

TUNE IN:

Music & The Teenage Brain

By Los Altos Hills resident Rita Hitching

Do you love listening to music? Always have your headphones on? Are you being told to, "...turn that off and focus on your homework," but you believe that you do your homework better when you have music playing in the background? Then read on, you'll soon have information to tell your parents to let you listen to music whenever you want! Even when you are doing your homework or trying to fall asleep!

Your teenage brain is glorious - if you didn't know that already. Neuroscience has shown that the brain goes through critical periods of growth and development - while in the womb, the first year of life, and the early years right into adulthood. What scientists have more recently discovered is that the brain undergoes a 'secret mission' of change during the period between the ages of 12 to 19 years that is truly unique.

The production and our emotional reactions to music are universal - even innate. Neuromusicology - a new branch of neuroscience that examines the impact of music on the nervous system is shedding light on how the brain responds to hearing and making music.

Teenagers that play music regularly have bigger, more sensitive, and more connected brains.

The corpus callosum (the area connecting the two brain hemispheres) is larger in music players; enabling the exchange between the two hemispheres to happen more rapidly and efficiently. Even if you don't play an instrument, listening to music is incredibly beneficial to the teenage brain. Most teenagers listen to about 12 hours of music a day! That's a lot!

The benefits of listening or playing music are immense. Music increases productivity, intelligence, and raises your mood. Music integrates every brain area, including your left and right brain. Remember we have two ears and 'two brains' joined by the corpus callosum!

Listening to music improves your mood and reduces stress - as it reduces the amount of cortisol - the stress hormone that can be found in the body. Music makes you feel that you have more control over your life, making you feel more hopeful and powerful. If you are feeling down, listening to music literally lifts your 'spirits' and makes you feel better. The improvement to your mood is caused by the production of dopamine - the brain's feel good hormone, as a consequence of hearing music.



When you listen to your favorite playlist - select the 'shuffle' option - as hearing an unexpected song triggers release of dopamine beyond the 'base level' of listening to music. Music even helps you excel in science as it increases spatial intelligence - the ability to understand how things work together.

The other aspect of the improved mood associated with listening to music is the production of oxytocin. The 'love hormone' increases the feeling of connection or trust with another person. In other words, if listening to music alone is good for you, then listening to music with others is even better! The increased presence of oxytocin in your body makes you trust and care for others more, and overall makes you more likable as you behave in more generous and kinder ways towards others. Remind your parents that listening to music has been shown to make you more helpful!

When you are about to start your next assignment put some music on, as it increases your productivity. Background music increases accuracy, and performance on cognitive tasks - like math! If you are writing an essay or a creative story, listening to upbeat music increases your creativity, and will help you think up more imaginative events for your story's characters.

The Mozart effect (i.e. listening to classical music) that in the past was believed to increase intelligence has been discredited. The current thinking is that listening to any music you like is beneficial to brain development, not just classical music. One tip is to listen to music with minimal lyrics if you are trying to focus on a cognitive task, and keep

heavy metal music for exercising - try to select music that you like, but that is not distracting. Spotify has numerous types of music such as 'mood' and 'focus' - these preselected playlists can be helpful in enabling you to complete your homework by increasing your focus and attention and not distracting you. If you are trying to relax and fall asleep, select songs associated with 'wellbeing and relaxation.'

So, next time your parents tell you to "...turn your music off..." - let your parents know about all the benefits of music. Tune in and enjoy!

Los Altos Hills resident Rita Hitching is the founder of www.teenbrain.info, Brain Science for Teenagers.

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