A · R · H · P
EMPOWERING HUMAN RESOURCEFULNESS

Epilepsy and Music

Recent research in a 2015 paper presentation from a conference of the American Psychological Association is showing improvement in endogenous brain synchronization in epileptic patients when listening to music. If the epileptic brain is creating symptomology because of a lack of internal coherence could the external source of sonorous coherent rhythm be acting as an external oscillator for the brain to synchronize to?

Appropriate and balanced synchrony is one of the missing elements in the brain of an epileptic patient. Appropriate synchrony creates balanced neural firing that leads to appropriate activity in the brain. In the brain of an epileptic during a seizure the brain becomes over synchronous, the firing loops and can't stop, leading to seizure.

In the above study 21 asymptomatic subjects and 21 subjects with epilepsy listened to music while the brain waves were observed through EEG. The EEG recorded the brain of both groups during moments of silence as well. The music order was randomized between subjects and varied (Mozart, John Coltrane and more). The research found that the music produced greater activity in both groups. Interestingly the music produced an even greater change in the epileptic group.

The reason the researchers looked at how music effects the brain is because music is processed in the temporal lobe in the same area of dysfunction for 80% of epileptic seizures. Epilepsy has also been grouped with a few other conditions that have a similar neurologic presentation. Among these are autism, Alzheimer's, Parkinson's and schizophrenia. In this group of conditions researchers have observed that oscillation in beta and gamma waves demonstrates dysfunction in all of these conditions during a pathologic neurological event such as a seizure.

Shared by: Brian Dickert - Network Spinal Analysis Practitioner - 434-227-7149 - briandickert.com

A 2006 article in the journal Neuron states "The data suggest close correlations between abnormalities in neuronal synchronization and cognitive dysfunctions, emphasizing the importance of temporal coordination." Temporal coordination of neural synchronized oscillators? This sounds like a job for the Somatopsychic Wave!

Research in Network Spinal Analysis shows that there is entrained oscillation in the nervous system occurring during a spinal entrainment and that this entrainment of the spinal oscillators reorganizes the nervous system at a higher level of complexity.

Interestingly the beta and gamma portions of the EEG are most associated with brain activity around stress and multi-sensory inputs. If the nervous system of a person with one of these disorders is unable to handle the input it is receiving and that causes the brain to lock into a synchronous over firing leading to seizure then Reorganization is exactly what they need. The reorganization will allow for a number of things. The first is a greater efficiency in the nervous system so that stressful situations will be less likely to bring them threshold where a seizure occurs. The second is a more robust coordination of neural oscillators and synchronization.

The mechanism for this is the Somatopsychic Wave which acts as a Central Pattern Generator (CPG). A CPG is responsible for creating movement and behaviors in the nervous system. From this perspective we can see that the epileptic seizure may be a neurological behavior that simply requires less stress response, and more neural efficiency and coordination at a higher level of complexity.

Links:

http://medicalxpress.com/news/2015-08-scans-brainwaves-epilepsy-synchronize-music.html

http://www.apa.org/news/press/releases/2015/08/music-epilepsy.pdf

https://en.wikipedia.org/wiki/Electroencephalography