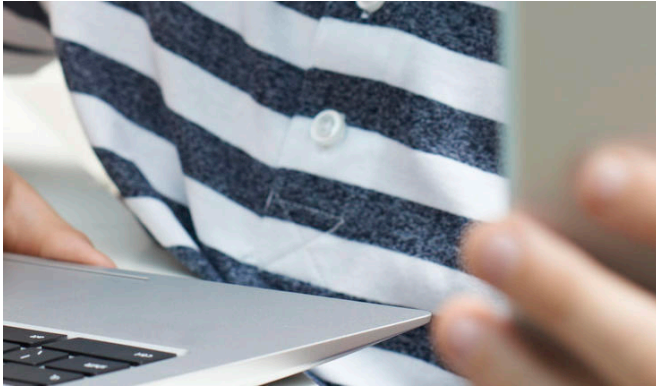


Media multitasking linked to distractibility among youth

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Ubiquitous daily interaction with technology has been suggested to affect mental faculties. Credit: 123RF

The aim of Mona Moisala's doctoral dissertation was to study patterns of activity in cortical networks related to attention and working memory, as well as to investigate associations between performance in working memory and attention tasks and the extent of daily technology-mediated activities in 13–24-year-old subjects from Finland.

The results reveal that the youth that reported a greater tendency to use several media simultaneously during their free time, struggled with the attention-related tasks in a laboratory setting.

"They had a harder time filtering out distractive stimuli. This was also seen as higher activity in regions of the [frontal lobe](#), which can be a sign of excessive strain," Moisala points out.

However, it is unclear whether the distractibility is caused by media-multitasking or vice versa.

Moisala used [functional magnetic resonance imaging \(fMRI\)](#) to record brain activity during task performance. Using this method, she also

investigated why multitasking is difficult.

"The results demonstrated that during division of attention between listening and reading, competition for neural resources in regions shared by these tasks was a major factor limiting the performance," Moisala says.

The studied youth who reported more daily computer gaming activity showed enhanced [working memory](#) functioning and better reaction times in the laboratory tasks. It was also easier for them to switch between visual and auditory attention.

The cognitive benefits of computer gaming have also been reported in previous studies.

"Taken together, the results from these studies are of great importance, since it is vital to understand how the increasing amount of on-screen time might affect or interact with the cognitive and brain functioning of the current youth," Moisala says.

She repeated the laboratory tasks two years later to gather data for the follow-up research for which she now seeks funding.

"This data is exceptionally extensive and provides us with the possibility to investigate the effects of technology use on the developing brain," Moisala says.

More information: Brain activations related to attention and working memory and their association with technology-mediated activities.

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