Article: Why a neuroscientist worries outsourcing thinking to AI could weaken your brain's defenses against dementia

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AI Tool used to create summary: MyMemo

AI SUMMARY:

Theoretical neuroscientist Vivienne Ming warns that chronically outsourcing thinking to AI could weaken cognitive reserve, the brain's defense against dementia, by reducing engagement of key neural networks like the hippocampus and prefrontal cortex.

CORE WARNING

- Vivienne Ming, theoretical neuroscientist and chief scientist at the Possibility Institute, warns that chronic substitution of cognitive effort with AI could weaken the brain's defenses against dementia.
- She emphasizes that AI does not cause dementia, but how it is used—specifically outsourcing mental effort—could reduce cognitive reserve.

MECHANISM: 'USE IT OR LOSE IT'

- Ming compares AI's effect to GPS: a 2020 McGill University study found greater lifetime GPS experience correlates with worse spatial memory during self-guided navigation.
- A 2024 MIT Media Lab study over four months showed that people using a large language model to write essays had weaker neural connectivity than those using search engines or no tools, and often could not quote passages they wrote minutes earlier.
- Ming describes this as cognitive offloading and surrender: delegating effortful tasks to external systems so neural networks never engage.

COGNITIVE RESERVE AND DEMENTIA RISK

- Research, including a 2020 English Longitudinal Study of Ageing (ELSA) analysis of 12,280 adults aged 50+, found higher cognitive reserve linked to a 35% lower risk of developing dementia.
- Ming states that lifelong mental engagement delaying cognitive decline is among the most replicated research.
- No biomarker study linking AI use to dementia pathology has been conducted yet; current data is correlational or short-term.

URGENCY AND CONCERN FOR YOUNG PEOPLE

- Ming is most concerned about young people, whose habits are still forming.
- She argues that by the time dementia data is available, a generation will have already formed the habit of cognitive outsourcing.
- She calls for analyzing this cohort now, while the behavior is still taking shape.