The impact of smartphones, social media, and school laptops on youth mental health and academic performance

Testimony by Jean M. Twenge, Ph.D.

Professor of Psychology, San Diego State University

January 15, 2026

Around 2012, something began to go wrong in the lives of American youth: Their mental health steadily deteriorated and their academic performance began to decline.

The adolescent mental health crisis

Beginning in the early 2010s, more teens were lonely, unhappy, anxious, and depressed than just a few years before (Keyes et al., 2019; Mojtabai et al., 2016; Twenge et al., 2018). By 2019, clinical-level depression had doubled (see Figure 1). Similar trends appeared internationally (Boer et al., 2024; Schrijvers et al., 2024; Twenge, 2026).

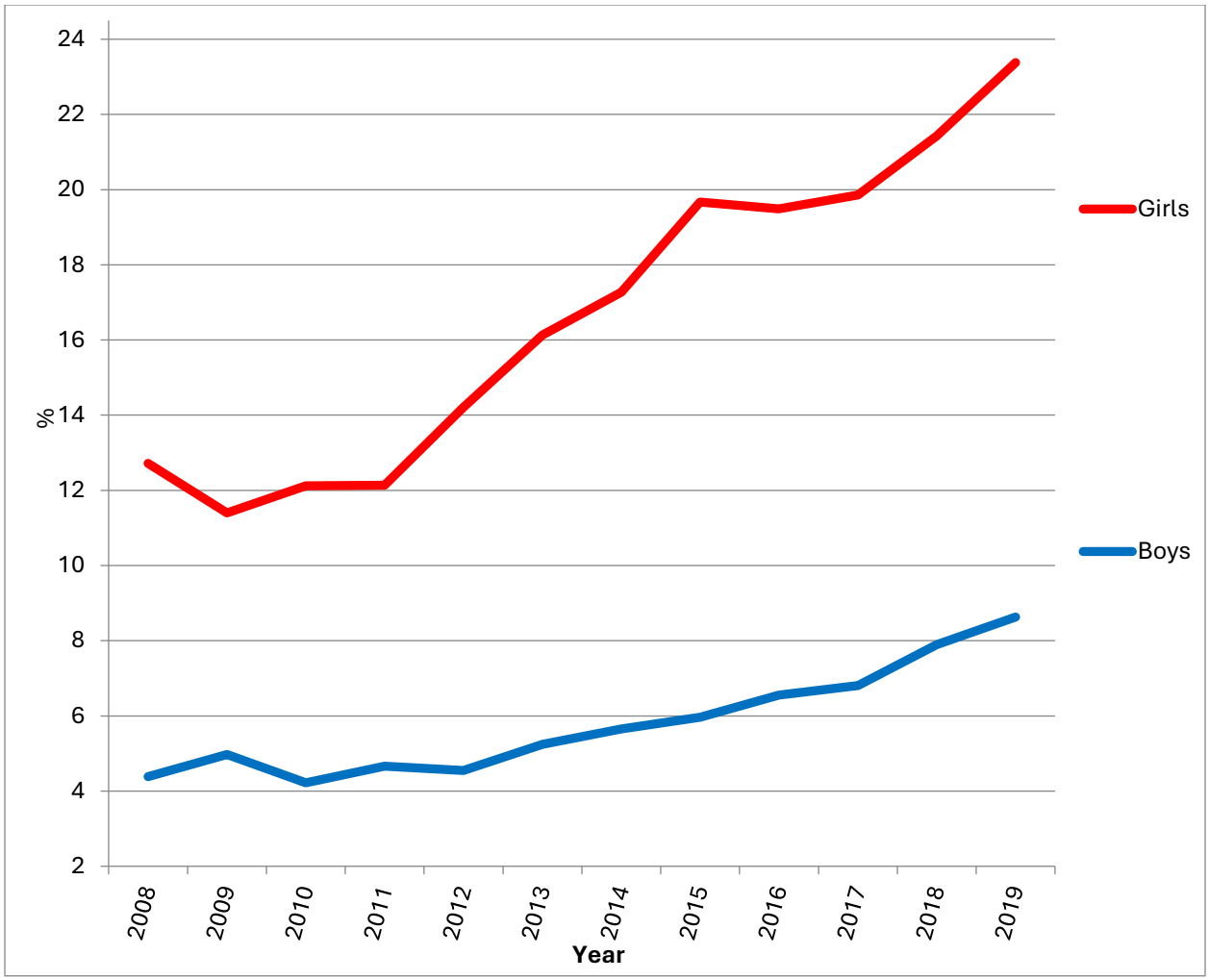

Figure 1: Major depressive episode in the last year, U.S. 12- to 17-year-olds, 2008-2019
Source: National Survey on Drug Use and Health, U.S. Department of Health and Human Services.

This was not due to teens being more comfortable reporting symptoms; the trends also extended to behaviors that can be objectively measured. For example, emergency room admissions for self-harm quadrupled among 10- to 14-year-old girls (see Figure 2).

