

Inducing Neuro-linguistic changes in human brain to improve the efficiency of human being

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Abstract- The potential of the right brain like Intuition, Creativity, Sensitivity can be achieved by the generation of Alpha & delta waves in the human brain. It helps human beings to be efficient in their physical, mental & spiritual welfare & helps the human beings in day to day life to be healthy, lovable, intuitive, emotional balance, creative & make them a better decision maker. It is the technique of fine tuning the frequency of our thoughts to the most subtle frequency. This can be achieved by the change of the Neurological setup in the brain by making the neuron to fire & wire each other making them to communicating with each other. Change in the Neurological setup can be achieved by the practicing the Heartfulness meditation, exercises to increase the ability of brain to regenerate neurons, left and right brain synchronization exercises, exposure to Brain waves oscillation, music to enhance brain connections, eyeball exercises to enhance the neuronal circuits & by activities for sensory augmentation.

Keywords- sensory augmentation, Delta Waves, Brain Functions

I. INTRODUCTION

Stress results from one's response to the disturbances in one's emotional and physical environment. How an individual responds towards that disturbance paves way for stress. If the event is perceived as challenging, it becomes a motivation and results in positive outcome. Whereas, if the disturbance is perceived as a threat, it ends in anxiety, depression and emotional stress. In general, overstress ends with failure, discomfort and negative outcomes in one's health. By practicing these brain stimulating exercises and Heartfulness Meditation helps in improving the efficiency of the both the brain activation. This helps to increase the joy and harmony inside us and also parallelly to get rid of stress. This change in Neurological setup of the brain helps the human beings in day to day life to be healthy, lovable, intuitive, emotional balance, creative & make them a better decision maker.

Researchers have noticed a change in brain wave patterns in meditators as compared with non-meditators. Each frequency of wave is associated with a different type of brain function. Beta waves reflect typical, conscious thought and mental alertness. Alpha waves indicate a state of relaxation, while theta and delta waves are associated with sleep. Long-term meditators show high levels of gamma

waves in the brain, especially in the prefrontal cortex. Gamma waves are high frequency brain waves that are associated with active thought, learning, memory, and intelligence. In meditators, these waves show increased levels and speed of synchronization across neurons, suggesting that the brain cells are working together more efficiently. This improved neural synchronization results in more effective transmission of information. The experience for the meditator is greater mental focus and clarity. There are numerous ways that meditation can improve a person's everyday experience of life. Neuroscience has just begun to show us some of the underlying changes that occur in the brain as a result of meditation. There is still much more yet to be discovered.

In this paper we will be describing about Different kinds of brainwaves and its frequencies, Functions of right brain, left and right brain synchronization exercises, exposure to Brain waves oscillation, music to enhance brain connections, eyeball exercises to enhance the neuronal circuits and doing activities for sensory augmentation. We are doing all these exercises and heartfulness Meditation is to fine tune the frequency of our thoughts to the most subtle frequency. During this process there will be change of the Neurological setup in the brain by making the neuron to fire

& wire each other making them to communicating with each other.

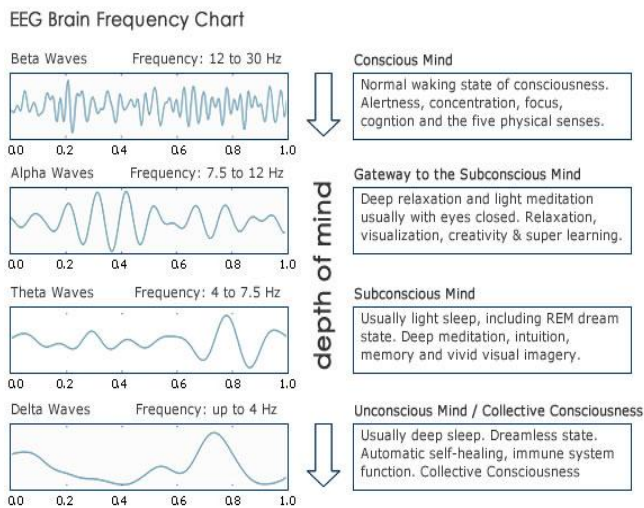


Figure I- EEG Brain Frequency chart
[www.healing4happiness.com]

II. BENEFITS OF INCREASING DELTA WAVES IN BRAIN

Delta Waves

These are the slowest recorded brain waves in human beings. They are found most often in infants as well as young children. As we age, we tend to produce less delta even during deep sleep. They are associated with the deepest levels of relaxation and restorative, healing sleep. They have also been found to be involved in unconscious bodily functions such as regulating heart beat and digestion. Adequate production of delta waves helps us feel completely rejuvenated after we wake up from a good night's sleep. If there is abnormal delta activity, an individual may experience learning disabilities or have difficulties maintaining conscious awareness (such as in cases of brain injuries).

