Music and Your Health

by
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You can improve your mental and physical health through listening to music and making music at any level. In this workshop, some very easy activities will be used to experience the power of music.

Science
There is now a vast literature on how music can affect our physical and social lives. You can find much of this by Googling “Music and Health,” “Music and Medicine,” or similar subjects. Two recent articles that are particularly relevant are attached.

The social aspects of music are important. If you only listen, go to a concert with a friend or group of friends. Go out for something before or after.

A musical instrument is an exercise machine for the brain.

Music as a Way of Experiencing Life
There are basic patterns and emotions in our lives that can be experienced symbolically through music (read Suzanne K. Langer*, Philosophy in a New Key*). Music can also fill basic needs. We are going to experience some of these today:

Morning Session, Part 1

Struggle/fulfillment cycle. *Goin Home*

Going some place, Sandpaper Ballet

Anticipation. *Stars and Stripes*

Being with others. Patriotism, identifying with a group
Sports as symbolic experience of the struggle/fulfillment cycle
America the Beautiful, Fight the Team Across the Field

Morning Session, Part 2

Solitude. Claire de Lune

Recalling the past, living in the present, planning for the future.
Praise the Lord and Pass the Amunition, Blowin in the Wind, Time is Hard

Dance Band Drumming, *Summertime, Brazil*

Afternoon Session, Part 1

Sorrow*. Adagio for Strings*

Love. *Till There Was You*.

Spirituality, *Amazing Grace, We Shall Overcome*

Ritual. *Carmina Burana*

Afternoon Session, Part 2

Handouts, straws, kazoos

Question period

Making sounds on brass and woodwind instruments

Goin Home on straws

Stars and Stripes, ending

1812 Overture

Auld Lang Syne

Happy Trails to You

Musical Activities

Listening, Conducting, Singing. Playing Instruments

Study: Love music? Thank a substance in your brain

By MALCOLM RITTER, AP Science Writer Malcolm Ritter, Sun Jan 9, 1:23 pm ET

NEW YORK – Whether it's the Beatles or Beethoven, people like music for the same reason they like eating or having sex: It makes the brain release a chemical that gives pleasure, a new study says.

The brain substance is involved both in anticipating a particularly thrilling musical moment and in feeling the rush from it, researchers found.

Previous work had already suggested a role for dopamine, a substance brain cells release to communicate with each other. But the new work, which scanned people's brains as they listened to music, shows it happening directly.

While dopamine normally helps us feel the pleasure of eating or having sex, it also helps produce euphoria from illegal drugs. It's active in particular circuits of the brain.

The tie to dopamine helps explain why music is so widely popular across cultures, Robert Zatorre and Valorie Salimpoor of McGill University in Montreal write in an article posted online Sunday by the journal Nature Neuroscience.

The study used only instrumental music, showing that voices aren't necessary to produce the dopamine response, Salimpoor said. It will take further work to study how voices might contribute to the pleasure effect, she said.

The researchers described brain-scanning experiments with eight volunteers who were chosen because they reliably felt chills from particular moments in some favorite pieces of music. That characteristic let the experimenters study how the brain handles both anticipation and arrival of a musical rush.

Results suggested that people who enjoy music but don't feel chills are also experiencing dopamine's effects, Zatorre said.

PET scans showed the participants' brains pumped out more dopamine in a region called the striatum when listening to favorite pieces of music than when hearing other pieces. Functional MRI scans showed where and when those releases happened.

Dopamine surged in one part of the striatum during the 15 seconds leading up to a thrilling moment, and a different part when that musical highlight finally arrived.

Zatorre said that makes sense: The area linked to anticipation connects with parts of the brain involved with making predictions and responding to the environment, while the area reacting to the peak moment itself is linked to the brain's limbic system, which is involved in emotion.

The study volunteers chose a wide range of music — from classical and jazz to punk, tango and even bagpipes. The most popular were Barber's Adagio for Strings, the second movement of Beethoven's Ninth Symphony and Debussy's Claire de Lune.

Since they already knew the musical pieces they listened to, it wasn't possible to tell whether the anticipation reaction came from memory or the natural feel people develop for how music unfolds, Zatorre said. That question is under study, too.

Dr. Gottfried Schlaug, an expert on music and the brain at Harvard Medical School, called the study "remarkable" for the combination of techniques it used.

While experts had indirect indications that music taps into the dopamine system, he said, the new work "really nails it."

Music isn't the only cultural experience that affects the brain's reward circuitry. Other researchers recently showed a link when **people studied artwork.**

This Year, Change Your Mind

By Oliver Sacks, Published: December 31, 2010

NEW Year's resolutions often have to do with eating more healthfully, going to the gym more, giving up sweets, losing weight — all admirable goals aimed at improving one's physical health. Most people, though, do not realize that they can strengthen their brains in a similar way.

While some areas of the brain are hard-wired from birth or early childhood, other areas — especially in the cerebral cortex, which is central to higher cognitive powers like language and thought, as well as sensory and motor functions — can be, to a remarkable extent, rewired as we grow older. In fact, the brain has an astonishing ability to rebound from damage — even from something as devastating as the loss of sight or hearing. As a physician who treats patients with neurological conditions, I see this happen all the time.

For example, one patient of mine who had been deafened by scarlet fever at the age of 9, was so adept at lip-reading that it was easy to forget she was deaf. Once, without thinking, I turned away from her as I was speaking. "I can no longer hear you," she said sharply.

