



Healthy Living

Multi-Tasking: Is it for Seniors?

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Envy is probably not the emotion seniors most feel when they see a young person at a family get-together, texting on a hand-held device while listening to music through earphones and talking.



For many reasons, older Americans might not be as good at multi-tasking as their children and grandchildren. They have taken up new technologies at a later stage of life and generally aren't as savvy about them. And even seniors who are good at the technology might not be interested in texting and talking at the same time.

Multi-tasking is actually something computers do. And according to one psychiatrist, when humans do it, it's a "mythical activity." They *believe* they can perform two or more tasks at the same time when in fact they cannot.

Studies have generally supported the viewpoint that the human brain is built to focus sharply on one task at a time. The front part of the prefrontal cortex determines the goal or intention (I want to shake hands), and the back part communicates with the rest of the brain so that your hand reaches out to complete the task.

When subjects were asked to do two things at once, one recent study found, the brain operated the same way, except that only one-half of the prefrontal cortex was devoted to each task—the left side for one task and the right side for the other, each working independently.

When subjects were asked to complete a third task, however, problems began. They consistently forgot one of the tasks, and they made three times as many mistakes as they did when pursuing only two tasks.

Does that mean you can only do two things at once? That you can cook and talk on the phone, but you shouldn't try to add a third task, or you might burn your dinner?

Probably not, most experts say. It all depends on the nature of the tasks. Most of us have learned to do some things, such as eating, without much help from the brain.

Based on studies he performed using functional MRI scans to track the brain's response to multiple tasking, psychologist Rene Marois identified what he called a "response selection bottleneck." One study found that when a subject tried to multi-task, the brain was "compelled to restart and refocus" for each task—leading to slower processing and a greater chance of error.

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Seniors and Multi-Tasking

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A slightly different view is offered by University of Michigan psychologist David Meyer. According to Meyer, the brain uses “adaptive executive control” to sort and schedule tasks, setting priorities based on importance as well as chronological order.

Unlike others, Meyer believes that the human brain is capable of becoming better and faster at switching between tasks. But his research found that multi-tasking can cause release of stress hormones and adrenaline, potentially leading to long-term health problems, including deficits in short-term memory.

Even if an individual can be trained to become proficient at multi-tasking, as some experts believe, the advantage goes to individuals who start multi-tasking at an early age. But there is hope, even for those who come to computer technology later in life.

One study of healthy middle-aged subjects, all relatively new to computer technology, were trained to use Google searches and told to practice doing online searches for an hour a day. After a week, brain scans of the subjects revealed significantly more activity in areas of the brain responsible for memory and thinking.

Regardless of age, multi-tasking puts a big demand on working memory, and most seniors would admit that they have a few deficits in that area already.

A recent study [*Proceedings of the National Academy of Sciences*, April, 2011] by a group of researchers at the University of California, San Francisco, demonstrated that the problem is not just a matter of working memory but, as the authors put it, “an interaction between attention and memory.” Older subjects in this study were less able than younger ones to ignore distractions and irrelevant information.

Researchers again used functional MRI to track blood flow in the brains of two groups: 1) healthy young men and women (average age 24.5) and 2) healthy older men and women (average age 69.1).

Both groups were asked to view a scene from nature and keep it in their minds. Within a few seconds, researchers introduced an interruption and subjects were asked to answer questions about an image of a face that appeared before them. Then another landscape picture was shown, and subjects were asked whether it differed from the first.

Brain scans indicated that neither young nor old subjects performed both tasks simultaneously. Instead, they disengaged from the first task in order to tackle the second. Then they re-established connection with the original memory task.

The difference was that older subjects had a difficult time disengaging from the first task when they were interrupted. And they were much slower in being able to focus attention on the scene.

Distractions occur frequently, even when we are performing tasks that require strong attention, such as using a power tool, lighting a charcoal grill or getting a steak cooked just right.

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This FREE program includes refreshments and an opportunity to share social time. To make your reservation, call 1-888-637-2963.



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Driving involves multiple tasks – changing lanes, watching traffic lights and signs, judging distance—and many chances for distraction. A distracting scene on a street corner can make it difficult to maintain focus on staying in the proper lane and obeying the street light.

Several studies have found that older adults have a significantly decreased ability in driving situations calling for divided attention. Add distractions, such as a conversation inside the car or on a cell phone, and the risk of an accident quickly multiplies.

Think about it, and you'll discover that you multi-task frequently every day, even if you're not using a computer or hand-held device. You should stay aware that at such times, your brain is dividing its attention and that you are not at full strength. even greater sleep problems.



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