Delta waves is a high amplitude brain wave with a frequency of oscillation between 0.5–4 hertz. Delta waves, like other brain waves, are recorded with an electroencephalogram (EEG) and are usually associated with the deep stage 3 of NREM sleep, also known as slow-wave sleep (SWS), and aid in characterizing the depth of sleep.

Delta brainwave are the brain's slowest frequency range cycling at a rate of 1-4 times per second (e.g. 1 Hz – 4 Hz), but are the highest in amplitude and are responsible for the slowest form of mental processing. Like other slower brainwaves patterns, delta brainwave are generated in the

right hemisphere, though they may be observed in widespread patterns throughout various parts of the brain. Delta brainwave become active in your brain when you are in the deeper stages of sleep (e.g. stage 3 and stage 4). If you've ever woken up and felt irritable, unconscious, confused, or disorientated, you likely woke up during your delta stage of sleep. They are associated with being completely unconscious (i.e. you usually won't know or remember anything while Delta brainwave are dominant).

People with high amounts of delta brainwave have been found to have increased empathy (or understanding of others' emotions) and access to the unconscious mind. Individuals who are therapists, guides, teachers, and those into professions which involve *helping others* tend to have delta brainwave while awake. It has been said that this *unconscious brainwave* give them more understanding and access to other individuals' mental and emotional state.

Release of Anti-Aging Hormones

One of the associated benefits of increasing your delta brainwave is the release of anti-aging hormones. The delta brainwave pattern stimulates the release of melatonin and DHEA, the powerful anti-aging hormones. The delta brainwave are also associated with decreased levels of cortisol, a hormone linked to stress that has been scientifically proven to speed up the aging process.

State of Empathy

Delta brainwave can provide you with the ability to read other peoples emotions and determine their feelings at unconscious levels. In healthy amounts, delta brainwave cause a person to have an advanced state of empathy, understanding, and compassion for others. If you are always able to relate to others and can read other people's minds, you probably have more delta than the average person. If you find yourself getting into trouble for not being considerate enough or for stepping on other people's toes, you may have less overall delta brainwave activity.

Extreme-bliss

Advanced meditation practices and yogic traditions have associated the delta brainwave frequency range with a feeling of all-encompassing bliss. Since most people aren't able to consciously experience the delta brainwave state, it may be tough to feel extreme bliss from the delta waves like the yogis, monks, or advanced meditators. With that said, there have been people that have testified to feeling the bliss associated with the delta wave while performing extremely deep meditation.

Advanced Healing of Body and Mind

The delta brainwave rhythm is known to completely rejuvenate, replenish, and heal the entire body and brain. The delta brainwave revives the body after a hard day by regenerating necessary chemicals while a person is asleep. Due to the deepest levels of relaxation that the delta wave provides, the body and mind are easily able to restore themselves after minor stress, a rigorous workout, or after boosting your brain power.

Human Growth Hormone (HGH) Release

The delta brainwave is associated with the stimulation of the pituitary gland, which in-turn, is able to release human-growth-hormone (H.G.H.). It doesn't release enough for you to skyrocket in height and weight. The delta wave will not provide adults with a second version of puberty. With that said, there is evidence that it does release slight amounts of H.G.H. in certain individuals. If you are looking to increase your H.G.H., you should definitely consider using delta brainwave entrainment and evaluate how it works out for you.

