

Did You Know a Binaural Beat Can Affect Your Brainwave Activity?

Yes it's true!! Different sounds can be composed to create different brainwave states. In this article I will explain what a binaural beat is and how it causes your brain activity to change. I will also go over how this sound technology is being used to treat insomnia, stress, and depression among many other illnesses.

So what exactly is a Binaural Beat? It's when two sounds of nearly the same frequency are presented one to each ear. This produces a sensation in your brain of a third sound, which is called the binaural beat. To create a binaural beat one must be listening to the sounds through stereo headphones. For example if one ear receives a sound at 100hz frequency and the other ear receives a sound at 107hz frequency the brain will create a binaural beat at 7hz frequency. This will affect brainwave activity, because your brain will "follow" the binaural beat. So if the binaural beat is 7hz, your brainwave activity will increase by 7hz. (1. Monroe Institute)

It's important to know the different brainwave states before you can really understand what the benefits and uses there are for binaural beats. There are 5 different brainwave states that a person can be in at any given time. They are Gamma, Beta, Alpha, Theta and Delta. During each state your brain is producing electrical activity which can be measured by certain biofeedback devices.

Gamma waves are measured at 27hz and up. They are associated with the formation of ideas, language and memory processing, and various types of learning. Gamma waves have been shown to disappear during deep sleep induced by anesthesia, but return with the transition back to a wakeful state.

Beta waves are measured at 12hz-27hz and this is the brainwave state when you are wide awake. This is generally the mental state most people are in during the day and most of their waking lives. Usually, this state in itself is uneventful, but don't underestimate its importance. Many people lack sufficient beta activity, which can cause mental or emotional disorders such as depression and ADD and insomnia. Also low SMR production (a sub-range of beta at 12-15hz) may be related to insomnia. Stimulating beta activity can improve emotional stability, energy levels, attentiveness and concentration.

Alpha waves are measured between 8hz-12hz and is the state at which you are awake but relaxed and not processing much information. When you get up in the morning and just before sleep, you are naturally in this state. When you close your eyes your brain automatically starts producing more alpha

waves. Many studies monitoring the EEG activity of experienced meditators have revealed strong increases in alpha activity. Alpha activity has also been connected to the ability to recall memories, lessened discomfort and pain, and reductions in stress and anxiety.

Theta waves are measured between 3hz and 8hz and are associated with light sleep or extreme relaxation. Theta is also a very receptive mental state that has proven useful for hypnotherapy, as well as self-hypnosis using recorded affirmations and suggestions.

Delta waves are measured between .2hz and 3hz and are associated with deep dreamless sleep. When your dominant brainwave is delta, your body is healing itself and “resetting” its internal clocks. You do not dream in this state and are completely unconscious.

Now if only we could influence these brainwave states we would then be able to reap the benefits that each state offers. The good news is we can. This is where binaural beats and other brain entrainment techniques can be used to induce certain brainwave states and train the brain to be in each state for a given time. There are many meditations composed with binaural beats embedded in the soundtrack to help a person spend time in each brainwave state. The benefits of allowing your brain to spend time in the Gamma wave state are that you will improve your mental processing speed, gain an increase in freedom from distractibility, and increase your visual short term memory and sequence ability, as well as decrease of migraine frequency. The benefits of allowing your brain to spend time in the Beta brainwave state are that you will see an increase in verbal/reading skills, and academic achievement. As well as reduced fatigue and improvement your attention and focus. The benefits of spending time in the Alpha brainwave state are a decrease in pain and discomfort, stress and anxiety reduction, and memory improvement. The Theta brainwave state is linked to less anxiety and deeper hypnotic states. Delta brainwaves help with reducing anxiety, getting rid of headaches and improved sleep. (www.transparentcorp.com)

Many of us don't spend enough time in one or more of these brainwave states and this is when the problems start arising. It could be insomnia, migraines, lack of concentration, even a hard time remembering things could all be caused by not spending enough time in a certain brainwave state. So by training your brain to be in a certain state using binaural beats you can start to improve certain areas of your life. Biosound Technologies is using binaural beats to help those suffering from addiction. Their biofeedback/music therapy system has several music compositions that are embedded with binaural beats to help the clients overcome many of the symptoms listed above.

References

The Monroe Institute www.monroeinstitit

Transparent Corp [HYPERLINK "http://www.transparentcorp.com/products/np/brainwaves.php"](http://www.transparentcorp.com/products/np/brainwaves.php)

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