"You mean you can no longer see me," I said.

"You may call it seeing," she answered, "but I experience it as hearing."

Lip-reading, seeing mouth movements, was immediately transformed for this patient into "hearing" the sounds of speech in her mind. Her brain was converting one mode of sensation into another.

In a similar way, blind people often find ways of "seeing." Some areas of the brain, if not stimulated, will atrophy and die. ("Use it or lose it," neurologists often say.) But the visual areas of the brain, even in someone born blind, do not entirely disappear; instead, they are redeployed for other senses. We have all heard of blind people with unusually acute hearing, but other senses may be heightened, too.

For example, Geerat Vermeij, a biologist at the University of California-Davis who has been blind since the age of 3, has identified many new species of mollusks based on tiny variations in the contours of their shells. He uses a sort of spatial or tactile giftedness that is beyond what any sighted person is likely to have.

The writer Ved Mehta, also blind since early childhood, navigates in large part by using “facial vision” — the ability to sense objects by the way they reflect sounds, or subtly shift the air currents that reach his face. Ben Underwood, a remarkable boy who lost his sight at 3 and died at 16 in 2009, developed an effective, dolphin-like strategy of emitting regular clicks with his mouth and reading the resulting echoes from nearby objects. He was so skilled at this that he could ride a bike and play sports and even video games.

People like Ben Underwood and Ved Mehta, who had some early visual experience but then lost their sight, seem to instantly convert the information they receive from touch or sound into a visual image — “seeing” the dots, for instance, as they read Braille with a finger. Researchers using functional brain imagery have confirmed that in such situations the blind person activates not only the parts of the cortex devoted to touch, but parts of the visual cortex as well.

One does not have to be blind or deaf to tap into the brain’s mysterious and extraordinary power to learn, adapt and grow. I have seen hundreds of patients with various deficits — strokes, Parkinson’s and even dementia — learn to do things in new ways, whether consciously or unconsciously, to work around those deficits.

That the brain is capable of such radical adaptation raises deep questions. To what extent are we shaped by, and to what degree do we shape, our own brains? And can the brain’s ability to change be harnessed to give us greater cognitive powers? The experiences of many people suggest that it can.

One patient I knew became totally paralyzed overnight from a spinal cord infection. At first she fell into deep despair, because she couldn’t enjoy even little pleasures, like the

daily crossword she had loved.

After a few weeks, though, she asked for the newspaper, so that at least she could look at the puzzle, get its configuration, run her eyes along the clues. When she did this, something extraordinary happened. As she looked at the clues, the answers seemed to write themselves in their spaces. Her visual memory strengthened over the next few weeks, until she found that she was able to hold the entire crossword and its clues in her mind after a single, intense inspection — and then solve it mentally. She had had no idea, she later told me, that such powers were available to her.

This growth can even happen within a matter of days. Researchers at Harvard found, for example, that blindfolding sighted adults for as few as five days could produce a shift in the way their brains functioned: their subjects became markedly better at complex tactile tasks like learning Braille.

Neuroplasticity — the brain's capacity to create new pathways — is a crucial part of recovery for anyone who loses a sense or a cognitive or motor ability. But it can also be part of everyday life for all of us. While it is often true that learning is easier in childhood, neuroscientists now know that the brain does not stop growing, even in our later years. Every time we practice an old skill or learn a new one, existing neural connections are strengthened and, over time, neurons create more connections to other neurons. Even new nerve cells can be generated.

I have had many reports from ordinary people who take up a new sport or a musical instrument in their 50s or 60s, and not only become quite proficient, but derive great joy from doing so. Eliza Bussey, a journalist in her mid-50s who now studies harp at the Peabody conservatory in Baltimore, could not read a note of music a few years ago. In a letter to me, she wrote about what it was like learning to play Handel's "Passacaille": "I have felt, for example, my brain and fingers trying to connect, to form new synapses. ... I know that my brain has dramatically changed." Ms. Bussey is no doubt right: her brain has changed.

Music is an especially powerful shaping force, for listening to and especially playing it engages many different areas of the brain, all of which must work in tandem: from reading musical notation and coordinating fine muscle movements in the hands, to evaluating and expressing rhythm and pitch, to associating music with memories and emotion.

Whether it is by learning a new language, traveling to a new place, developing a passion for beekeeping or simply thinking about an old problem in a new way, all of us can find ways to stimulate our brains to grow, in the coming year and those to follow. Just as physical activity is essential to maintaining a healthy body, challenging one's brain, keeping it active, engaged, flexible and playful, is not only fun. It is essential to cognitive fitness.

Lyrics to "Happy Trails" by Dale Evans Rogers

Happy trails to you, until we meet again.
Happy trails to you, keep smilin' until then.
Who cares about the clouds when we're together?
Just sing a song and bring the sunny weather.
Happy trails to you, 'till we meet again.

Roy Rogers Riders Club Rules:

1. Be neat and clean.
2. Be courteous and polite.
3. Always obey your parents.
4. Protect the weak and help them.
5. Be brave but never take chances.
6. Study hard and learn all you can.
7. Be kind to animals and take care of them.
8. Eat all your food and never waste any.
9. Love God and go to Sunday school regularly.
10. Always respect our flag and our country.