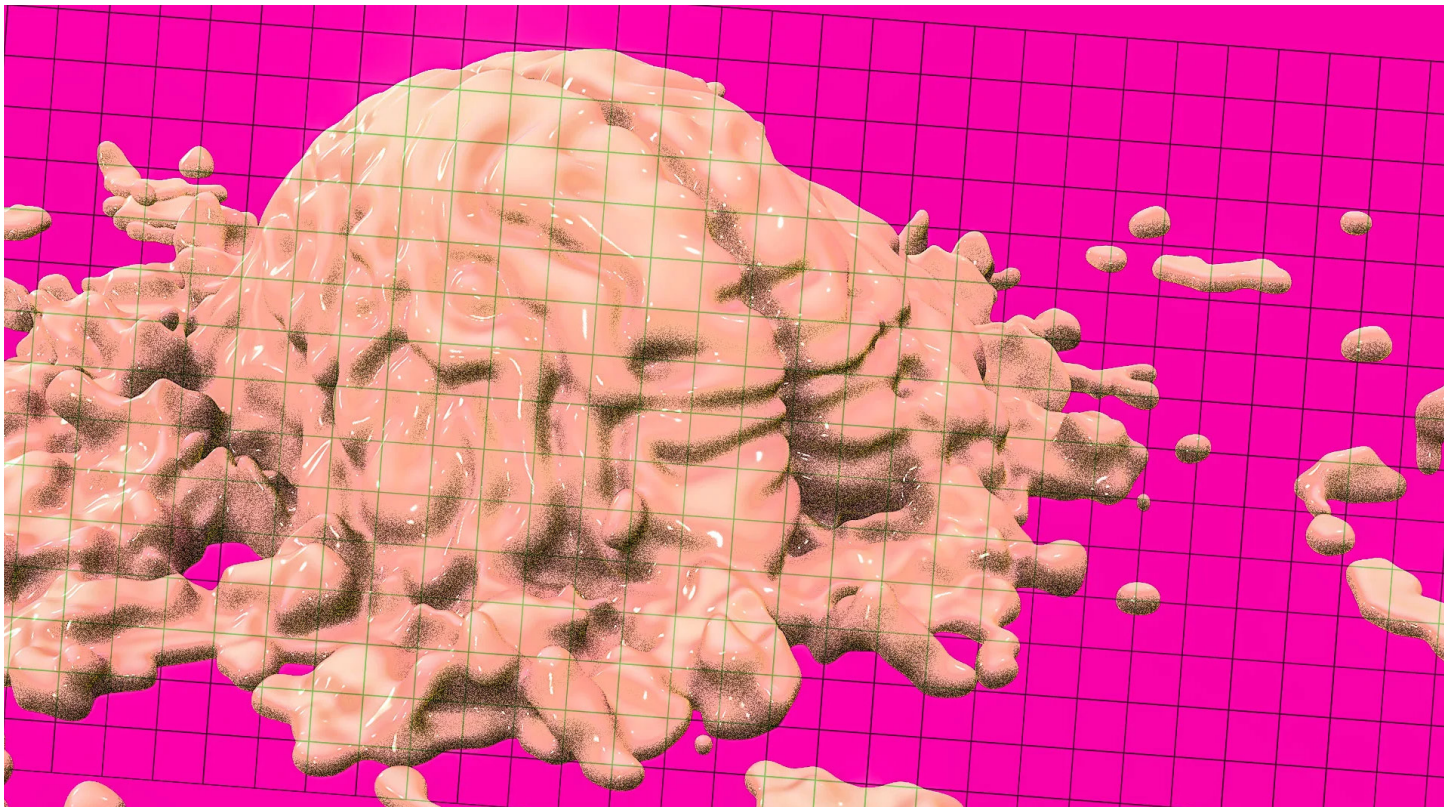


Cognitive scientists found using AI for just 10 minutes impairs brain performance

In new research from CMU, Oxford, MIT and UCLA, having a GPT-powered assistant taken away left people fumbling to solve math problems on their own.

Jude Cramer | May 11, 2026



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Critics of artificial intelligence caution that, as a relatively new technology, its long-term effects on the human brain are still unknown. But a new study shows that AI could be dangerous even in the short term, with just 10 minutes of AI use leading to impaired brain performance.

The study, conducted by researchers at Carnegie Mellon University, the University of Oxford, the Massachusetts Institute of Technology and the University of California, Los Angeles, challenged participants to complete a set of fraction-based math problems. Half the group was tasked to solve the

problems on their own, while the other half was given access to an AI assistant powered by OpenAI's GPT-5 model — only to have that AI helper removed without warning for the test's final three problems.

Though the AI-assisted test-takers had a higher solve rate than the

control group for most of the experiment, once the AI was removed, that number plummeted. Once both groups were operating independently, the AI-assisted group had a solve rate approximately 20% lower than the control group. Additionally, the AI-assisted group had a much higher rate of simply skipping questions once their access to AI was removed, opting to abandon problems twice as often as the control group.

The participants only had access to their AI assistants for around 10 minutes, suggesting that building reliance on AI even for such a short time stunted people's ability to fall back on their own problem-solving skills.

The researchers also conducted a follow-up experiment with the same format to test reading comprehension instead of math skills. The results were largely the same, except that access to AI didn't give the assisted group an edge in the first portion of the exam.

The way you use AI matters

While depending on and then losing access to AI assistance led to lower problem-solving rates overall, there

was diversity within the study's experimental groups, depending on how they utilized their AI assistants.

Those who asked the AI for direct solutions saw the largest decline in solve rate and the largest increase in skip rate. The majority of the study's participants fell into this group, with 61% self-reporting that they asked the AI for direct answers to the test's questions.

But those who only asked the AI for hints or clarifications didn't experience the same drop-off in solve rate, instead staying on par with the control group. This suggests that not all forms of AI usage are harmful to cognition. Rather, it's a total reliance on AI assistance that impairs humans' ability to solve problems.

Building on other research

The study's results are consistent with previous research that has linked AI usage with cognitive decline.

A study from MIT that measured brain activity during essay writing found that writers working independently had significantly higher brain connectivity than

writers using large language models (LLMs), who underperformed neurally, linguistically and behaviorally across the four-month experiment.

Other studies of workers in fields such as knowledge work and medicine saw that those who relied on AI to complete tasks were rendered less capable of completing those same tasks themselves without AI assistance.

In their conclusion, the study's authors wrote that their results "raise urgent questions about the cumulative effects of daily AI use on human persistence and reasoning.

"We caution that if such effects accumulate with sustained AI use, current AI systems—optimized only for short-term helpfulness—risk eroding the very human capabilities they are meant to support," they wrote.