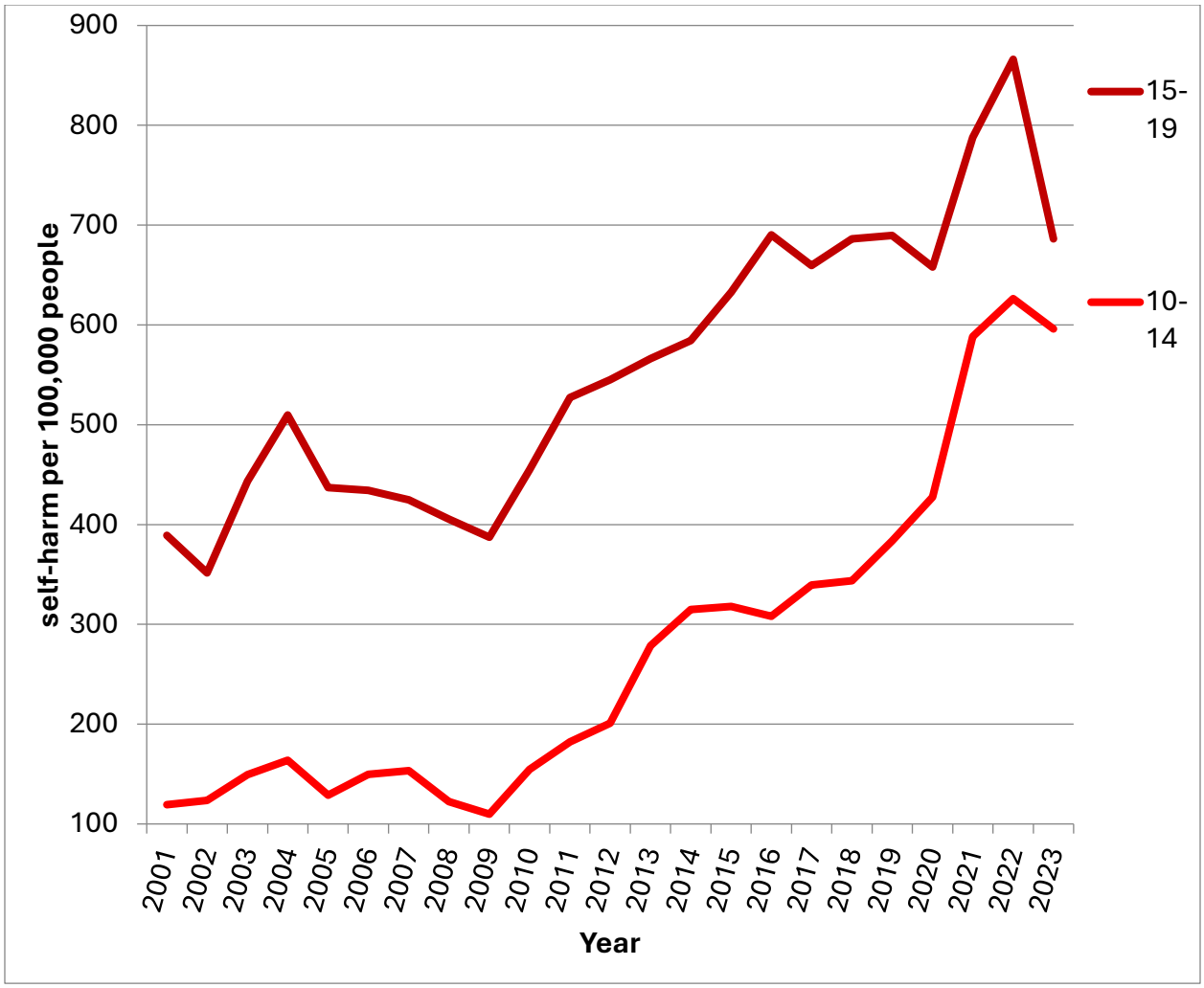

Figure 2: Emergency department admissions for self-harm behaviors, U.S. girls and young women, 2001-2023
Source: WISQARS database, Centers for Disease Control

In addition, the suicide rate for 10- to 19-year-olds doubled among girls and jumped 74% among boys (see Figure 3).

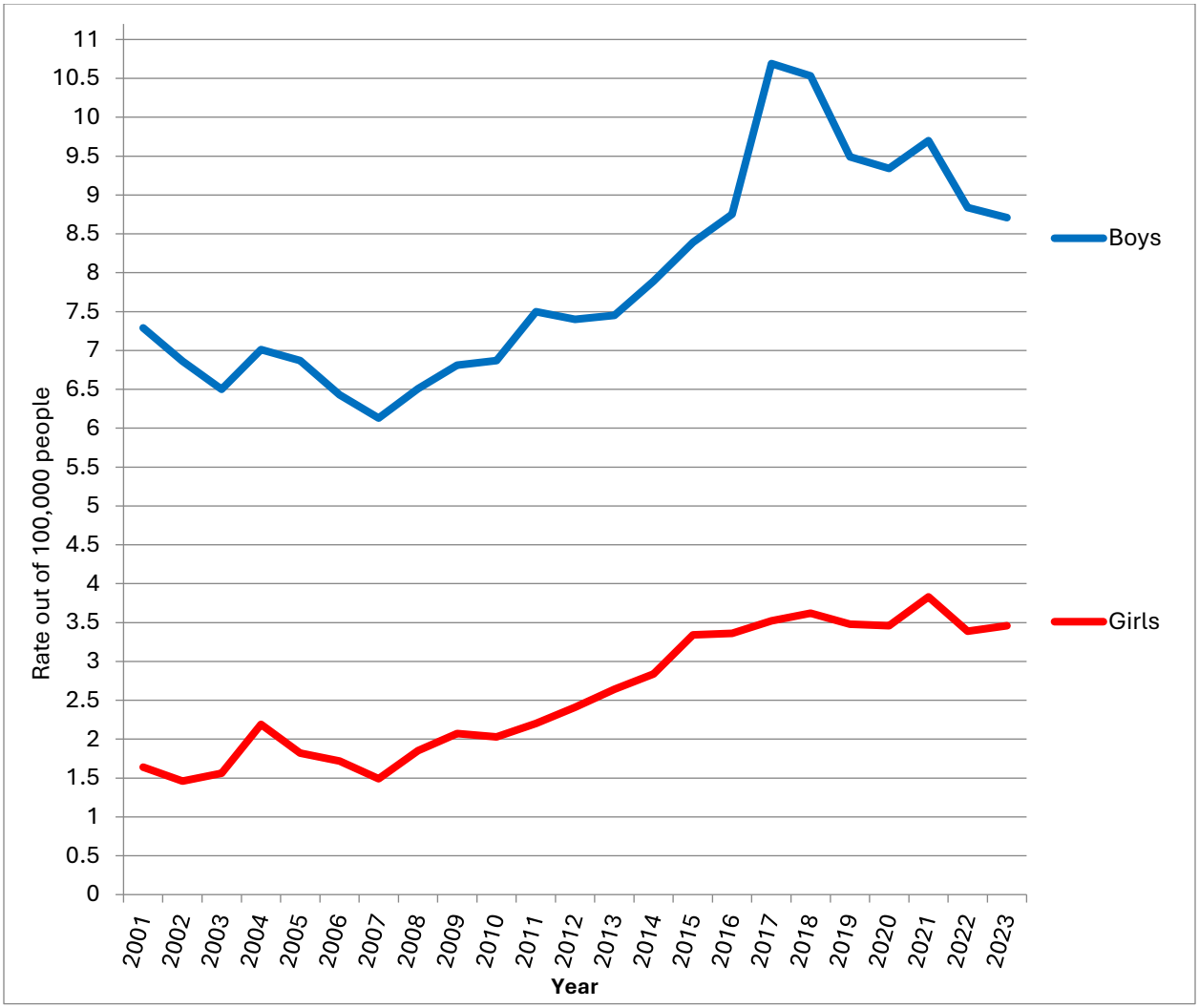

Figure 3: Suicide rate of U.S. 10- to 19-year-olds, by sex, 2001-2023
Source: WISQARS database, Centers for Disease Control

If the suicide rate had stayed at its 2007 low, 12,472 more American 10- to 19-year-olds would be alive today, an average of almost 800 excess suicide deaths a year.

The drivers of the adolescent mental health crisis

Why are American youth now so much more likely to suffer from mental health issues? These trends began 8 years before COVID-19 came to the U.S. They occurred when the economy was on an upswing, when fewer teens were getting pregnant, and when crime was

trending down. But the surge in mental health issues lines up perfectly with another change: The increasing popularity of smartphones and social media (see Figure 4).