Connection with Unconscious Mind

Though the alpha and theta wave are capable of bridging the gap between conscious thoughts and the subconscious mind, the delta wave allows us to connect deeper. It allows us to connect with the deepest possible level of our consciousness. The goal of many meditation practices is to experience and consciously control the unconscious mind. The subconscious mind, or our brain's right-hemisphere, becomes activated when slower brainwaves like alpha, theta, and delta waves kick in. If you spend too much time in beta, it may feel incredible to finally relax and give yourself a chance to connect with your deepest sense of awareness.

Deepest Possible Level of Mind and Body Relaxation

Delta wave while a person is conscious or awake, are extremely rare. However, advanced meditators and infants, are 2 groups of people that are able to enjoy the deeply relaxing benefits of the delta wave. The delta wave is associated with extreme relaxation, yet completely unconscious mental processes.

Perfect Intuition

Ever have a powerful gut-instinct that helped you make a good decision? Or a gut-instinct that you should've followed? If we get ourselves too caught up in the upper brainwave patterns of beta, our intuitiveness becomes

severely damaged. As you increase your theta brainwaves and your delta brainwaves, your intuition will increase and so will your ability to recognize the feelings in your "gut." There are some disagreements as to whether or not the theta brainwave patterns are better for intuition vs. the delta brainwave patterns, but most research suggests that if you can become consciously aware in the delta brainwave state, you will have a nearly perfect sense of intuition.

Connecting with the Spiritual Body

Many consider the delta wave to bridge the conscious mind with higher planes of reality, the subconscious mind and the unconscious mind. Advanced spiritual gurus have considered the lowest brainwave pattern, delta, one that connects their spirit and their body to a universal life energy. Becoming consciously aware of experiencing the delta brainwave frequencies has been associated with the deepest sense of spirituality, highest sense of internal awareness, and feeling directly connected to a Higher Power.

Paranormal Experiences

People are especially open to O.O.B.E.'s (Out Of Body Experiences), astral travel, connecting with spiritual beings (i.e. "spirit guides," "angels," etc.), and other phenomenon in the delta brainwave range. Though most paranormal and psychic experiences can be argued to be real or fake, there is evidence that most people tend to have them when their brain is producing higher than average amounts of delta, and /or theta brainwaves. Though spiritual experiences and phenomena are commonly experienced in the theta brainwave state, the delta brainwave state has been associated with many too.

Boost Immune System

Increasing your delta brainwaves can lead to a boosted immune system due to the fact that delta brainwaves are associated with age-reversal or slowing, the production of healthy hormones, and significantly decreased amounts of stress. Increasing your delta brainwaves can lead to a boosted immune system due to the fact that delta brainwaves are associated with healing and rejuvenation of the body. Stress and too much anxiety can do harm to the immune system by releasing harmful chemicals such as epinephrine (adrenaline) and too much of the hormone: cortisol, associated with the adrenaline release. The delta brainwave releases pleasant chemicals and neurotransmitters to help keep your immune system at arguably its highest rate of performance.

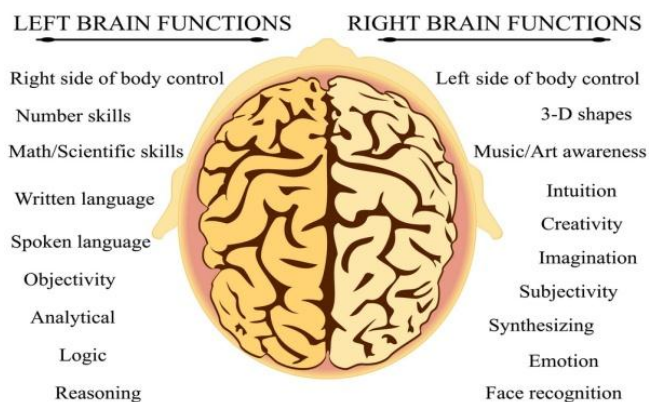


Figure-II Left & Right brain Functions

III. RIGHT BRAIN FUNCTIONS

Creativity

People with right-side brain dominance are thought to be more creative. They excel at pursuits that involve fantasy or creation, such as songwriting or drawing. As children, they may have loved art or music classes. In contrast, people with left-side brain dominance deal with reality and have a hard time using their imaginations.

