NEWS FROM OTHER JOURNALS AND WEBSITES

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News from other journals and websites

David A. Kaiser, PhD, Editor

Neurotherapy papers appeared in five other journals this last quarter. Authors are encouraged to submit recent preprints or reprints for this section and anyone can submit reviews or recommend websites. Contact David Kaiser at dakaiser@mail.rit.edu

Neurotherapy


Alpha/theta training produced replicable reductions in frontal beta activity.


Validates neurofeedback protocols for improving attention, memory, and performance in healthy participants.


A more recent neuroscience technology, electroencephalographic biofeedback, holds promise as a methodology for retraining abnormal brain wave patterns.


Brief overview of emerging interventions as to their success via medical standard. Neurofeedback is effective for ADHD, seizure disorders, anxiety, depression, and traumatic brain injury.


ADHD children (n = 86) underwent approximately 20 sessions of EEG biofeedback, enhancing 15-18 Hz relative power, and other components. Good performers acquired a positive evoked component over frontal-central areas as a result of training.

Reviews rationale for EEG biofeedback and examines empirical support for this treatment modality.


Initial support for improving brain injury and reading disabilities with neurofeedback.


Discusses medication-free, neurophysiologic, and self-actualizing treatment for substance use populations.


Electroencephalographic biofeedback can eliminate seizures or reduce the amount of medication required to control them.

**ELECTROENCEPHALOGRAPHY**


Reading was associated with high correlations in EEG indices within the right hemisphere in reading and writing impaired students.


Critical review of quantitative EEG research relevant to its clinical application. Includes a neurophysiologic model of ADD.

Planning dysfunction in heroin abusers is related to high alpha frequency shifts at central regions.


Using the ERP paradigm, cocaine-dependent subjects show augmented slow-positive waves in response to cocaine pictures compared to neutral pictures.


Marijuana decreases global theta power and responses in a working memory task were accompanied by reduced alpha band reactivity in response to increased task difficulty.


Cluster analysis to characterize interactions among many brain regions after sleep deprivation revealed a decoupling of neuronal activities between C3 and F7 location.


Increased frontal beta activity was correlated with med-related improvement on the Conners’ CPT and parental ratings. Decreased right frontal theta activity was associated with parent-rated attention improvements.


Trait anxiety and depression scores correlated positively with alpha activity and negatively with theta, suggesting a hyperarousal pathogenetic factor of anxiety.

A brain symmetry index may be used to monitor possible changes of brain function after stroke.

**CLINICAL NEUROSCIENCE AND OTHERS**


Chronic back pain is accompanied by brain atrophy and the pathophysiology of chronic pain includes thalamocortical processes.


The left inferior prefrontal cortex inhibits interference from prepotent representations during task-appropriate target selection. This is consistent with its role in behavioral inhibition.


Tutored dyslexic adults produce increased activity in left-hemisphere regions engaged by normal readers and right perisylvian cortical activity.


Marijuana users display persistent metabolic alterations in brain regions responsible for executive cognitive functioning and they may recruit alternative networks to compensate for this, possibly leading to maladaptive behaviors.

Review of latest research including pharmaceuticals, vagal nerve stimulation, transcranial magnetic stimulation, deep brain stimulation, and psychosurgery.


Total sleep time, sleep efficiency, percentage of slow-wave and REM sleep, and REM latency decrease with age in adults, while sleep latency, percentage of stage 1 and stage 2 and wake after sleep onset increase with age.


Both MDD and PTSD are associated with a dysregulation of the Hypothalamic-Pituitary-Adrenal (HPA) axis. Highlights the relevance of early stress to later onset of psychiatric disorders.


CFS yielded lower daytime activity and less regular activity-rest cycles


Chronic drug consumption results in a marked decrease in dopamine activity, associated with dysregulation of orbitofrontal cortex and cingulate gyrus.