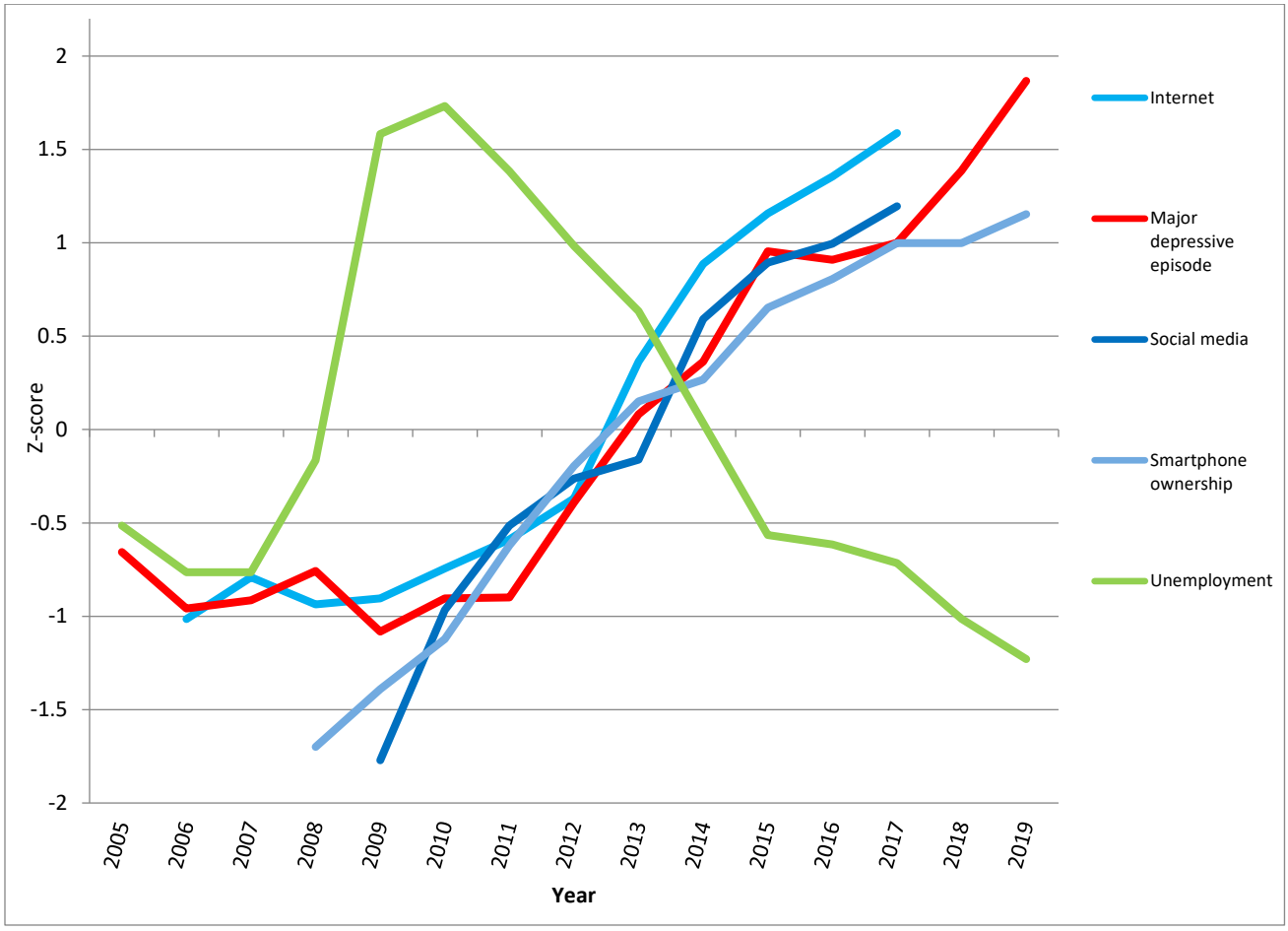

Figure 4: U.S. teen girls' rates of clinical-level depression, time spent on the internet, and social media use and U.S. adults' smartphone ownership and unemployment rate, 2005-2019. Sources: National Survey on Drug Use and Heath; Monitoring the Future; Pew Research Center; U.S. Bureau of Labor Statistics; analyses in Twenge (2025a), Generations. *Notes: Depression was assessed in a screening survey and thus does not rely on physician diagnoses or treatment seeking. Values are standardized.*

At the same time, teens also began spending less time with friends and family in person (Kannan & Veazie, 2023; Twenge & Spitzberg, 2020; see Figure 5) and less time sleeping (Twenge et al., 2017; see Figure 6).

