

Social Media and Cognitive Performance

Implications for Student Learning

Read the Full Article Here: <https://www.modelteaching.com/education-articles/k-12-research-review/social-media-and-cognitive-performance>

Modern technology is a recent arrival in human civilization, and it's advancing faster now than at any point in history. One of the most striking areas of modern technology development is communication technology, or the way humans share ideas, interact with each other, and, most importantly, educate each other. Throughout all of human history, education and learning have been predictable and sheltered from large and rapid changes in delivery, content, and approach.

In fact, all modalities of human learning and education have historically been based on physical interactions with the environment through human-to-human contact or by interacting with the physical environment in some way. That is, until relatively recently.

Much like television and video games of the past triggered alarm bells for parents and teachers, a relatively recent threat (from the perspective of human civilization) to student wellness has been developing for some time now, with its destructive effects now beginning to show: social media.

We have long known that excessive social media use would potentially be detrimental to children in a variety of ways, from increasing the rates of depression in young children and adolescents (1), to leading to increased narcissism in young people (2), or simply by providing easy access to problematic content (3).

But an additional consideration is becoming clear. The effect of social media on cognition is now a growing area of concern.

New research is beginning to show that cognition is also negatively impacted by social media usage. The reduction of cognitive performance has widespread significance for school-age children, as well as the teachers who work with them.

New Research: The Impact of Social Media on Cognitive Performance in Children

In a research letter published in the Journal of the American Medical Association (JAMA) on October 13, 2025 (4), experts reported that social media usage was linked to future

declines in cognitive performance. With a large and statistically relevant sampling size of over 6,500 adolescents, the study found that even low-level social media use in children was “linked to poorer cognitive performance”.

Here’s a summary of their findings:

What they did: Using data from the large cohort of children, representing a typical group of adolescents (Adolescent Brain Cognitive Development (ABCD) cohort), researchers followed 6,554 adolescents from roughly 9/10 years to 13 years of age. They grouped the children by their daily social media usage in terms of time spent using social media and the relative increase in usage for each group.

Here were the groups they tracked:

- 1) None/very low social media usage
- 2) Low but increasing social media usage
- 3) High and increasing social media usage

They tracked usage over the course of two years to create these three groupings.

They then tested cognition at year 2 with the NIH Toolbox, which consists of a variety of tests that measure reading recognition, vocabulary, memory, attention, and processing speed. They also tested children using a composite test. Importantly, these models were also adjusted for many baseline factors such as demographics, income/parent education, ADHD/depression symptoms, baseline cognitive scores, and other factors.

What they found after testing the student groups:

Low but increasing usage: These children scored slightly lower in reading, vocabulary, episodic memory, and on the composite test, when compared with the non/very low usage grouping (group 1)

High and increasing usage: These children showed larger negative performance on reading, vocabulary, episodic memory, and the composite test when compared with the non/very low usage grouping (group 1). However, processing speed and attention showed no differences between groups.

In other words, for the groups of children between the ages of 9 and 13 who used social media at a high or low (but growing) level, both showed worse performance on cognitive tests compared with children who had very little to no social media exposure. These findings were statistically significant.

See here for the research letter in its entirety:

<https://jamanetwork.com/journals/jama/fullarticle/2839941?guestAccessKey=6d3a3ac3-c485-4a5a-b3f9-1cd4d3910358&utm>

Implications for Education:

While teachers cannot control what their students do outside of the classroom, they can work to educate and remind parents of the dangers of social media usage, which are being confirmed again and again by researchers. Modeling your own cell phone and social media usage is a good start, in addition to providing statistics and recommendations to parents on the dangers of social media and its impact on student learning and academic performance. You can also design social-emotional lessons and other mini-lessons that focus on regulating social media usage as a way to promote healthier habits in your students. In addition, though, you should also preferentially focus on teaching strategies that work to increase cognition and memory in your students.

How Model Teaching Can Help

Utilize the Explicit Instruction and Gradual Release Model in Your Classroom: Ensure your lessons focus on the “I do, we do, you do” approach to help explicitly model and teach concepts for stronger learning. You can learn about this approach in our course: [The Gradual Release of Responsibility Model](#)

Teach the Process of Productive Struggle: Allow your students to grapple with difficult cognitive tasks to help strengthen neural pathways in their brains. You can learn more about productive struggle in the course: [Productive Struggle: Guidance for Supporting Students During Challenging Activities](#)

Focus on Improving Memory in your Students: Explicitly teach ways for students to practice improving their memory by allowing them to engage in tasks that move ideas from working memory into long-term memory. Below are a couple of courses that can help you plan and execute memory strategies in your classroom.

- [Memorization Using the Memory Palace Technique](#)
- [The Notecard System](#)

While you may not be able to ban social media usage outside of the school day, you can take simple steps to academically challenge your students and improve their thinking and memory skills.

For Further Reading:

(1) (Lopes, Lucas Silva, et al. “Problematic social media use and its relationship with depression or anxiety: a systematic review.” *Cyberpsychology, Behavior, and Social Networking* 25.11 (2022): 691-702.)

(2) Casale, Silvia, and Vanessa Banchi. “Narcissism and problematic social media use: A systematic literature review.” *Addictive behaviors reports* 11 (2020): 100252.

(3) Fibrilla, Firda, Martini Fairus, and Holiratul Raifah. “Exposure to pornography through social media on sexual behavior of high school teenagers in metro city.” *IOSR Journal of Nursing and Health Science*, 1â8 (2021)

(4) Nagata JM, Wong JH, Kim KE, et al. *Social Media Use Trajectories and Cognitive Performance in Adolescents. JAMA. Published online October 13, 2025.*
doi:10.1001/jama.2025.16613