

Strategies for multitasking: An fMRI study of individual differences in multitasking ability

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Abstract: Multitasking is the ability to interleave tasks that vary in duration and the demands placed on cognitive resources. The Abstract Decision Making (ADM) task correlates with performance in real-world multitasking environments (Joslyn & Hunt, 1998). This study uses the ADM to measure multitasking ability. Our hypothesis is that use of consistent and effective task strategies can partially explain individual differences in multitasking ability. This hypothesis was investigated using behavioral and fMRI measures. The behavioral results show a correlation between strategy consistency and individual differences in ADM performance and support the strategy hypothesis. The fMRI results suggest that executive control areas of the brain are involved in task performance, but that activation in these areas alone does not explain differences in ADM performance. However, activation in other areas, including temporo-parietal regions, is correlated with individual differences in performance.