Smart devices, dumb decisions? The impact of over-automation on human thinking

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In today's fast-paced digital world, smart devices like smartphones, Global Positioning Systems (GPS) apps, and AI-powered assistants have become part of our everyday routines. They save us time, reduce effort, and often help us make quicker decisions. However, as we grow more dependent on these tools, we may be giving up something important – our ability to think for ourselves. This research explores how over-reliance on automation affects the way we remember, focus, solve problems, and make decisions. Drawing on recent findings in psychology and cognitive science, the study looks at how tools meant to help us may weaken mental skills when overused. This investigation relies on an examination of scholarly publications from 2015 to 2025, chosen for their connection to mental processes, user-technology interfaces, and studies of brain behaviour. It combines numerical data reviews with descriptive evaluations to assess patterns in brain function alterations linked to device dependency. For instance, using GPS too often can reduce our natural sense of direction, and relying on reminders or search engines might make it harder to remember things or think critically. Even having a phone nearby can distract us without our realising it. Evidence indicates that excessive device reliance can diminish recall precision by up to half in certain tasks, lower focus levels by around 10 units in assessments, and impair orientation abilities with moderate negative effects. However, intentional application of these tools supports individuals facing recall challenges and enhances efficiency in repetitive activities. On the other hand, smart devices can be incredibly helpful when used with intention. They can aid people with memory issues, improve safety in certain environments, and allow us to focus on more meaningful tasks when they take care of routine ones. The key finding of this study is that it is not the technology itself that is the problem; it is how we use it. When we hand over too much mental effort to machines without thinking, we risk becoming passive users instead of active thinkers. Finding a healthy balance between human thought and technological support is essential if we want to protect and strengthen our minds in an increasingly automated world.

Keywords: *Cognitive offloading, Decision-making, Human thinking, Automation, Smart technology*