



CALIFORNIA STATE SCIENCE FAIR 2010 PROJECT SUMMARY

Name(s) Julie A. Fukunaga	Project Number J0610
Project Title The Effects of Multitasking on Human Memory	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals More and more people multitask or perform more than one task at a time thinking it would make them more efficient. It made me wonder, " Does multitasking really save time? Does multitasking make us more efficient? How does it affect our ability to memorize things?"</p> <p>Methods/Materials I designed a website with 3 different experiments using the software Apple IWeb. I tested these experiments on 76 volunteers from 8 to 72 years old. All participants had 1 minute and 30 seconds to memorize 15 objects with varying amounts of multitasking. The first experiment required no multitasking. The second and third experiments required more multitasking abilities. I measured how many items were correctly memorized in the 3 experiments among different age groups and gender.</p> <p>Results The data collected from the 3 experiments show a general trend: the average number of objects correctly memorized dropped by 30% from the 1st experiment (which required no multitasking) to the 3rd experiment (which required the most multitasking). Female participants performed better than males in every experiment especially the ones that involved multitasking (memorized 9.4% more objects). The age group that multitasks the most efficiently out of the 6 groups was the 41-50 year olds. The group with the lowest score was the 10 and under group.</p> <p>Conclusions/Discussion I found that volunteers memorized more objects when they were not multitasking. Overall, females did better than males. The 10 and under and 60+ groups didn't multitask as well. Surprisingly, the 11-18 year old group who multitasks all the time and was the most confident in their abilities didn't outperform the 40-50 year old group who memorized the most objects. This experiment can help students by showing that multitasking while doing homework is not the most efficient way to study.</p>	
Summary Statement The purpose of this experiment was to determine whether multitasking affects human memory and efficiency and find out if age and gender matter.	
Help Received Mother helped with the board display; The Apple Summer Camp coaches taught me how to use Numbers spreadsheet and IWeb software to create a website; My teacher and mentor, Mrs. Elizabeth Daniel, explained how the brain works; Volunteers, from around the world , took the experiment online.	