

Melody

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I started this journey by researching music and its impact on the mind, body, and soul. Since I have personally felt the many positive attributes of listening to music and playing instruments, I began to wonder if there are proven facts surrounding music and how it changes us. Through my study, I found that listening to music or playing an instrument for an extended period of one's life has beneficial contributions to the everyday experience of living. Professional musicians have more symmetrical brains compared to people who don't play instruments and many parts of the brain are larger. Music also helps students learn and deal with demanding situations. Music provides a relief from cognitive dissonance, a way to deal with emotionally stressful moments. Cognitive dissonance is the uncomfortable feeling that occurs when one of our core beliefs is challenged. Once music helps us through this feeling, we become more open, leading to fresh, challenging ideas, acceptance, and emotional growth. These intellectual benefits make it easier to learn new concepts. This phenomenon extends outside of academics to other aspects of life, such as the soul.

The soul holds deep raw emotions; the soul stores much more than simple information and it can evoke sensations within our body. It is where we keep our most obscure, heartfelt, and passionate feelings. Sometimes it holds our pain and fears, but it can also contain our most joyous sentiments. For some, it is hard to hold onto one part of the soul when other factors are pulling them away. My anxiety often pulls my focus from the things I truly care about, the things that make me feel whole, and I must fight it to feel like myself again. Whenever I feel my anxiety or depression begin to worsen, I like to play my favorite songs, mostly slower songs to increase positive thoughts. Music helps reduce anxiety levels and is shown to decrease heart rate, blood pressure, and stress hormones. Listening to music can lower depression rates by 19 to 20 percent, while increasing feelings of power and positive self-esteem. I personally have felt these effects of music. Mostly, I like to know that I'm not alone in whatever I am going through. These impacts of music continue to heal and touch our souls.

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Music has been a part of my life for as long as I can remember. I have always been drawn to it, from the time that I joined my church choir, to my first concert, to now. As I grew up, I continued to love music, and it became my dream to make music that could impact others as many musicians do for me. Music is something I turn to when I need to return to reality. When I am feeling anxious or down, I play my favorite songs until I feel calm. All music, especially live music, can make us feel excited and happy again. Music is powerful because of the many ways it contributes to healing. Music touches the mind, body, and soul.

Playing an instrument has proven benefits for our minds. Professional musicians have more symmetrical brains compared to people who don't play instruments or people who don't listen to much music. Many parts of the brain are larger than the regular persons, such as the primary motor cortex, primary auditory cortex, parietal lobe, and the corpus callosum¹. Because musicians are constantly using their auditory skills, they are able to hear better, similar to the idea of "use-it-or-lost-it". When in a crowded room, the musician is able to hear more accurately and are able to notice the smaller details like auditory signals². Thus, being greatly involved in music can help defend against hearing loss due to age. As well as improving the brain itself, music is also capable of helping us learn. Through music, skills in areas such as language, mathematics, and testing are all enhanced. Two different tests have shown how powerful music is for students. In 2011 Dr. Katrin Hille, Dr. Killian Gust, Dr. Ulrich Bitz, and Dr. Thomas Kammer conducted a study called *Associations between music education, intelligence, and spelling ability in elementary school*. 194 young school boys took tests in both reading and spelling. The students who were taking music lessons, scored higher on the two tests. In another study earlier on, Dr. Leonid Perlovsky gave eighth graders the Iowa Tests of Basic Skills, and the musicians with at least two years of lessons scored significantly higher than their peers. Overall, students who stayed with music training achieved higher grades and test scores³. The most likely reason for this result, is that music provides a way to deal with emotionally stressful moments such as cognitive dissonance. Cognitive dissonance is the uncomfortable feeling that occurs when one of our core beliefs is challenged. Once music helps us through this feeling, we become more open, leading to fresh, challenging ideas, acceptance, and emotional growth. These intellectual benefits make it easier to learn new concepts, since we are not fighting them. This leads to higher test scores⁴. These proven advantages provide us with enough information to conclude that music really is helping to strengthen our minds.

Music enables us to overcome challenges that not only our minds, but our bodies face as well. Listening to music is becoming a more and more common treatment for hospital patients experiencing pain. Dr. Kimberly Sena Moore worked as a musical therapist at a medical hospital, in Colorado, after founding and running her own private practice called Neurosong Music

¹ Alban, Deane. "How Music Affects the Brain for the Better." *Be Brain Fit*, Be Brain Fit, 16 Nov. 2017, bebrainfit.com/music-affects-brain/.

