

SHAPE MIND AND BODY | Aug 13, 2014

Your Brain On: Music

By Markham Heid

No matter what type of music is heating up your earbuds this summer, your brain is responding to the beat—and not just by making your head nod. Research shows the right tune can temper your feelings of anxiety, energize your limbs, and even bolster your immune system. Here's how.

Your Ideal Beat

Scientists who study music have identified something called “preferred motor tempo,” or the theory that everybody has an ideal rhythm when it comes to the jams they enjoy. “When you hear music traveling at your favored rhythm, the areas of your brain that control movement become more excited, making you more likely to start tapping your feet or moving along to it,” explains Martin Wiener, Ph.D., a psychologist at George Mason University who has investigated preferred motor tempo.

Generally, faster beats will pump up your brain more than slow ones, Wiener adds. But there's a limit. “If a tempo is faster than you like to hear, your brain will become less excited as you become less interested,” he explains. The older you get, the more your “preferred tempo” tends to slow, Wiener says. (That's why you get pumped up listening to Pharrell, while your parents snap their fingers to Josh Groban.)

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Your Workout Playlist

If you're listening to your ideal groove while exercising, your brain's amped-up motor cortex can make your workout seem less effortful, Wiener's research suggests. Another study from Florida State University (FSU) also confirmed that, by distracting your brain, music lowered the amount of difficulty and effort people perceived while exercising. Why? Your brain regards good music as “rewarding,” which leads to an uptick in the feel-good hormone dopamine, Wiener says. “This increase in dopamine might explain the high that some people feel when they're listening to music that they greatly enjoy.” Dopamine may also dull the pain your body would otherwise experience, studies indicate.

U.K. researchers found that, just as upbeat music lights up the parts of your noodle responsible for movement, it also turns up the volume when it comes to brain activity related to attention and visual perception. Basically, up-tempo tunes can quicken your reaction time and your ability to process visual information, the FSU study suggests.

Music and Your Health

People who listened to relaxing music before surgery felt less anxious than those who swallowed anxiety-lowering drugs, found a review study from several neuroscientists including Daniel Levitin, Ph.D., of McGill University in Canada. Levitin and his colleagues have conducted lots of research on music and the brain. And they've found evidence that, apart from lowering levels of stress-related brain chemicals like cortisol, music also seems to boost your body's amounts of immunoglobulin A—an immune system-strengthening antibody. There are also indications music cranks up the number of “killer cells” your body used to fight off germs and bacteria, Levitin's research suggests.

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While the mechanisms behind all of these benefits aren't totally clear, the stress-lowering powers of music could help explain how groovy tunes bolster your body's defenses, Levitin's studies indicate. Even if the music is slow and somber, as long as you're into it, you'll feel good, shows research from Japan. When people listened to sad (but enjoyable) tunes, they actually felt positive emotions, the authors found. Why? A separate study from the U.K. that turned up similar results suggests that, because the sad music is beautiful, it may make the listener feel less bummed out.

So, fast or slow, energizing or enervating, music seems to be great for you as long as you're listening to stuff you dig. Summing up one of his research papers on music and the brain, Levitin and colleagues hit the nail on the head when they say, “Music is one of the most rewarding and pleasurable human experiences.”

