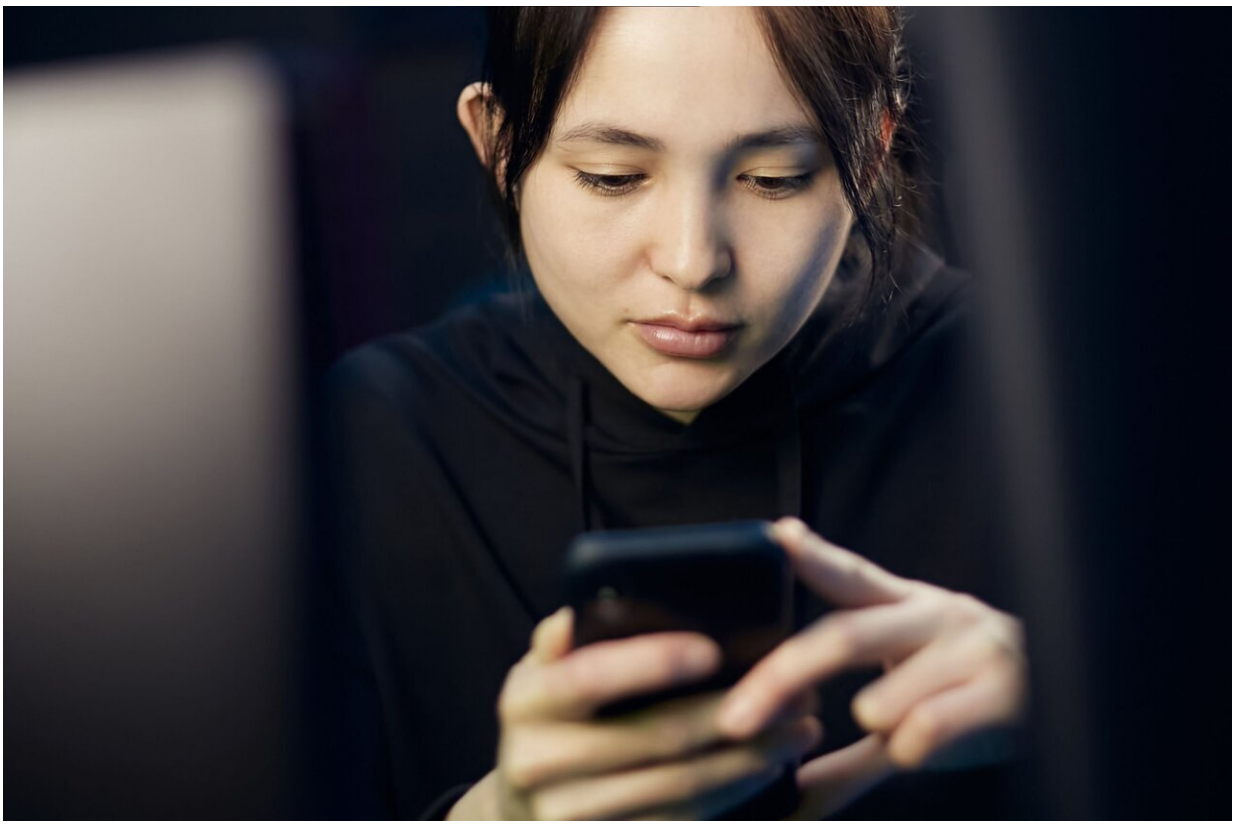
Could endless scrolling really rot your brain? A new study suggests it might, but also says exercise could fight back

