

Look, a big purple *rectangle!*

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To commit something to memory, take a break

By Paul Taylor

From Friday's Globe and Mail

Study finds that a little downturn after a lesson or learning experience helps the brain absorb the information

Want to boost your memory? Then give yourself a break immediately after a lesson or learning experience. That downtime will apparently allow your brain a chance to absorb and consolidate the new information, according to the latest research findings.

"Going for a walk by yourself, or sitting down for a cup of coffee, may actually help you remember those experiences later on," said Lila Davachi of New York University's department of psychology and Center for Neural Science.

Scientists have long known that sleep is essential for memory consolidation - the period when a memory is stabilized after it is initially created. But Dr. Davachi wondered if the process starts during rest periods while a person is you are still awake.

So she and her fellow researchers used an MRI scanner to observe the brain activity of a group of volunteers who were shown a series of images. After looking at the pictures, the subjects were allowed to chill out.

During the rest period, the MRI revealed elevated interactions between the brain's cortex and hippocampus, a region involved in memory. What's more, this activity appeared to be associated with improved recall of the images during later memory tests.

Dr. Davachi acknowledged that the findings are somewhat counterintuitive. "People tend to think that if we want to remember something, you should do something active, like rehearse the material. And you can do that - we know it helps."

But the study, published in the journal *Neuron*, suggests the brain needs downtime, too. "Your brain wants you to tune out other tasks so you can tune in to what you just learned."

She is planning to do more research to investigate the most effective types of rest breaks for enhancing memory. "My suspicion is just letting your mind wander is going to be okay."

Rock music not bad for ears

Baby boomers may have been exposed to lots of loud rock music when they were younger, but it doesn't seem to have hurt their hearing - at least, not for most of them. In fact, the results of a surprising study reveal that aging boomers have fewer hearing problems than their parents's generation.

"Generally, people think our world is getting noisier and noisier, noisier and noisier, but we found that the prevalence of hearing loss is decreasing," said Weihai Zhan, who led the research team at the University of Wisconsin School of Medicine and Public Health.

The study, published in the American Journal of Epidemiology, is based on 5,275 U.S. adults born between 1902 and 1962. Hearing tests were conducted over a period of years - with some of the volunteers retested at five-year intervals.

The researchers compared the different generations at the same age points. A trend was clearly apparent, with a lower prevalence of hearing loss among those born in later years, said Karen Cruickshanks, one of the study authors.

For example, about 58 per cent of men born between 1930 and 1935 had a hearing problem by the time they reached 60. By contrast, only 36 per cent of men born between 1944 and 1949 - the leading edge of the baby boom - displayed evidence of hearing impairment when they hit their early 60s.

Dr. Cruickshanks said there is no doubt that loud noise can damage the delicate structures inside the ear. But it is prolonged exposure, not the occasional loud rock concert, that is most likely to lead to permanent hearing loss.

She noted that earlier generations were exposed to loud sounds on a daily basis in the workplace. Today, far fewer North Americans are employed in noisy industrial jobs, and measures are taken to protect hearing. But she said other improvements in public health - including better infection control, medications that improve cardiovascular health and lower smoking rates - may also be contributing to less hearing impairment. The same things that aid overall blood circulation can also help ensure the ears are well nourished with oxygen-rich blood, she said.

But what about today's iPod generation? Is their hearing at risk from by wearing ear buds plugs so much of the time? So long as they don't listen to music at top volume, there is no reason to suspect they are putting their hearing in jeopardy, she said.

Getting the word out

In an effort to reach out to immigrant women, a breast-cancer support group has produced an information booklet in a variety of languages including Arabic, Bengali, Farsi, Portuguese and Spanish.

"Our research showed that these groups don't have a lot of physicians in the [Greater Toronto Area] who speak their native language, and so we are trying to bridge that gap," said Virginia Yule, executive director of Willow Breast Cancer Support Canada, which provides free information to those touched by the disease.


The booklet, which is also available in English and French, provides basic information on breast health and breast-cancer screening.

"We thought it was very important for women to receive information in their language so they can understand what was available to them and what they should do to maintain their breast health."

The group currently has an Ontario focus, providing details of the province's breast-screening program. But Ms. Yule said the long-term goal is make it national in scope, by producing booklets in more languages and including information about other provincial screening programs.

The booklet, called Be Breast Aware, can be downloaded from the group's website: www.willow.org

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