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Proceedings of the Annual Meeting of the Cognitive Science Society

Title

Human Dimension & Cognitive Performance

Permalink

<https://escholarship.org/uc/item/48r4m6t1>

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 30(30)

ISSN

1069-7977

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Publication Date

2008

Peer reviewed

Human Dimension & Cognitive Performance

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“No two persons are born exactly alike ... All things will be produced in superior quantity and quality, and with greater ease, when each man works in accordance with his natural gifts.” (Plato, The Republic, c. 360 B.C.).

Summary

The Army cannot afford to focus only on current operations as a predictor of the future. It must prepare people so that future forces can sustain operations in a time of persistent conflict. Current trends in the joint 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 and improvements in the cognitive components of the human dimension.

Approved Army concepts describe the employment of Soldiers in the future. The *United States Army Study for the Human Dimension*—approved on 11 June 2008-- 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 into the more subtle underpinnings of Soldier development. It 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 – and particularly under the stressors created by combat.

The linchpin of all US Army concepts, capability, or strategy is the individual soldier and how they perform with other soldiers in the accomplishment of missions. Humankind possesses the most variability across individuals than any other species. Differences exist in individuals' genetics, their environmental and social/psychological influences, and the complex genetic-psychological interactions--which influence virtually everything about an individual soldier. A variety of individual differences have been studied by psychologists and various relationships to cognitive performance have been established. Additionally, psychological determinants of soldier cognitive function include cognitive predisposition, prewar experience, and personality attributes such as 'hardiness'. These variables are important factors of resilience / vigilance which can influence or moderate the stress reactivity relationship.

There are many interactions between aptitude, temperament, and behavioral styles that may lead to differences in cognitive function, yet mapping these complex relationships has not occurred. For example, how temperament, physiological, and neurochemical differences contribute to adaptation and tolerance of military operational stressors is especially important to investigate. Furthermore, we need to understand how psychological factors and cognitive abilities interact to predict a soldier's mental and physical performance. There is little understanding of how these abilities progress through the lifespan in a manner relevant to the military, nor how these abilities may be modified depending on military training.