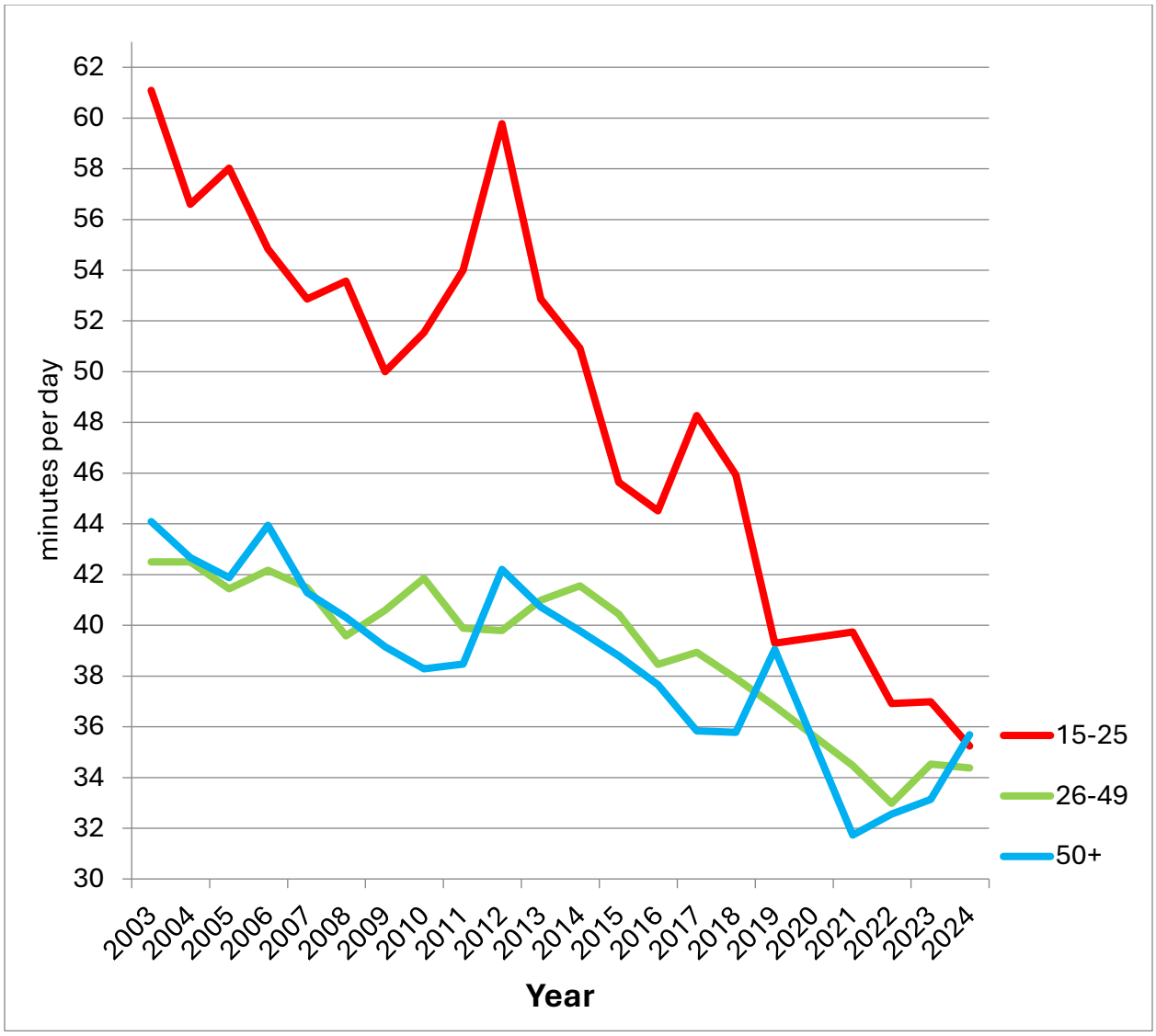

Figure 5: Minutes per day spent socializing in person, U.S. residents, by age group, 2003-2024. Source: American Time Use Survey, U.S. Bureau of Labor Statistics. Based on Twenge & Spitzberg (2020).

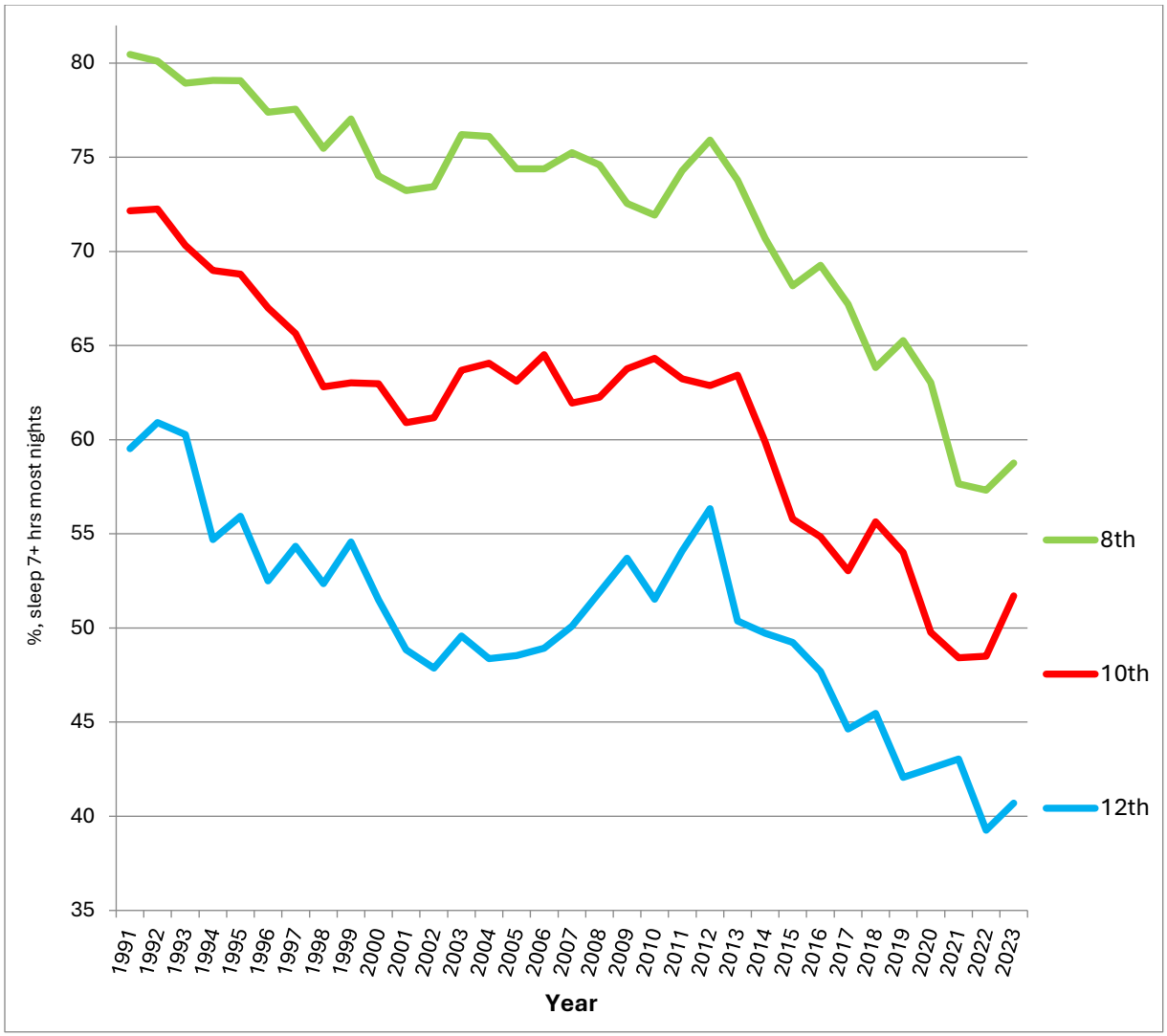

Figure 6: Percent of U.S. adolescents who sleep more than 7 hours a night, by grade, 1991-2023
Source: Monitoring the Future. Analysis by Jean M. Twenge.

This is a terrible formula for mental health: Children and teens who spend more time using social media and/or personal electronic devices are more likely to be depressed, unhappy, or have risk factors for suicide (Kelly et al., 2019; Twenge & Campbell, 2018; see Figures 7 and 8), and those who spend less time with friends in person and less time sleeping are also more likely to be depressed and unhappy (Scott et al., 2021; Twenge et al., 2018). American youth have experienced a triple hit to their mental health.

