

Assessing Attentional Decline in the Age of Media Multitasking

In the modern era, technology has never been more accessible; leading to a prevalence of digital distraction in our lives. All of this appears to be culminating in a common criticism towards adolescents (often of college age): they lack the attentional capacity of previous generations. As a member of this demographic, I find this idea to be uncomfortably familiar as it resonates with my own experiences. On a personal level, I spend an average of four hours daily on my phone, not including the additional time spent on my laptop. While these devices offer incredible value, they also create continued interruptions and often prevent me from being productive. Taking notes during lectures or completing assignments at home becomes a difficult task with the ever-present temptation to engage with social media and instant messaging. I have experienced how easily I can unintentionally open an app like Instagram during a study session, only to realize that an hour has slipped away with little to show for it. This struggle has led me to wonder if our generation's attention span really is affected by our usage of technology and explore how it might be reshaping the way we apply our selective attention.

To assess how technology degrades attentional capacity, I turned to *“Media Multitasking and Failures of Attention in Everyday Life”* published by the Psychological Research. The goal of this paper was to investigate how media multitasking - referring to simultaneous use of media like phones, movies, music, video games - affects attention in everyday life. The study focused on various aspects of attention, including attention lapses, mind wandering, the ability to switch focus and the capacity to deal with distractions. I decided to use this study because an individual's media multitasking habits could be a useful measure to assess their day-to-day technology use, and thus make connections towards how that might affect attention.

The researchers employed a survey-based approach, involving 202 undergraduate students from the University of Waterloo. Participants answered online questionnaires designed to assess both their

level of media multitasking, and various attentional measurements. The Media Multitasking Index (MMI) was used to assess the frequency of simultaneous media use. To assess attentional functioning, other scales, such as the Mindful Attention Awareness Scale - Lapses Only (MAAS-LO), Attention-Related Cognitive Errors Scale (ARCES), Memory Failures Scale (MFS), Spontaneous and Deliberate Mind Wandering Questionnaires (MW-S and MW-D), and Attentional Control - Switching and Distractibility scales (AC-S and AC-D) were utilized.

The findings of this study show some insightful correlations between media multitasking and attentional capacity. Participants with higher scores on the MMI, indicating they were more prone to media multitasking, also experienced more frequent attentional lapses and increased attention-related cognitive errors. Additionally, the study found a correlation with media multitasking and spontaneous as well as deliberate mind wandering. However, despite media multitasking correlating with increased lapses in attention and mind wandering, the study found no significant correlation between media multitasking and memory failures, suggesting that general memory function could be a distinct process from attention. Furthermore, the researchers did not observe a significant relationship between media multitasking and the ability to switch attention or resist distractions, as reported by participants.

The research appears to corroborate the criticism of reduced attentional capacity among those with more frequent media use. The study demonstrated that higher levels of media multitasking are associated with increased self-reported attentional lapses and cognitive errors, suggesting technology could in fact be contributing to a decrease in attentional capacity. However, the lack of significant effects on the ability to switch attention or resist distractions indicates that media multitasking's effect on attention might be more nuanced than initially thought. Additionally, the survey-based approach of the study might leave out some crucial details about attentional capacity not captured in participant responses. Humans may not be reliable in recognizing when they experience lapses in their own memory, and thus, responses could be biased by the subjective realization of these incidents.

In terms of selective attention, the research hints at the possibility that technology, by promoting frequent and simultaneous media use, might be leading to a broader yet more superficial span of attention. This surface level depth of attention could potentially weaken the efficiency of selective attention, making it more challenging for individuals to filter out irrelevant information and focus selectively on relevant stimuli.

In conclusion, the criticism that young adults have a reduced attentional capacity due to technology appears to have some merit, as shown by the study published by Psychological Research. We observe that media multitasking could be associated with young adults' tendency towards attentional lapses. However, the effects on selective attention and the ability to switch focus and resist distractions appears to be more nuanced and may require further investigation. Technology, while useful, poses significant distractions that we must find ways to manage and overcome. By understanding the effect of media multitasking on our attentional capacities, we can work towards finding solutions that allows us to reap the rewards of technology while minimizing its negative effects on our ability to focus and engage in meaningful tasks.

Citations

Ralph, B.C.W., Thomson, D.R., Cheyne, J.A. *et al.* Media multitasking and failures of attention in everyday life. *Psychological Research* 78, 661–669 (2014).