² Zendel, B R, and C Alain. "Musicians Experience Less Age-Related Decline in Central Auditory Processing." *Psychology and Aging*, U.S. National Library of Medicine, June 2012, www.ncbi.nlm.nih.gov/pubmed/21910546.

³ Moore, Kimberly Sena. "Are Musicians Smarter than You?" *Psychology Today*, Sussex Publishers, 26 Sept. 2011, www.psychologytoday.com/blog/your-musical-self/201109/are-musicians-smarter-you.

⁴ Jacobs, Tom. "New Evidence Links Music Education, Higher Test Scores." *Pacific Standard*, Pacific Standard, 26 Aug. 2013, psmag.com/social-justice/new-evidence-links-music-education-higher-test-scores-64980.

Therapy Services, Inc⁵. 150 of her patients reported having pain at the beginning of the 30 minute treatment, but by the end of therapy, pain levels had dropped by one third⁶. In an earlier study, rhythmic auditory stimulation, using the beat of a song, was shown to improve the gait in recent stroke patients. It is used to control the physiological effects of the beat to control movement⁷. The music helped with “gait velocity, cadence, symmetry, as well as stride length.”⁸ This is all because rhythm can be utilized to organize the motor system. The muscles of a patient, which normally may not be working together, are able sync with one another. This is used by music therapists who set the pace needed for their patient to complete an exercise⁹. While rhythmic stimulation is used to help with movements, singing is able to aid speaking. For some people with a stutter, music has become a lifeline. Megan Washington, an Australian premier singer-songwriter, talks about this technique in her 2014 TEDTalk. She tells her audience what it is like to have a stutter, and explains that singing has become her sweet relief. It is the only time Washington feels truly fluent, because it is the only time when what comes out of her mouth is exactly how she intended it to be. Washington tells her audience that other people think she’s drunk or that she’s forgotten their name when she hesitates¹⁰. Washington continues to talk about how, as a performer, her job is based on authenticity. Therefore she doesn’t enjoy using smooth speech, a common therapy technique, because it doesn’t feel like herself. Smooth speech is a technique where the user prolongs their words, similar to singing.

Though often thought of as a part of the mind, I believe the soul goes much deeper into raw emotions than any other part of our being. The soul stores much more than just information like our brain, and though it can evoke sensations within our bodies, it is so much more intense than these two. It is where we keep our most obscure, heartfelt, and passionate feelings. Sometimes it holds our pain and fears, but it can also contain our happiness and most joyous sentiments. For some, it is hard to hold onto one part of their soul when other parts or factors are pulling them away. For me, my anxiety often pulls my focus from the things I truly care about, the things that make me feel whole, and I must fight it to feel like myself again. This was the case for Nathaniel Ayers, a Julliard trained double-bassist¹¹ who started playing at Cleveland Music School Settlement in junior high¹². Ayers suffered a series of psychotic episodes, which

⁵ Moore, Kimberly Sena. “Kimberly Sena Moore Ph.D.” *Psychology Today*, Sussex Publishers, www.psychologytoday.com/experts/kimberly-sena-moore-phd.

⁶ Moore, Kimberly Sena. “Musical Analgesia: How Music Helps Pain.” *Psychology Today*, Sussex Publishers, 19 May 2011, www.psychologytoday.com/blog/your-musical-self/201105/musical-analgesia-how-music-helps-pain.

⁷ Thaight, M H. “Neurologic Music Therapy Techniques and Definitions.” *NMT Academy*, 2005, pp. 2–2., doi:<https://nmtacademy.files.wordpress.com/2015/07/nmt-definitions.pdf>.

⁸ Neale, Todd. “Music Therapy Has Some Benefits in Stroke Recovery.” *Medpage Today*, MedpageToday, 9 July 2010, www.medpagetoday.com/cardiology/strokes/21074?pop=0&ba=1&xid=tmd-md&hr=trendMD.

⁹ Moore, Kimberly Sena. “The Road to Recovery Is Paved With...Music?” *Psychology Today*, Sussex Publishers, 1 June 2017, www.psychologytoday.com/blog/your-musical-self/201706/the-road-recovery-is-paved-withmusic.

¹⁰ Washington, Megan. “Why I Live in Mortal Dread of Public Speaking.” *Megan Washington: Why I Live in Mortal Dread of Public Speaking | TED Talk*, TEDxSydney, Apr. 2014, www.ted.com/talks/megan_washington_why_i_live_in_mortal_dread_of_public_speaking/transcript.