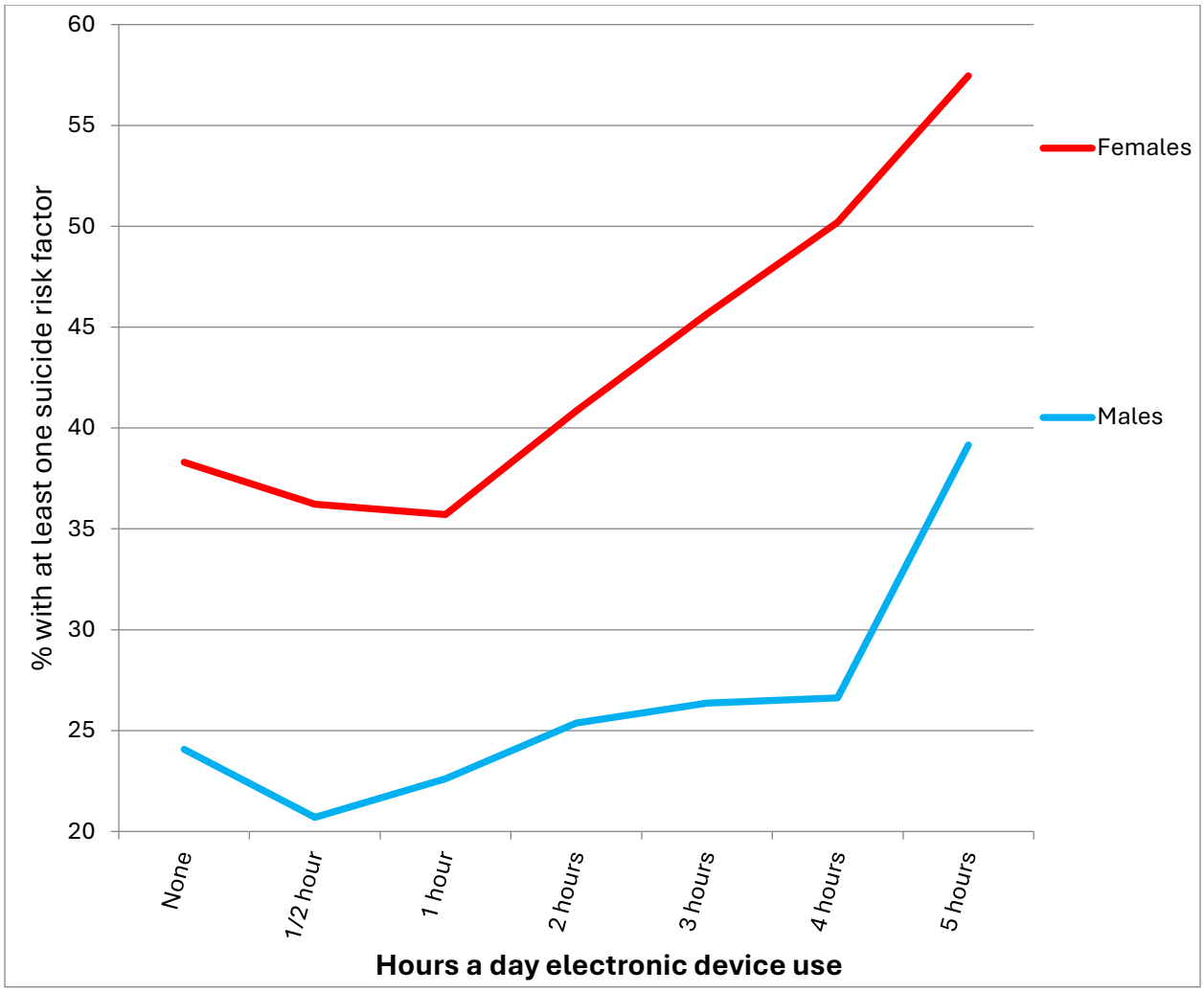

Figure 7: Percent of U.S. high school students with at least one risk factor for suicide by hours per day of personal electronic device use. Source: Youth Risk Behavior Surveillance System, CDC. Analyses and figure in Twenge & Martin (2020). Suicide risk factors include depression, suicidal thoughts, making a suicide plan, and having attempted suicide in the past.

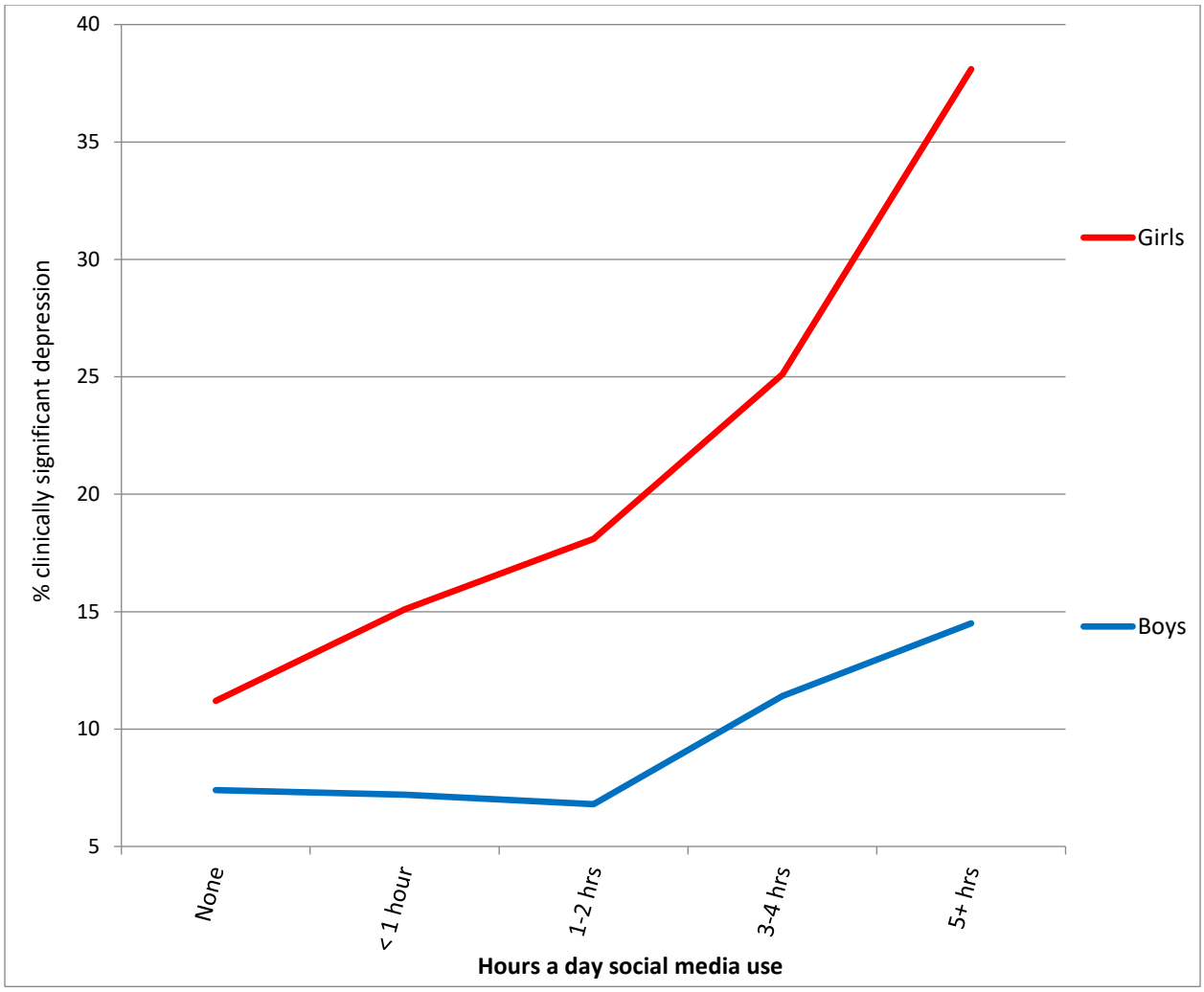

Figure 8: Hours of social media use and depression, U.K. 14- and 15-year-olds, by gender
Source: Millennium Cohort Study. Analyses by Kelly et al. (2019).

