

CENTRAL YORK HIGH SCHOOL

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Neurology Behind Music

A thesis submitted in partial fulfillment of the requirements for the

Apollo English section

By

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The purpose of this study was to learn about neurology behind the music.

“I think music in itself is healing. It’s an explosive expression of humanity. It’s something we are all touched by. No matter what culture we’re from,” ~Billy Joel

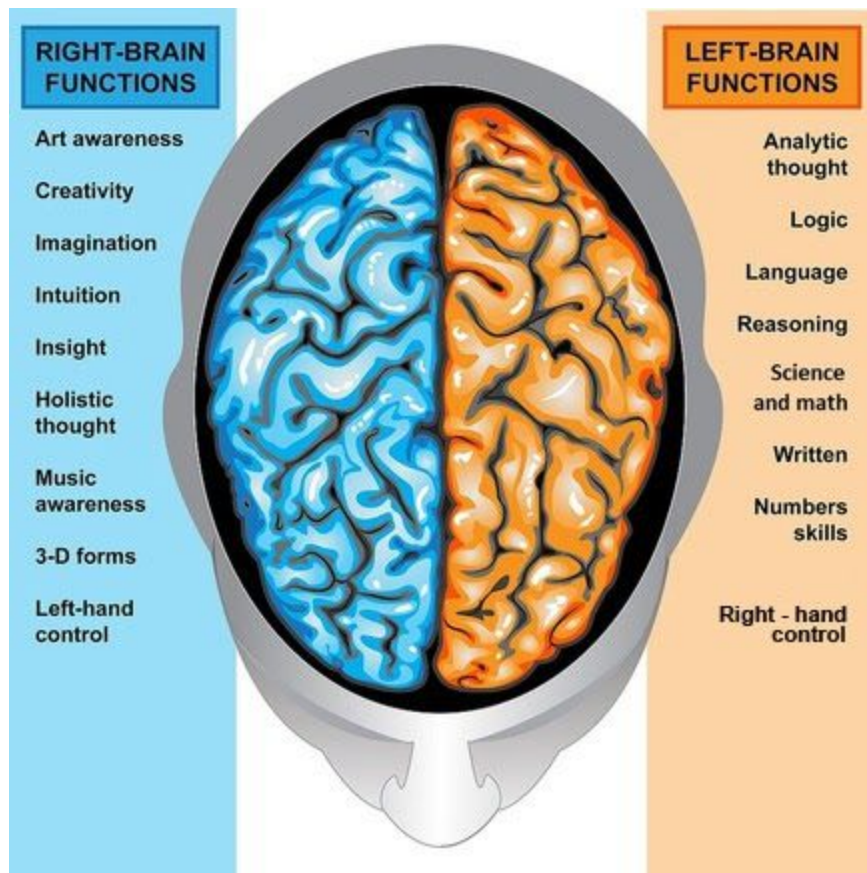
Music has been around for millions of years; dating back to prehistoric ages. Some of the earliest instruments were our hands, feet, voice, sticks, and rocks (Method). Music is used for many things from; entertainment to freedom of expression. Did you know, music can affect your brain in many different ways? This paper will prove the power of music neurologically.

Many people may argue that music is unimportant. People may say that music is boring and a distraction to their work. Music can be boring as it acts as just noise to them. This applies when someone wants to learn an instrument. Adults may think music is unimportant because teens and young adults stopped actively listening to music and instead use their phones. (Guttenberg). For instance, 96% of the United States of America own a cellphone of some kind (Demographics). Some adults think that teens are too invested in their phones rather than, in their music. A reason that some people may think that music is unimportant may be caused by a neurological condition called, Musical Anhedonia. This is the lack of those who find it hard to enjoy music (Abhat). It’s not that people with musical anhedonia does not like music, they just don’t listen to it. For instance, Molly Folkert has musical anhedonia. She doesn’t listen to music on her own time because she just doesn’t enjoy it. Instead, she says, “Mostly I watch movies if its math homework.” Molly described a sound called, white noise. This is natural background noise; other forms of this are Rain sounds,

Thunderstorms, the crackling fire in the fireplace, amazon rain forest, the running air conditioning, and even traffic noises (Music).

~~Whether you think music isn't important, boring, or just can't enjoy it~~

The Human brain is the center of our nervous systems making up of 100 billion nerves and 1000 trillion connections; weighing about 3 pounds or 1.5kg. The brain enhances the sense of vision, hearing, balance, taste, and smell. The brain has 3 different parts, which include; forebrain, midbrain, and hindbrain (Disable). The brain has 2 hemispheres, the left brain, and the right brain. The left brain is considered to be the logical side and the right is the creative side. The Right Hemisphere functions are Responsible for the control of the left side of the body. The Right side is the more artistic and creative side of the brain. The left Hemisphere functions are responsible for the control of the right side of the body This side is more academic than the right (Hemisphere).



"Hemispheres: Left & Right Hemispheres Roles, Facts & Information." *Brain Made Simple*, 26 Sept. 2019, <https://brainmadesimple.com/left-and-right-hemispheres/>.

When listening to different types of music you can react in many ways. For instance, research at Drexel University in Philadelphia showed that; music therapy and pre-recorded music reduced the pain of cancer, intensive care, geriatric patients; if they played Classical or meditative musical pieces (Chappel). Dopamine is a neurotransmitter that “helps us strive, focus, and find things interesting,” (Bhandari). In this case, Dopamine plays the role of cognitive, Emotional and Behavioral functions (Dolan).

Music is important because It enhances your brain functioning. For instance, music can improve your memory. Your brain has many places where memories are stored. One place, in particular, that we’ll talk about is called the hippocampus. The hippocampus “...files memories

and stores select short-term memories into long-term memories,” (Limbic). A song can cause you to think back to memories of the brightest or darkest times of your life. Music in adolescents years is very impactful. Songs and strong emotions are connected to a memory we experience (Lukin). During the adolescents years, our brain changes and the songs we enjoy the most are gravely into our memories due to the strong emotional connections our brain makes with them (Lulkin). Not only does music impact adolescence brain but it also affects older people. Music has been found to restore parts of the brain, and studies have shown that music enhances the memory of Alzheimer’s and dementia patients (Lucas). Music helps patients with Alzheimer’s and dementia by relieving them of stress, reduce anxiety and depression (How). The part of the brain that causes sadness, anxiety, fear, anger, and aggression is called the amygdala. The amygdala is located in the front part of the temporal lobe, part of the brain. On Study.com, “The amygdala helps to store memories of events and emotions so that an individual may be able to recognize similar events in the future.” There is an organization called, Music and Memory. This is a non-profit organization that brings music into the lives of the elderly or unwell patients through music and videos to improve Life’s quality.

Another reason why music is important. It is because this allows us to express ourselves in society. Music in our society plays a big role. Take this as an example, I listen to a bunch of different music from classical music to rock. Every genre affects the brain in many ways. Such as rock music. Did You know that rock has positive effects on your brain? Often times rock music is seen to be negative and harsh for someone to listen to. But their positive effects; some include, (Ycaza). “Whether it’s rock ‘n’ roll, jazz, hip-hop or classical, your gray matter prefers

the same music you do. “It depends on your personal background,” Yonetani says,” (Music and Brain). To clarify, depending on your experience you have with a certain type of music will be the, in turn, may the effect positive or negative. My personal experience with rock is positive. This is because of not only my personal experiment Dopamine and serotonin (Kuczy).

In summary, neurology behind the music is not some conversation starter. Music has many connections within our brains. This Paper showed the importance of music in a neurological context. All in all, Music is important.

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