program element provides knowledge-products, methods, techniques, and tools that will enable the Army to: select Soldiers who are predicted to perform well in future jobs; assign Soldiers to Military Occupational Specialties (MOS) and jobs that better match their skills and abilities; retain an effective career force through improved strategies and behavioral incentives to influence Soldiers to stay in the Army for longer periods of time; accelerate the development of leader critical thinking and interpersonal skills through virtual practice so that junior leaders are more adaptable and prepared for uncertain, rapidly changing missions; develop innovative training strategies for complex battle command skills in network-enabled environments; and design training tools for dismounted squad leadership and team maneuver with ground Soldier systems technologies. Additional research is focused on training techniques and procedures that make it easier for trainers and training developers to rapidly respond to changes in mission or operational requirements and provide a more synergistic training and education process (e.g., automated and improved diagnostics, coaching and mentoring, performance measures, and feedback methods). This program leverages efforts and coordinates research with a number of other Laboratories and Research, Development, and Engineering Centers including, the Simulation and Training Technology Center (STTC), Army Research Laboratory - Human Research and Engineering Directorate (ARL-HRED), and the Communications-Electronics Research, Development, and Engineering Center (CERDEC). Research in this PE is related to and fully coordinated with efforts funded in PE 0603007/project 792.

The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

This project is managed by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI), Arlington, VA.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Personnel	4.596	6.295	5.372
Description: Investigate personnel behaviour and performance.			
FY 2010 Accomplishments:			

Exhibit R-2A, **RDT&E Project Justification:** PB 2012 Army		**DATE:** February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	**R-1 ITEM NOMENCLATURE** PE 0602785A: *Manpower/Personnel/Training Technology*	**PROJECT** 790: *Personnel Performance & Training Technology*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012**
Initiated research to validate temperament/personality (i.e., non-cognitive) measures to better predict Soldier performance in initial training; and investigated the use of non-cognitive measures for predicting attrition (i.e., dropping out) in pre-commissioning. The Army's current selection measures primarily focus on a candidate's cognitive (e.g., technical and analytical) ability which does not predict attrition, discipline, and motivation. ***FY 2011 Plans:*** Conduct longitudinal (i.e., multiyear) research to validate non-cognitive measures and the extent to which they predict a Soldier's on-going job performance and continued success in the Army. ***FY 2012 Plans:*** Will develop non-cognitive measures to identify potential successful Officers (e.g., awarding ROTC scholarships).			
Title: Training ***Description:*** Investigate and develop training methods and tools. ***FY 2010 Accomplishments:*** Developed tools for unit-developed individual/small group training based on near-real time knowledge elicitation; conducted field assessments of role-playing distributed simulations; analyzed methods for improving automated, diagnostic, and prescriptive tutoring systems to tailor training experiences; and investigated methods to maintain relevance of unit and institutional training. ***FY 2011 Plans:*** Research innovative training methods and technology based on learning sciences; refining tools/methods for rapid training development to increase relevancy and timeliness of training; designing and developing methods of diagnostic evaluation of individual and unit performance; and developing cost-effective concepts to integrate live and simulated training in emerging large-scale distributed environments. ***FY 2012 Plans:*** Will develop training performance measurement techniques for large scale-distributed training environments and for units training at home station; and will identify strategies to create training tailored to the individual Soldier needs.	8.126	11.229	9.322
Title: Leader Development ***Description:*** Investigate and develop leader development tools and strategies. ***FY 2010 Accomplishments:***	3.636	4.674	4.252

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 2: *Applied Research*	**R-1 ITEM NOMENCLATURE** PE 0602785A: *Manpower/Personnel/Training Technology*	**PROJECT** 790: *Personnel Performance & Training Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Assessed multilevel influence strategies and the extent these strategies improved adaptive leadership and negotiation skills and techniques; developed team training modules for rapid team building and team adaptability; investigated training strategies and design guidelines to promote appropriate trust and automation reliance in networked human system teams. *FY 2011 Plans:* Refining techniques and strategies for developing the influence skills of leaders, with particular focus on military advisory training (i.e., training those who are training international partners); developing and refining a model of multi-team system performance characteristics and effectiveness for joint, interagency, intergovernmental, and multinational (JIIM) teams; and developing measures of socio-cultural capabilities for operational environments. *FY 2012 Plans:* Will develop innovative methods to train skills to operate across a variety of cultures; and will identify emerging battle command and staff skills for full spectrum operations.			
Accomplishments/Planned Programs Subtotals	16.358	22.198	18.946

C. Other Program Funding Summary ($ in Millions)
 N/A

D. Acquisition Strategy
 N/A

E. Performance Metrics
 Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.