The impact has been especially severe for children ages 10 to 15. Increases in depression, self-harm, and suicide since 2010 have been larger in this age group (vs. older teens), and associations between social media time and low life satisfaction are usually stronger in this age group compared to those 16 and older (e.g., Orben et al., 2022). This has led many experts, including myself, to recommend that 16 be the minimum age for social media (Twenge, 2025b).

Screen time is also related to negative outcomes among younger children. For example, preschool children who spend more time using electronic devices are more likely to have behavioral problems (see Figure 9).

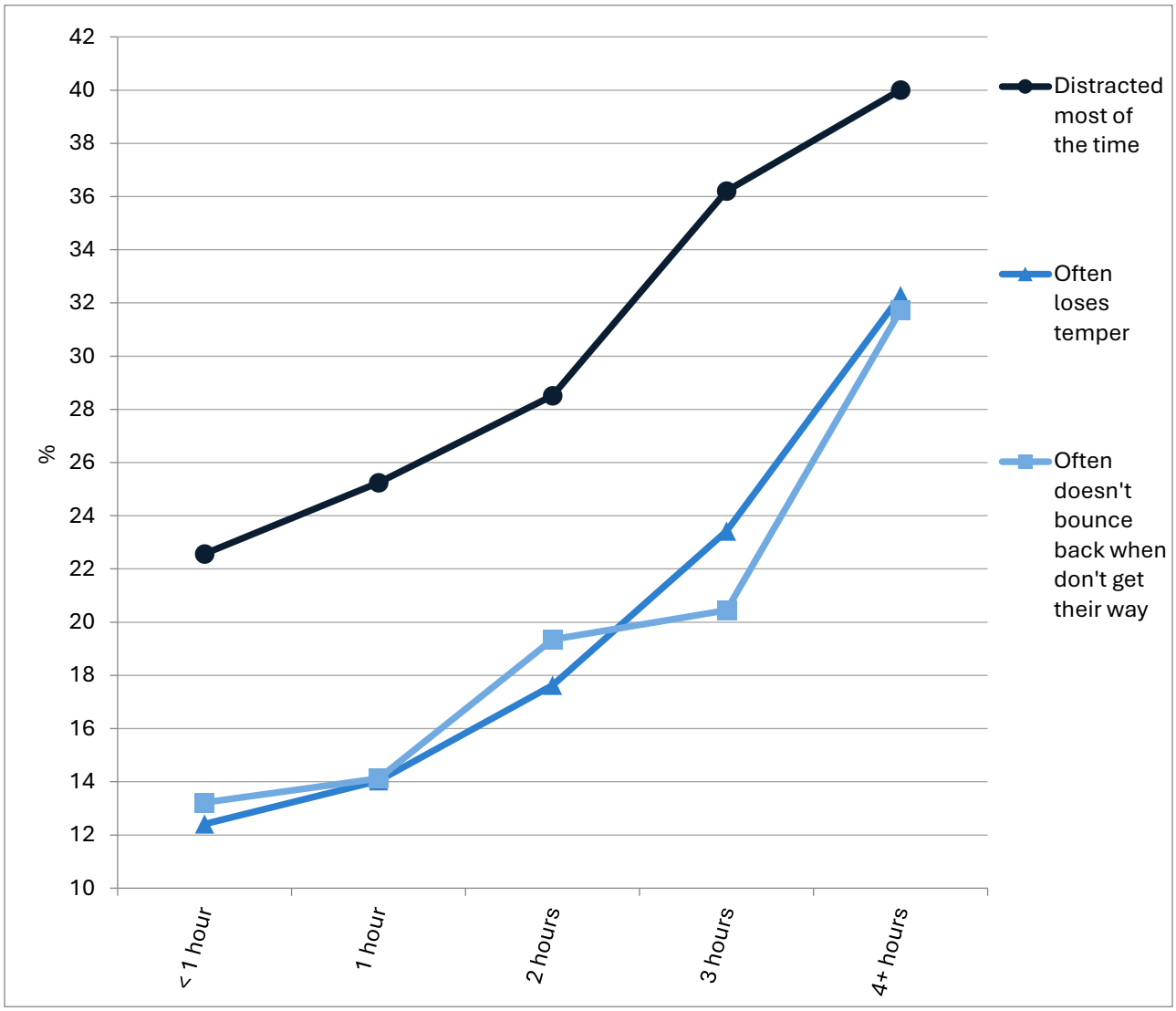

Figure 9: Percent of 3- to 5-year-old U.S. children with certain behavioral and emotional issues by hours of screen time per day. Source: National Survey of Children's Health. Analysis by Jean M. Twenge.

These links are not just correlational, but causal: A randomized controlled trial had families in Denmark severely cut back on children's screen time and compared them to a control

group who continued their usual use of screens. After two weeks, the children and teens who had cut back on screen time were lower in total emotional and behavioral difficulties, internalizing symptoms such as anxiety and depression, and externalizing symptoms such as anger and acting out (see Figure 10; Schmidt-Persson et al., 2024).

