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Multitasking: the Big Myth

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Multitasking became the highly touted skill to possess back at the start of the millennium. The business world thought that more work could be accomplished with the same amount of people with this method. However, do we really all mean the same thing when we say it? Can one learn how to multitask? And, the most important question, does multitasking make one more productive? Well these questions have been the focus of numerous studies worldwide

spanning over a decade. They have yielded some interesting results.

Multitasking is actually defined as performing more than one task simultaneously. An example of this is holding on a conversation while typing an email to a business associate. According to Earl Miller, a professor of neuroscience at MIT, we just cannot focus on more than one thing at a time. However, many people use the same expression to describe performing one task at a time, and then switching to another one quickly. Working in one program on your computer, and then switching to a different program in another open window is a common example. This is actually called “task switching”, but it is often lumped under the category of multitasking.

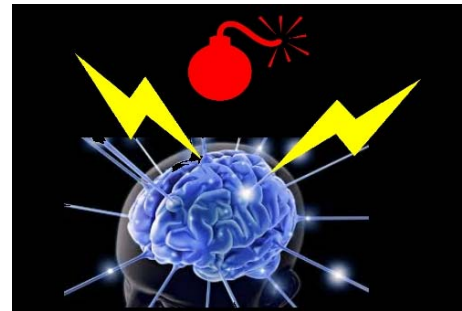
Another statement is that one must “learn to multitask”. This is true to a certain extent – all activities are learned. But “learning to multitask” is the wrong expression. What it really means is learning tasks so well that you do not need to concentrate to perform them properly. Think back to when you were four or five years old and just learning how to tie your shoelaces. You needed to concentrate and could not focus on anything else. But now you probably could NOT tie your shoelaces if you ACTULLY concentrated on doing it. However, when at least one task requires you to concentrate to accomplish it, multitasking is not necessarily happening. One is typically not doing either task well. As an example, most people listen to the radio while driving. But can you actually name the songs that were played, or remember the words? (Even when not attempting to multitask, most people do not pay attention to the lyrics. Think back to when the President Ronald Reagan quoted “Born in the USA” in a patriotic speech, and missed that it was NOT a patriotic song.) The more prevalent example is driving and talking on the cell phone. In spite of the laws that have been passed, people still do it.

But can one improve one’s multitasking ability? “According to David Strayer, director of the applied cognition lab at the University of Utah, who studies multitasking in the fertile realm of distracted driving, ‘ninety-eight percent of people can’t multitask—they don’t do either task as well.’ ... And he found that, sure enough, the very structure of the supertasker brain looks different than those of 98 percent of us. ‘These brain regions that differentiate supertaskers from the rest of the population are the same regions that

are most different between humans and nonhuman primates,' says Strayer. In other words, the brains of supertaskers are just that much further away from those of apes, 'the leading edge of evolution,' says Strayer. Specifically: 'Certain parts of the frontal cortex are recruited in an interesting way,' says Strayer. In fact, these areas show less activity when multitasking than do the same areas in normal, human, mammalian, non-alien-overlord brains like mine. And it's distinct—you either efficiently recruit this region or you don't. You're either a supertasker or you're not." ¹

So much for learning to multitask! So what about giving task switching a try? Here are some fascinating facts.

"In the brain, multitasking is managed by what are known as mental executive functions. These executive functions control and manage other cognitive processes and determine how, when and in what order certain tasks are performed. According to researchers Meyer, Evans and Rubinstein, there are two stages to the executive control process. The first stage is known as 'goal shifting'" (deciding to do one thing instead of another) and the second is known as 'role activation' (changing from the rules for the previous task to rules for the new task).



Switching between these may only add a time cost of just a few tenths of a second, but this can start to add up when people begin switching back and forth repeatedly. This might not be that big of a deal in some cases, such as when you are folding laundry and watching television at the same time. However, if you are in a situation where safety or productivity are important, such as when you are driving a car in heavy traffic, even small amounts of time can prove critical."³

This gives a greater perspective about what one is actually doing. But what about enhancing the ability to task switch? Switching between rote tasks is relatively simple, but when the tasks become more complicated, the results are quite interesting. This finding is pretty much a no-brainer: "Recent research also proves that as we get older the brain is less able to focus on more than one task at a time, and takes longer to switch between tasks."² According to the Harvard Business Review from a study conducted by the Institute of Psychiatry, trying to focus on more than one task **DECREASES** your productivity by 40%, and lowers your IQ 10 points. The study also found that excessive use of technology also reduced workers' intelligence. Other studies have shown that multitasking/taskswitching reduces one's mental abilities **TWO TIMES** the effect of smoking marijuana, or the equivalent of losing a full night's sleep. It also increases one's stress. And of course the all famous talking on the cellphone while driving, even with a hands free device, decreases reaction time the equivalent of a blood alcohol level of .08%. As a side note, having a conversation with a passenger is only slightly less distracting, as per insurance industry statistics.



But this finding is actually shocking. “In a 2009 study, Stanford researcher Clifford Nass challenged 262 college students to complete experiments that involved switching among tasks, filtering irrelevant information, and using working memory. Nass and his colleagues expected that frequent multitaskers would outperform nonmultitaskers on at least some of these activities. They found the opposite: Chronic multitaskers were abysmal at all three tasks. The scariest part: Only one of the experiments actually involved multitasking, signaling to Nass that even when they focus on a single activity, frequent multitaskers use their brains less effectively.”⁴

My mother always said, “Do one thing at a time. ...Turn the television/radio off and do your homework.” She was so right, and ahead of her time. So this adds up to some very harsh realities. Multitasking is a “hardwired” ability for 2% of the population, but a giant myth for 98% of the population. Additionally, tasks requiring the same cognitive ability can NOT be performed simultaneously, such as watching a movie and responding to emails. (Both require visual and linguistic cognition.) Most people are actually task switching. This is fine when the activities are simple tasks that are well learned and do NOT require the same cognitive ability. The more one attempts to task shift, the worse one gets, not to mention damaging to overall mental functioning, perhaps permanently. One final conclusion from multiple studies is that the people who insist that they can multitask are the WORST at it. Does this sound like anyone you know?

¹ “This is Your Brain on Multitasking” by Garth Sundem, February 24, 2012, www.psychologytoday.com

² “Think You’re Multitasking? Think Again”, by Jon Hamilton, October 2, 2008, www.npr.org

³ “The Cognitive Costs of Multitasking”, by Kendra Cherry, March 4, 2014, <http://psychology.about.com/od/cognitivepsychology/a/costs-of-multitasking.htm>

⁴ “Don’t Multitask: Your Brain Will Thank you”, by Issie Lapowsky, April 17, 2013, <http://business.time.com/2013/04/17/dont-multitask-your-brain-will-thank-you/>