July 8 2026, by Sayan Tribedi



Credit: Mikhail Nilov from Pexels

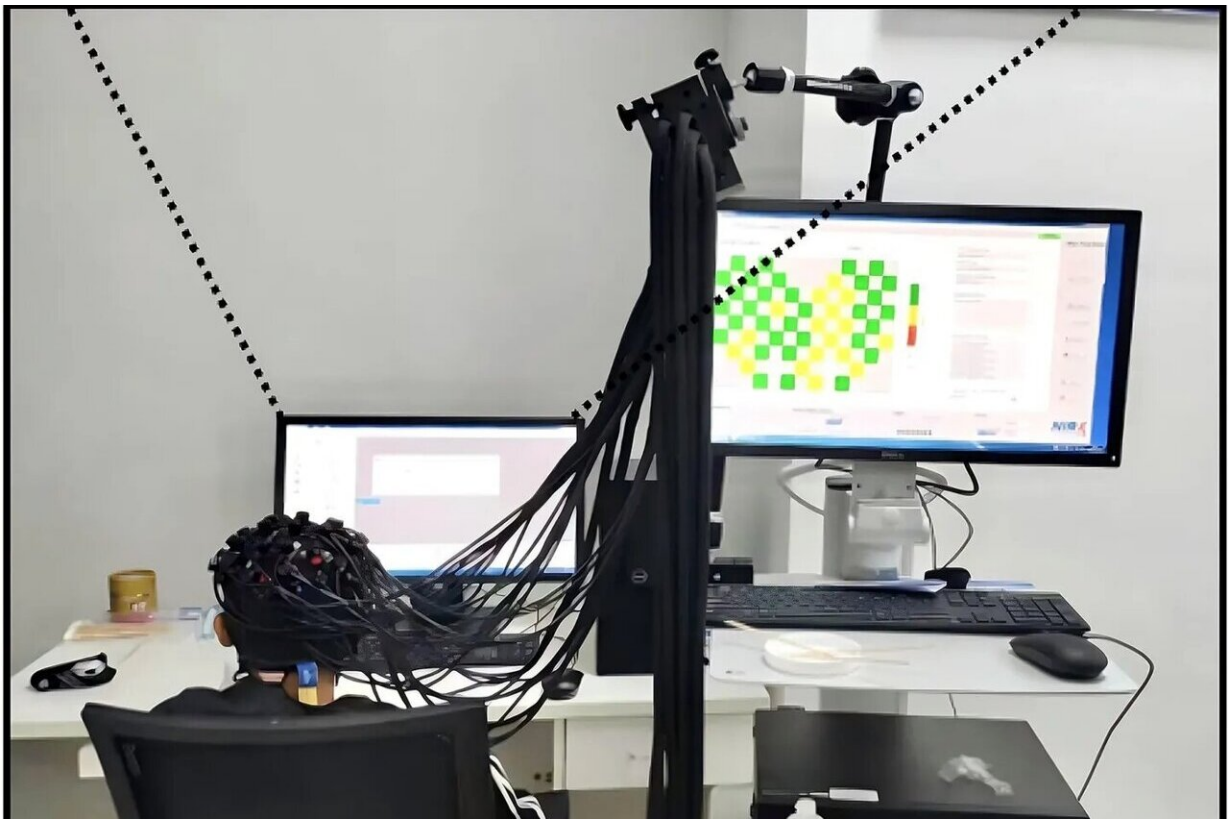
Consider flipping through numerous videos on TikTok within mere minutes—some news item, some dancing fad, some culinary trick and

some comedy sketch. The content might grab your attention momentarily, but it's gone just like that. This pattern of consuming information so rapidly puts pressure on our working memory—a short-term memory system in which the brain temporarily stores the information required to think. Each time you flip from one piece of content to the next, you change the context of your thinking, which has led psychologists to wonder whether the brain's scratchpad gets tired from all the switching.

Is this endless digital churn truly shredding our memory? A new study delves into this question, exploring the impact of excessive short-video use on working memory performance and how physical activity might offer a surprising countermeasure. The study is published in the journal *Frontiers in Psychology*.

Is endless scrolling shredding your memory?

The concern isn't new. By 2025, TikTok alone had more than 1.6 billion active users, and the cultural impact was so profound that Oxford even selected "brain rot" as its 2024 Word of the Year. For years, parents and teachers have worried that the "thumbs-on-tech" habit shortens attention spans and impairs cognition. In fact, prior research has already associated heavy short-video use with major declines in focus and memory. But how precisely does this manifest in our brains?



The laboratory setup used to measure working memory, with participants wearing a functional near-infrared spectroscopy (fNIRS) cap that tracked blood flow in the prefrontal cortex while they completed a 2-back memory task. Credit: *Frontiers in Psychology* (2026). DOI: 10.3389/fpsyg.2026.1875248