Vigilance

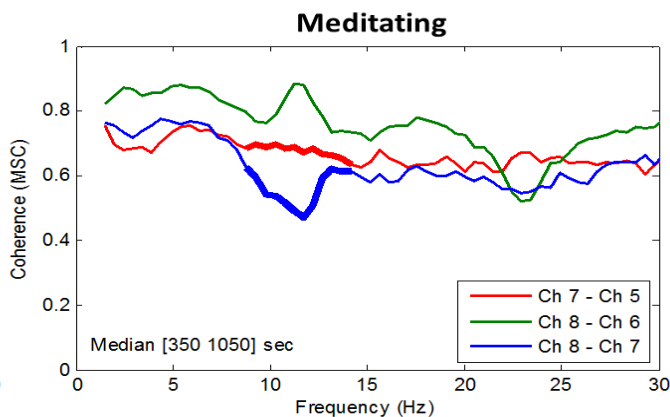
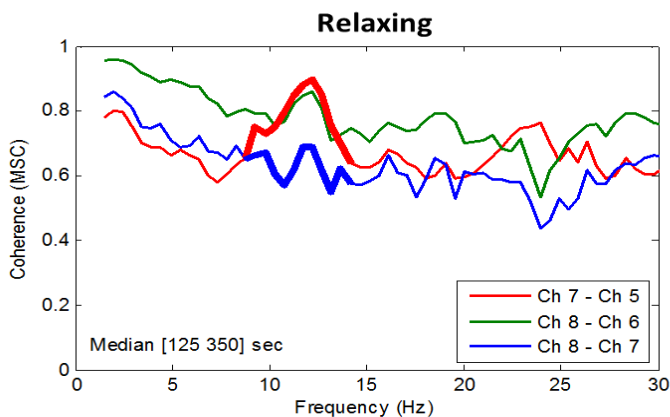


Figure-III- EEG graph for relaxing & Meditating state [www.healing4happiness.com]

Ability to See Big Picture

According to a scientist at Middle Tennessee State University, the right side of the brain looks at the "big picture." This is helpful with projects and problem-solving. People with right-side brain dominance have a better sense of Based on the research, following are few activities conducted for the children during the BM program.

According to an article published by the National Institute of Neurological Disorders and Stroke, the right brain maintains a vigilance and sends out warning signals in times of danger. In contrast, the left brain analyzes the circumstances of a given situation and works logically to decide what to do.

Intuition

The right side of the brain seeks meaning in situations. Decisions tend to be based on gut feelings, intuition or emotion. This is because the right brain heads straight to the answer to a problem, instead of factually investigating it. In contrast, people with left-sided dominance consider facts and logic to make decisions and may miss what their intuition tells them.

Hands-On Learning Ability

Right-sided brain-dominant students thrive in hands-on learning environments. They learn better by working in groups. According to Neuro Skills Centre, the right side of our brain is better able to recall and interpret things that are actually seen and done (versus things one reads about or is told about). In contrast, students with left-side brain dominance work better by listening to a lecture and working quietly on their own.

where one object is in relation to another. They also sense the position of their body which helps them in sports such as running hurdles. In contrast, the person with left-side brain dominance may have less physical coordination.

IV. EXERCISES TO INCREASE THE ABILITY OF BRAIN

- ✓ Exercises to increase the ability of brain to regenerate neurons
- ✓ Left and right brain synchronization exercises
- ✓ Exposure to Brain waves oscillation Music to enhance brain connections
- ✓ Eyeball exercises to enhance the neuronal circuits
- ✓ Activities for sensory augmentation
- ✓ Enriched learning environment

Specific activities or interventions and their effects on neuroplasticity have been well established.

The eyeball exercises and hand coordination exercises are used to enhance the neuronal circuits between the right and left hemisphere, which are connected to each other by a brain structure called Corpus Callosum thereby enhancing overall brain functions.

- ✓ The process of making the brain waves oscillate with the help of an outside stimulus is called "Entrainment" and certain auditory beats are used for this purpose. Extremely low-frequency music can stimulate and enhance the brain connections. Using the process of entrainment the brain waves are brought to alpha and theta states which is better adapted for learning and memory.
- ✓ By encouraging the participants to be involved in activities that mask one's sensory input, we are indirectly encouraging them to use other sensory inputs that are still unmasked and working, and in that way develop their perceptual and intuitive ability.
- ✓ Specially designed physical exercises stimulate Neurogenesis, the ability of the brain to regenerate neurons. Exercise also enhances production of glutathione which is major antioxidant in all our cells, protecting brain cells against free radical damage.
- ✓ There is growing evidence to suggest that relaxation techniques help in stress, anxiety and pain management. Exercises can bring alterations in

brain function and cortical thickness, and decrease the aging of the brain to stimulate Neuroplasticity and brain wave changes that result in enhanced brain cognitive abilities and efficiency.

