

EEG Training: The Power of Neurofeedback

EEG training allows an individual to monitor his or her own brain behavior, making visible and discrete what is normally hidden and continuous. This transformation of the invisible to the visible allows anyone to alter the behavior of his or her own brain. Without technological assistance, brain behaviors would be simply too subtle or ambiguous for proper detection and training (i.e., operant conditioning). This is the strength of neurofeedback – operant conditioning of psychophysiological responses beyond the level of normal (unassisted) observation. EEG biofeedback acts like a telescope to the mental sky.

Behavioral and mental states such as mathematical processing, reading, or relaxation are believed to consist of unique and distinct perceptual and cognitive operations and every mental operation has its own unique EEG profile – that is, a unique pattern of rhythmic activity in various parts of the brain. This concept is the foundation of functional neuro-imaging including functional magnetic resonance imaging (fMRI), a popular method of investigating cerebral blood flow.

Running on a treadmill helps a physician determine how well a patient's heart handles work or stress. Continuous attention tasks are often used to reveal processing deficits in attention deficit hyperactivity disorder (ADHD) children and executive control and inhibition tasks for identifying disturbances in the frontal lobe. When we evaluate children we have to take into account a degree of neurological immaturity. Most of the energy of an infant's brain resides in the slow-wave delta rhythm and more than a decade of development may pass before an adult brainwave pattern emerges. Theta rhythms are prominent in many children diagnosed with ADHD because this reflects the immaturity of the ADHD brain. Theta rhythms in an adult or non-ADHD teenager often indicate brain-injury or neurological disease.

Many psychiatric and neurological conditions manifest themselves more as disturbances in brain connections than as local damage or disorder. Therapy can focus on restoring activity to isolated brain areas or focus on re-establishing brain networks. Through trial and error any individual gradually develops mental strategies that modify his or her brain rhythms so as to maximize reward and in so doing alter these rhythms for the better. Neurofeedback works at the level of one's will, as in will power. An individual explores what is and what is not healthy willful behaviors, however indirectly, through the impact one's will has on one's brain rhythms. The brain is enormously plastic in terms of function as well as

structure and is capable of altering neural pathways in response to reward. Much like our body, our brain also responds to exercise.

Neurofeedback provides one of the best forms of exercise – regulatory practice, the brain practicing at regulating itself toward empathy, compassion, relatedness and creativity. For more information on neurofeedback and its effects on resilience, regulation and recovery, call our office at 752 6634, or visit our new website: www.Neuro-Gnosis.com.