In the name of GOD

"Aspects of Military Neuroscience in Human Performance"

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1-summary:

Neuroscience is currently one of the most rapidly developing fields of science in the world. It is an interdisciplinary field that seeks to connect and integrate research fields in biology, genetics, physiology, chemistry, biochemistry, physics, psychology, psychiatry, neurology, philosophy and computer science(1) .Neuroscience can be divide to Fiber (neuron)-oriented branches (Neurogenetics, Neurobiology, Neurophysiology, Neuropharmacology), Function-oriented branches (Cognitive, Visual, Auditory&Vestibular,Affective) and Field-oriented branches (Behavorial,Clinical, Computational,Social). In special field-oriented branch of Military Neuroscience we mainly confined to the more tangible problem of examining how understanding and manipulation of the human mind can be used for military-strategic purposes (2) such as personel selection, promotion of performance, special learning, rehabilitation and many other research subjects in this branch.On the other hand human performance (simply is behavior plus results (P = B + R)(3) as a part of human augmentation(4) is very important subject in military environments because it has basic role in successful completion of the military operations.

2-Methods-Results:

In this research, we evaluated database of google scholar, pubmed, scopus and web of science for 2018-2022 by key words including: neuroscience, military neuroscience,human performance, military performance.Results of study as follows that human performance enhancement(HPE) in military environment can be affect by many neuroscientific methods in Fiber/Function/Field- oriented branches. For example gene modifications, artificial intelligence,internet of bodies(5),neural interface,neuroergonomics(6) and neuromodulatory drugs effect on military performance. In addition neuromedulatory methods such as TMS (Transcranial magnetic stimulation),tDCS(Transcranial direct-current stimulation) and ultrasonic neuromedulation are effective procedures in this way.

3-Coclusions: It seems military neuroscience as special field-oriented banch of neuroscience has extensive capacity in human performance enhancememt and on the other hand in reverse view, military neuroscience can effects on performance weakening or degradation in enemy forces.

4-References:

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