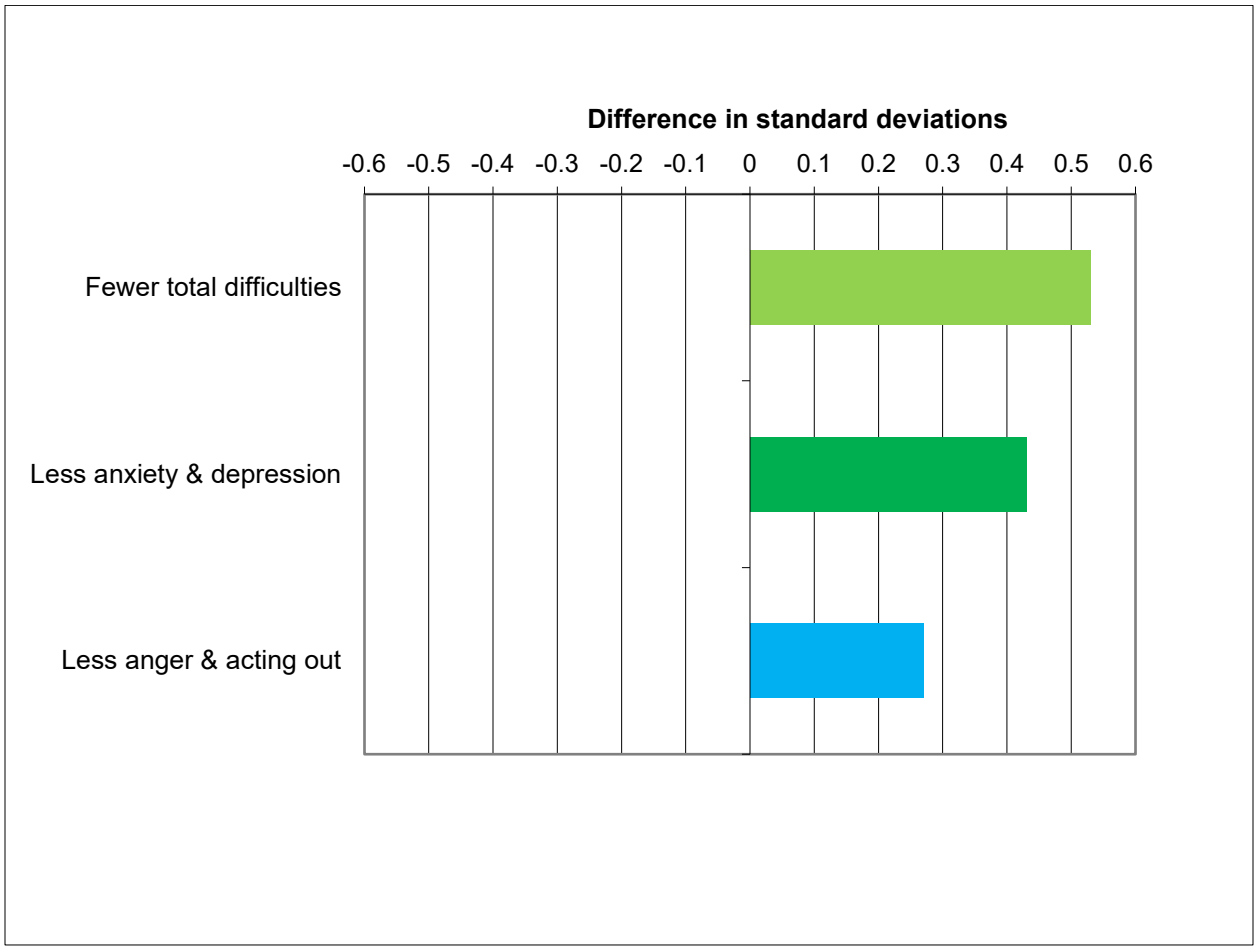

Figure 10: Differences in psychological well-being between youth who reduced screen time and those who did not, standard deviations. Source: Schmidt-Persson et al. (2024)
NOTE: Difference in standard deviations (d) calculated from mean change and standard deviations from each group weighted by sample size.

Cutting back on social media specifically also improves mental health, as found in several specific studies (e.g., Alcott et al., 2019; Hunt et al., 2018) and two recent meta-analyses Burnell et al., 2025; May et al., 2025).

Declines in academic performance

Mental health has not been the only casualty of the phone-based childhood. After rising for two decades, U.S. 8th and 12th graders' scores on standardized reading and math tests declined after 2012 (see Figures 11-12). Although some of the decline took place during the years of the COVID-19 pandemic, the decreases in academic performance began eight years before the pandemic's arrival.

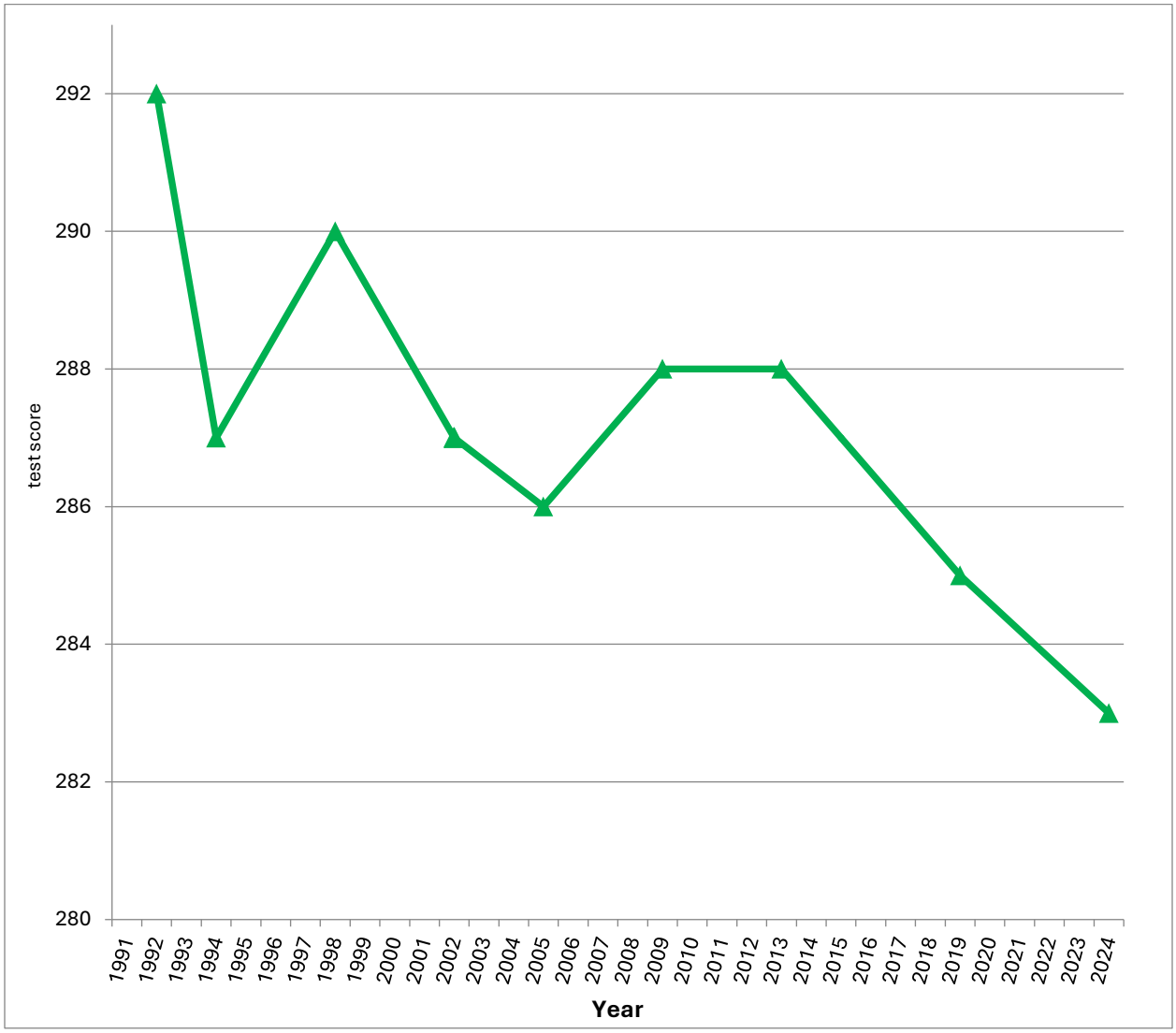

Figure 11: U.S. 12th graders' reading scores, NAEP, 1992-2024
Source: National Assessment of Educational Progress (NAEP)