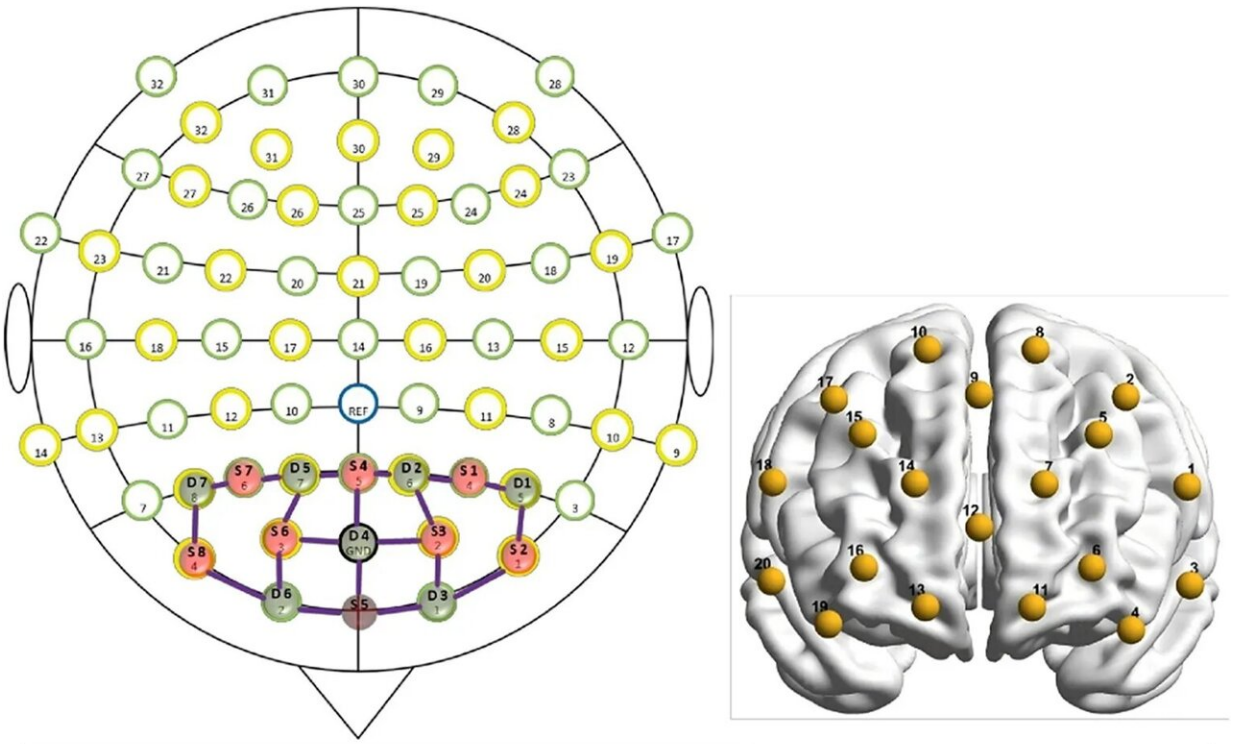
To investigate this, a new experiment put participants through a classic "2-back" working-memory test, a task designed to measure how well individuals can hold and manipulate information in their minds (checking whether each presented item matched the one from two steps back). The results were eye-opening: those identified as the heaviest video watchers consistently performed the worst on this critical cognitive assessment.

As the researchers reported, their findings indicated that "excessive short

video use was associated with poorer working memory performance, whereas regular exercise habits were associated with better behavioral performance." This direct link between high video consumption and diminished memory function provides compelling evidence for the growing concerns.

Working memory hits the gym

Then came a significant twist in the findings: Exercise changed everything. Not only did the researchers divide the subjects into those who viewed videos frequently, but they also classified them according to the amount of exercise done in a day: high, low or none. Their findings were striking: The level of fitness counted for a lot. The regular exercisers performed better on the memory test and showed better working-memory functioning regardless of the number of videos consumed.



Brain Area	Channel
Left Ventrolateral Prefrontal Cortex (Left VLPFC)	1, 3, 4
Right Ventrolateral Prefrontal Cortex (Right VLPFC)	18, 19, 20
Left Dorsolateral Prefrontal Cortex (Left DLPFC)	2, 5, 7, 8, 9
Right Dorsolateral Prefrontal Cortex (Right DLPFC)	10, 14, 15, 17
Frontopolar Cortex (FPC)	6, 12, 16
Orbitofrontal Cortex (OFC)	11, 13

The placement of the functional near-infrared spectroscopy (fNIRS) sensors used during the experiment and the prefrontal brain regions they monitored. Credit: *Frontiers in Psychology* (2026). DOI: 10.3389/fpsyg.2026.1875248