V. RESULTS BASED ON THE SURVEY [1]

Students from different disciplines such as engineering, arts and science in Chennai who have shown interest in participating in the live Masterclass Meditation sessions on Heartfulness meditation conducted across the world on February 1st, 2nd and 3rd of 2017 were included in this study[1].

Median age of the study participants was 19 years (range, 15- 24 years). Of the 848 participants, 61.3% were females and 38.7% were males. Overall, 59.8% of the respondents were adolescents and the rest 40.2% were adults. In females, the mean decrease in overload, worries, tension and harassment score and the mean increase in Joy score AFTER MEDITATION compared with that of BASELINE were statistically significant at p value <0.05. In males, the mean increase in Joy score AFTER MEDITATION compared with that of BASELINE was highly significant at p value of 0.00 the mean increase in Joy score AFTER MEDITATION compared with that of BASELINE was highly significant at p value of 0.00. Paired t-Test This test was carried out to determine whether the mean decrease in overload, worries, tension and harassment scores and increase in joy scores between Baseline Vs After Meditation was significant in the entire study population.

To examine the issue of comparable scores, the null hypothesis was evaluated. $H_0: \mu_{\text{baseline}} = \mu_{\text{after meditation}}$ i.e., there is no significant difference in mean score between the BASELINE and After Meditation. Reduction in the stress subscales such as overload, worries, tension and harassment and increase in joy was statistically significant at p value <0.05. Therefore, the null hypothesis is rejected- that is there is significant difference in mean values and it can be assumed with 99.9% confidence that the observed change in the stress subscales and joy score from BASELINE to AFTER MEDITATION was significant. Based on this survey we can say that this Heartfulness Meditation helps in removing the stress, negativity and also parallelly it increases the joy within and to become optimistic

VI. CONCLUSIONS AND RECOMMENDATIONS

Conclusions drawn from the findings are irrefutable fact that meditation is effective in reducing stress. But, making a person to get settled in meditation is the real challenge. In general, greater the disturbance in mind, longer will be the time required to feel calmness through meditation.

These Heartfulness Meditation & brain exercises offered a bundle of simple strategies to help the participants get settled in deeper states of inner faster[1]. These worked in perfect synergy.

This multipronged systematic approach, provided as practical walkthrough sessions with real time guidance, appears to be the most important reason for such a significant reduction in stress in such a short time. By practising these brain stimulating exercises and Heartfulness Meditation helps in improving the efficiency of the both the brain activation. This change in Neurological setup of the brain helps the human beings in day to day life to be healthy, lovable, intuitive, emotional balance, creative & make them a better decision maker. we suggest all human beings to get benefited by these practices in their day today lives.

Some Recommendations Based on the Study and Analysis.

1. It is strongly recommended that meditation be accorded a status of science and recognized as an important discipline of the Yogic sciences at all educational organizations.
2. More research is warranted considering the importance of this science in the future and its applied role in management needs to be fully researched in depth.
3. Meditation and Spirituality should become a part of training not only of managers but all academic and professional courses and people specifically trained in the same need to be developed.
4. The management training needs to be re-structured to make it more value oriented and spirituality and self-development should become the basis of it rather than pure materialistic approach.
5. The managers of future will have a multiplicity of roles to play, one of them being role models and leaders of humanity. This is a very serious responsibility placed on them. India has a vast spiritual and scientific wealth in the form of Yoga, which could provide the necessary tools for the training of these managers in their new roles.
6. Many thinkers in the past as well as present have proclaimed India's capacity to become a role model of self as well as societal developmental activities, it is felt that time has come for India to assume that role and responsibility.
7. There is hence tremendous scope for further studies in the aspects of meditation as well as the entire yogic sciences and relate them to the modern sciences so as to derive maximum benefit out of them.

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