¹¹ Gupta, Robert. “Between Music and Medicine.” *Robert Gupta: Between Music and Medicine | TED Talk*, TED, Apr. 2012, www.ted.com/talks/robert_gupta_between_music_and_medicine.

¹² Lopez, Steve. “Violinist Has the World on 2 Strings.” *Los Angeles Times*, Los Angeles Times, 17 Apr. 2005, www.latimes.com/entertainment/la-me-lopez17apr17-column.html#page=1.

brought his career to a startling halt and eventually left him homeless, living on Skid Row in Los Angeles. This was where Ayers met Steve Lopez, a columnist for the LA Times, while Ayers was playing a violin with only two strings. After the poignant movie *The Soloist*, based off Lopez's columns, Ayers was slowly able to move off the streets. Through Lopez, Ayers was able to watch the Los Angeles Philharmonic perform. Lopez was able to set up a lesson for Ayers with Robert Gupta, a violinist with the LA Philharmonic, through email. During Ayers' first session with Gupta, it was clear that Ayers was extremely unsettled. Ayers was speaking about invisible demons, smoke, and someone poisoning him in his sleep. Not knowing what else to do, Gupta began playing the first movement of the Beethoven Violin Concerto, for Ayers. As he continued to play, Gupta was able to see the change in Ayers' eyes. Gupta described it as if Ayers was in the grip of a chemical reaction to the music. These phases were not a true representation of Ayers' passion and knowledge of music, and they overshadowed his calmer self, leaving him in a state of agitation. As soon as Ayers heard music, he became more focused and aware, and began to interact with understanding, charm, and brilliance. Where words failed for Ayers, music was the communication and connection needed to reach a deeper level in his psyche¹³.

Ayers is not the only instance where people have reached within to reveal another part of their soul because of music. A UK based charity, Nordoff Robbins, proves just how transformative music can be to all kinds of people. The founders, Paul Nordoff and Clive Robbins, found that music can be used to reawaken people with serious dementia. In 2011, the Music and Memory Project introduces us to a mostly unresponsive elderly man named Henry, who is given headphones to listen to his favorite artist. His whole demeanor changes. Henry becomes animated, dancing and singing along with Cab Calloway. Once the music is turned off, the effects do not stop. Henry is able to talk about his love and feelings for music, when he is normally unable to answer the simplest of questions. Henry is even able to sing all the words to *I'll Be Home for Christmas*¹⁴. Music therapy also helps reduce anxiety levels. Music, especially slow songs, is shown to decrease heart rate, blood pressure, and stress hormones. Listening to music is also shown to calm patients before and after surgery¹⁵, and it can lower depression rates by 19 to 20 percent, while increasing feelings of power and positive self-esteem¹⁶. I personally have felt these effects of music. Whenever I feel my anxiety or depression begin to worsen, I like to play my favorite songs, mostly slower songs to increase positive thoughts. I like to know that I'm not alone in whatever I am going through, but one reason the music really helps could be due to the increase of dopamine that is released while listening to music. These impacts of music continue to heal and touch our souls.

Everyone has their own experience with music, but most people are impacted in a positive way by their music. Throughout our lives, every song touches us in our own way, and often reminds us of a specific moment in time. Music has the power to bring back emotions and memories. These audio selfies can connect us through others, as we get to know their music

¹³ Gupta, Robert. "Music Is Medicine, Music Is Sanity." *Robert Gupta: Music Is Medicine, Music Is Sanity* | TED Talk, TED, Feb. 2010, www.ted.com/talks/robert_gupta/transcript.

¹⁴ Lindvall, Helienne. "How Music Acts as Medicine for the Soul." *The Guardian*, Guardian News and Media, 28 June 2012, www.theguardian.com/music/musicblog/2012/jun/28/music-medicine-soul.

¹⁵ Collingwood, Jane. "The Power of Music To Reduce Stress." *Psych Central*, Psych Central, 17 July 2016, psychcentral.com/lib/the-power-of-music-to-reduce-stress/.

¹⁶ Blackwell Publishing Ltd.. "Listening To Music Can Reduce Chronic Pain And Depression By Up To A Quarter." ScienceDaily. ScienceDaily, 24 May 2006. www.sciencedaily.com/releases/2006/05/060524123803.htm.

maps¹⁷. One song can impact a person's life greatly. Though everyone has their own feelings attached to music, no one can deny the power it holds.

¹⁷ contributor, Bekah Johnson (@goodblacknews) guest. "What Are Your Greatest Musical Moments?" On Being, Krista Tippett, 20 Jan. 2017, onbeing.org/blog/what-are-your-greatest-musical-moments/.