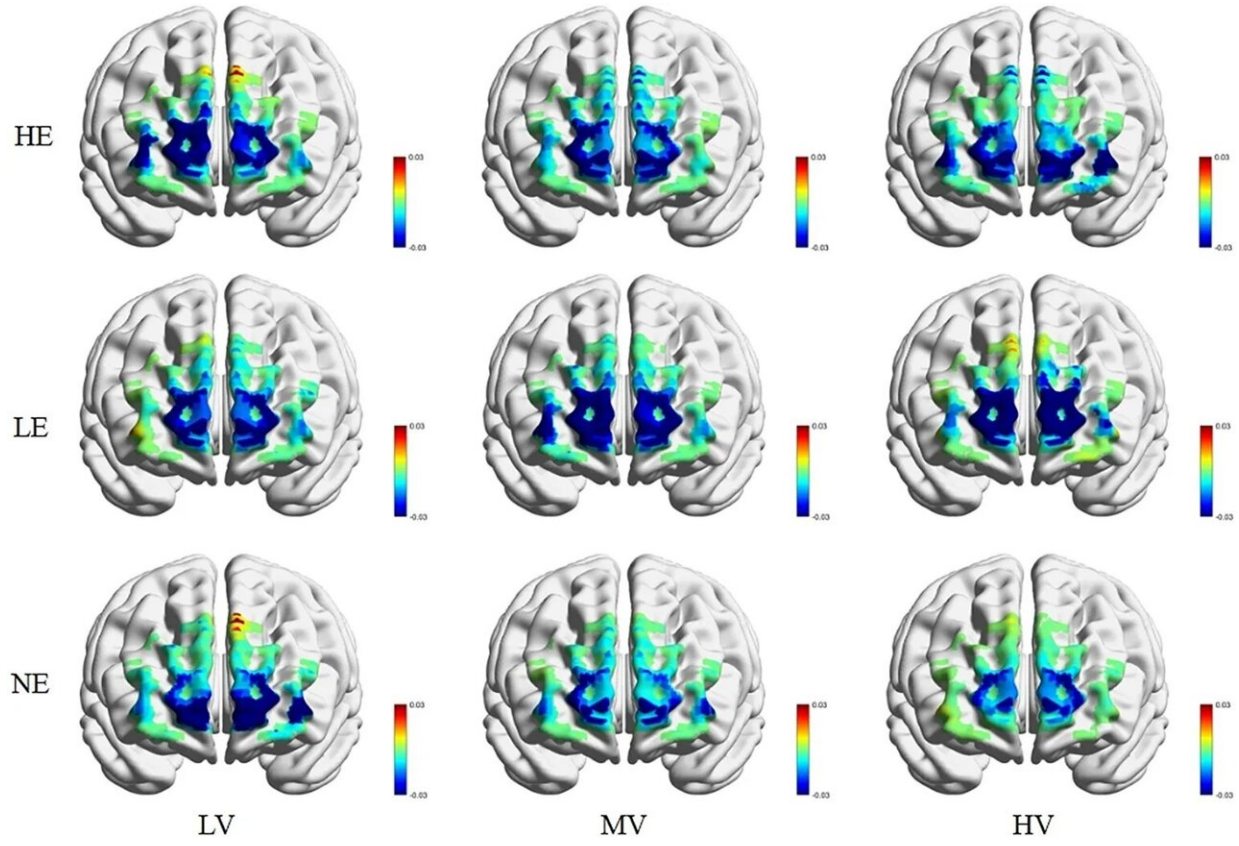
This strong protective effect of exercise is supported by decades of research showing that exercise literally "builds up" the brain, improving

cognitive functioning. For example, research conducted at Harvard University indicates that people with moderate levels of physical activity tend to have larger brain areas responsible for memory, including the hippocampus and prefrontal cortex, than those who lead sedentary lifestyles.

The benefits of exercise were evident in concrete cognitive gains: the most active students significantly outperformed their sedentary peers on the working-memory tasks. Brain scans using functional near-infrared spectroscopy (fNIRS) confirmed these behavioral differences at a neural level and helped researchers further understand the underlying mechanisms. For instance, in physically fit students, the prefrontal cortex, an important area for cognitive control and decision-making, showed steadier and more efficient blood flow during the difficult memory task.

In contrast, the brains of less active students had to work much harder and showed different patterns of activation to get similar—or often worse—results. Basically, it seemed that regular exercise created a buffer that shielded the brain from the cognitive scramble of watching too many short videos.

Should you lace up or log off?



These color-coded brain maps compare activity across the prefrontal cortex during the working-memory task in participants with different short-video viewing and exercise habits. Credit: *Frontiers in Psychology* (2026). DOI: 10.3389/fpsyg.2026.1875248

Of course, this study was correlational, not direct proof that TikTok causes memory loss or that a jog cures it. Still, the takeaway is hard to ignore. As the authors conclude, "These findings suggest that promoting regular physical exercise may help counteract the negative cognitive effects of excessive short video consumption." If endless scrolling leaves you forgetful, lacing up your sneakers might help keep you sharp.

This echoes decades of brain-health advice: Even modest routines (say,

30 minutes of brisk activity most days) improve memory and thinking skills. So for busy students and workers, the message is clear: Don't just scroll—move. Try breaking up your study or work sessions with a quick run, a bike ride or even a few jumping jacks. The data suggest that mixing screen time with sweat sessions could help keep your mind sharp in our fast-paced media age.

More information: Tian Feng et al, Exercise modulates behavioral and neural mechanisms of working memory in excessive short video users, *Frontiers in Psychology* (2026). DOI: 10.3389/fpsyg.2026.1875248