

Music as a mind aid

Seniors may get brain boost from learning to play

By Kim Lamb Gregory

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Eighty-eight-year old Mavis Fox swept her fingers across the 88 keys in front of her as piano instructor Peter Jedrzejek looked on.

“There now, that’s the ‘G,’” Jedrzejek said, as Fox slid a finger to the correct key. “Bravo.”

The Thousand Oaks senior and her husband, James Fox, 90, have been taking piano lessons from Jedrzejek on and off for about nine months. The couple decided to take up the piano for a number of reasons, including a desire both have to stay mentally sharp.

“We’re not planning to have Alzheimer’s,” she said.

Scientists have not found a way to prevent Alzheimer’s or dementia, but there is research to support the notion that playing music may help seniors build brain power, or “plasticity,” which describes the brain’s ability to build new neural pathways. Neural pathways are connections that help us learn new things and perform various functions.

Dr. Aniruddh Patel, at the Neurosciences Institute in San Diego, said that neuroimaging he has studied shows that music involves large areas of both hemispheres of the brain, rather than just isolated areas or “hot spots.”

His research has been confined to younger adults, who have more plasticity in their brains, but Patel said he would not be surprised to learn that music helps build brain power in seniors, too.

“Music is such a complex activity involving the motor system, sensory cognition and emotion in a very deep way,” Patel said. “It gets us to practice many mental skills we use in our daily lives, like focused attention and sequencing.”

Jedrzejek sees it happen with his senior students all the time.

“When you’re playing the piano, it’s got to go to the brain and comes down to the fingers again,” Jedrzejek said.

Research conducted by Boston, Mass., neurologist Gottfried Schlaug of Beth Israel

Deaconess Medical Center suggests that playing a musical instrument can promote brain plasticity over a person's lifespan.

Dr. Schlaug, director of the Music and Neuroimaging Laboratory at Beth Israel, released a research paper this year in a medical trade magazine called *The Neuroscientist* showing music's potential to suspend or counter the effects of aging.

Schlaug's research paper says that only a handful of studies have been done on the effect of music on the aging brain, but those studies showed that musicians had more gray matter volume than nonmusicians in specific areas of the brain.

"Thus, musicians appear to be less susceptible to age-related degenerations in the brain, presumably as a result of their daily musical activities," Schlaug wrote.

Schlaug pointed to another study in which participants 75 and older were followed for five years and it was discovered that those who played a musical instrument were less likely to have developed dementia.

"This protective effect of playing music was stronger than those of other cognitive activities such as reading, writing or doing crossword puzzles," he wrote.

Music for stroke patients

It's been a year since Camarillo engineer and professional musician Karl Keller, 71, suffered a stroke.

"When I came home, I couldn't play clarinet or flute because I couldn't get my fingers to cover the holes," he said. "It felt scary."

Keller believes a lifetime of playing reed instruments helped him recover almost all of his ability.

"I can play OK," he said. "I'm just not quite as nimble as I once was."

Keller plays saxophone, flute and clarinet with jazz bands around Ventura County, including his own, which he calls Karl Keller's Sax and the City.

Dr. Gary Small, director of the UCLA Center on Aging, has seen remarkable evidence of how the brain can build new neuropathways to compensate for damaged or lost brain cells. An article in *AARP* magazine this spring detailed a mathematician Small examined who continued to get top scores on math tests and score a 140 on an IQ test despite an advanced case of Alzheimer's disease.

"He played the piano, as I recall," Small said. "People tend to compensate. People with a genetic risk for Alzheimer's, their brain recruits additional circuits to fill in."

A source of enjoyment

Though there is research to support what music can do for the senior brain, Small said, there is nothing conclusive to show that playing music will help protect an aging

brain from dementia.

“I don’t know that it will prevent Alzheimer’s, but I think music in our lives is wonderful and important,” he said.

Small has one caveat: Play for pleasure, not perfection, he said.

“For some people, it may be great; for others, it may be stressful,” he said.

Much of Schlaug’s work centers on using music to help stroke patients rebuild lost or damaged brain cells and neuropathways. An article in the February 2010 issue of Science magazine examined Schlaug’s work with stroke patients who have damage to the left side of the brain, which controls speech. A method he developed called “melodic intonation therapy” helps stroke patients engage the right hemisphere of the brain, allowing patients to sing, even if they can’t speak.

The article gave the example of a stroke patient who was able to sing “I’m thirsty,” rather than speak it.

Music therapists use the act of making music to help seniors with a variety of physical symptoms. For example, a stroke victim may be able to relearn a walking gait with the help of music.

“Music is a healthy activity,” said music therapist Al Bumanis, director of communications for Maryland-based American Music Therapy Association Inc. “The practicing, the focusing all helps with memory. There’s socializing and above and beyond that, there’s the emotional release that playing an instrument can give you.”

Keller knows that feeling.

“When I’m performing, and especially doing a solo, the world disappears,” Keller said.

Other high notes

Keller and other senior musicians say playing music has given physical benefits, increased their adaptability, and generally kept them happier.

“It really helps my lungs,” said Keller, who is a former smoker. “I play with different groups, so you quickly have to figure out how to fit into the situation. You’ve got to learn new tunes, or somebody calls a tune you barely know or haven’t played in 30 years.”

Learning the piano has helped pull the Foxes out of a depression that threatened to devour them as surely as the Sylmar fire devoured their home two years ago.

“We were really depressed,” Mavis said. “We lost everything. We went to live with my daughter in Thousand Oaks.”

A moment’s notice

The two were at home when emergency personnel told them the fire was within a mile of their mobile home, and they had to leave immediately.

“I grabbed my purse and he grabbed his wallet,” Mavis said. “We thought we’d get to go back home.”

They never did return. Every photo, every stick of furniture, and the theater organ she had always meant to learn to play were all consumed in the fire.

Depression set in until about a year ago, when Mavis suggested they start an exercise program, and, because they both love music, they decided to hunt for a piano teacher. They signed up at Mr. Peter’s Piano Studio in Thousand Oaks.

“When they came to their first lesson, James announced: ‘I don’t have too many years left so I want to make the most of them,’” Jedrzejek said.

Keller said he plays with many professional musicians who are his age or older. One of his 78-year-old friends recently moved from Ventura County to Paris, France, to become a street musician. Another one of his bandmates has a 91-year-old father in Orange County who continues to play professionally.

“There’s something about music,” Keller said. “It feeds the soul and somehow, there’s something magic that happens.”

