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Unraveling the link between Media-Multitasking and Cognition: Does an ecologically valid task tell us more about this relationship?

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Media-multitasking (using multiple forms of media or devices simultaneously or swapping between media or devices quickly) utilizes higher order cognitive processes (executive functions) for successful task performance. Research examining the link between heavy and light levels of media-multitasking behaviors and performance on executive function tasks, has produced mixed results to date (see Parry et al., 2021 for a review). These studies typically use standard laboratory tasks to assess executive functions. However, use of a task that assesses executive functions in an ecologically valid way may provide greater clarity on the association between media-multitasking and executive functions. This project examined the link between media-multitasking and the executive functions of task-switching and working memory using the UNRAVEL task (Altman et al., 2014), which replicates multitasking conditions by requiring participants to switch between primary and secondary tasks and return to the correct stage in the primary task sequence. Participants (N = 129) completed the UNRAVEL task, the Media Multitasking Inventory (Ophir et al., 2009), a 2-back task and a fluid intelligence measure. Higher fluid intelligence scores were associated with better UNRAVEL task performance and older participants with poorer working memory capacity took longer to complete the secondary task and return to the primary task. Higher media-multitasking scores were linked with fewer mistakes on the primary task after completing the secondary/interruption task. This suggests that more engagement with media-multitasking is associated with better task-switching and working memory skills. However further research is required to determine if this link is causal rather than correlational.