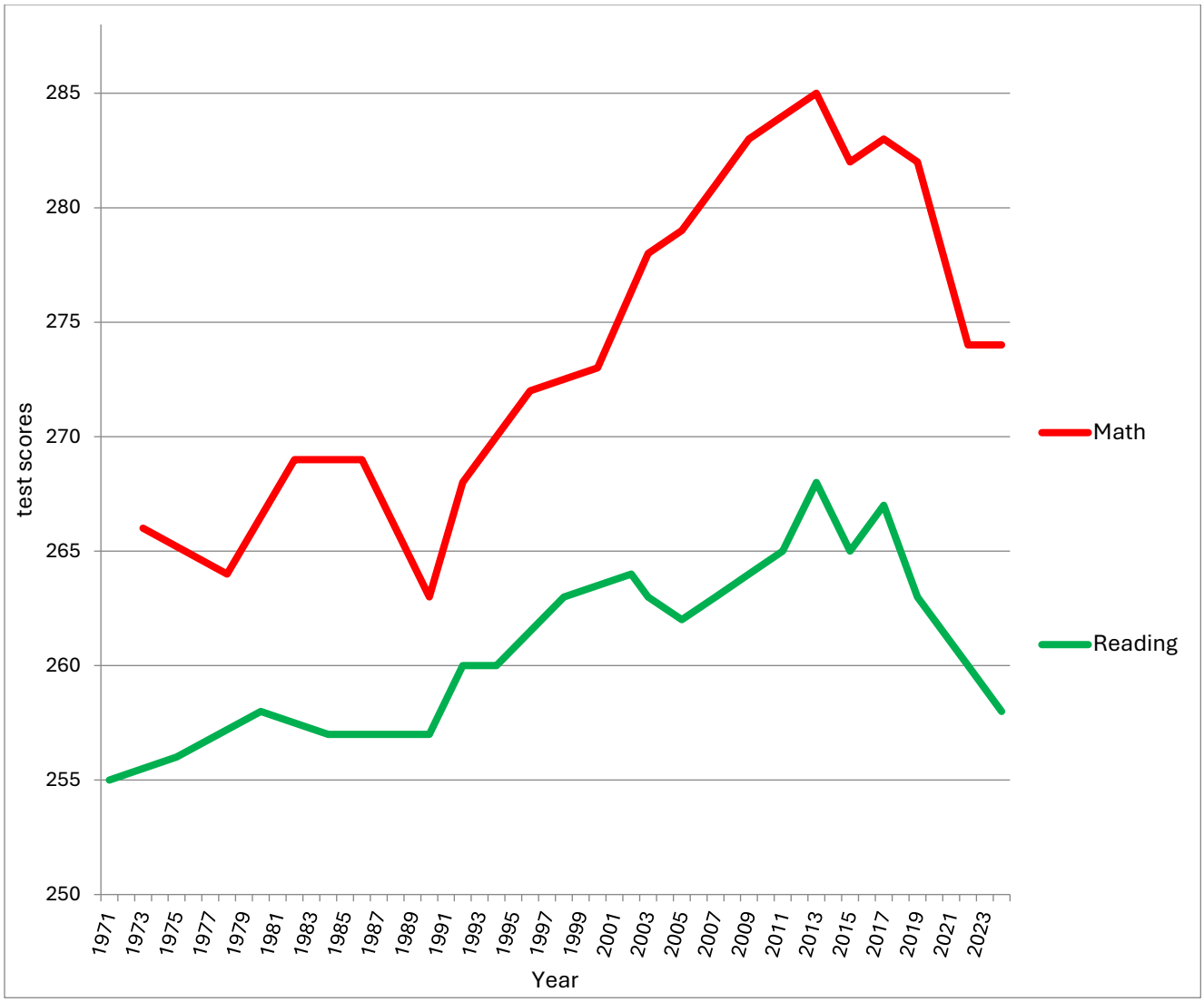

Figure 12: U.S. 8th graders' scores math and reading scores, 1971-2024
Source: National Assessment of Educational Progress (NAEP)

Declines in academic performance in math, reading, and science have also appeared worldwide in the PISA dataset (see Figure 13). These declines also began long before the pandemic, primarily after 2012.

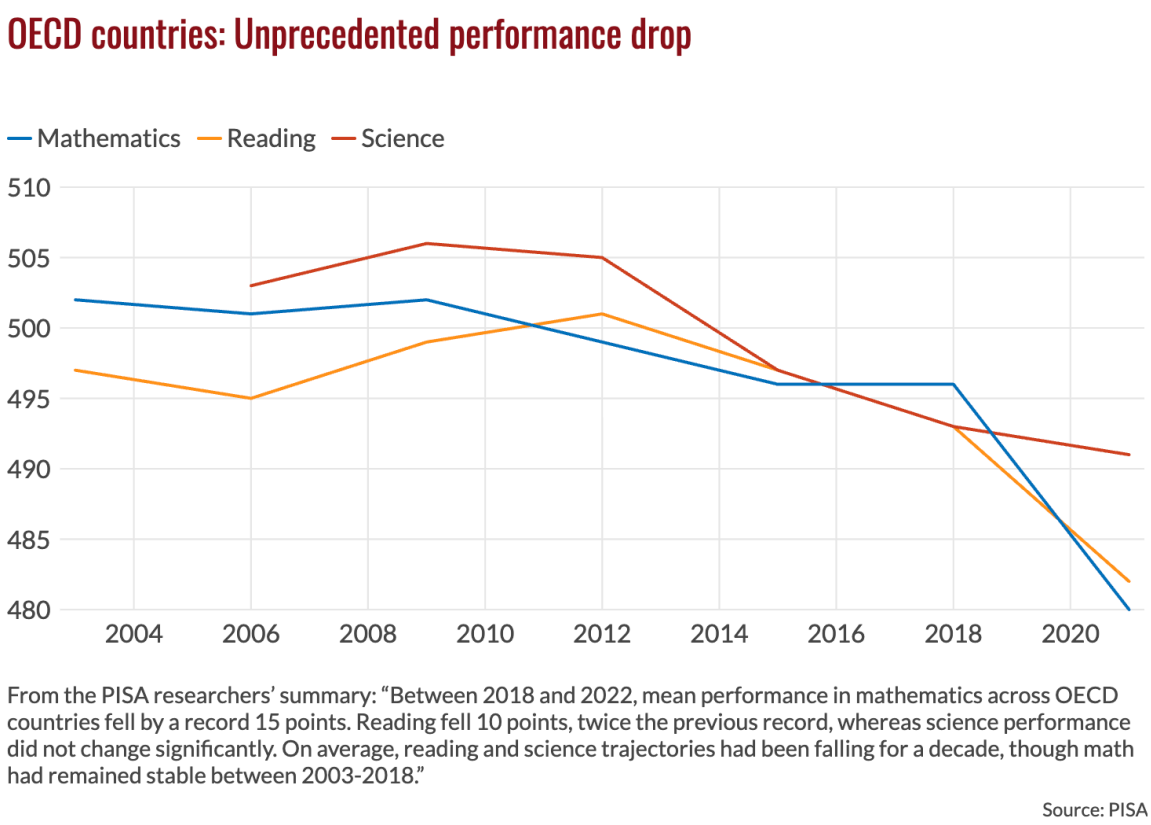

Figure 13: Scores of 15-year-old students worldwide on standardized tests of math, reading, and science, 2003-2022. Source: PISA. Graph by GIS.

The declines in academic performance are also directly associated with the use of electronic devices in school for leisure purposes, with declines in test scores significantly larger in countries where students spend more time using electronic devices for leisure purposes during the school day (see Figure 14).

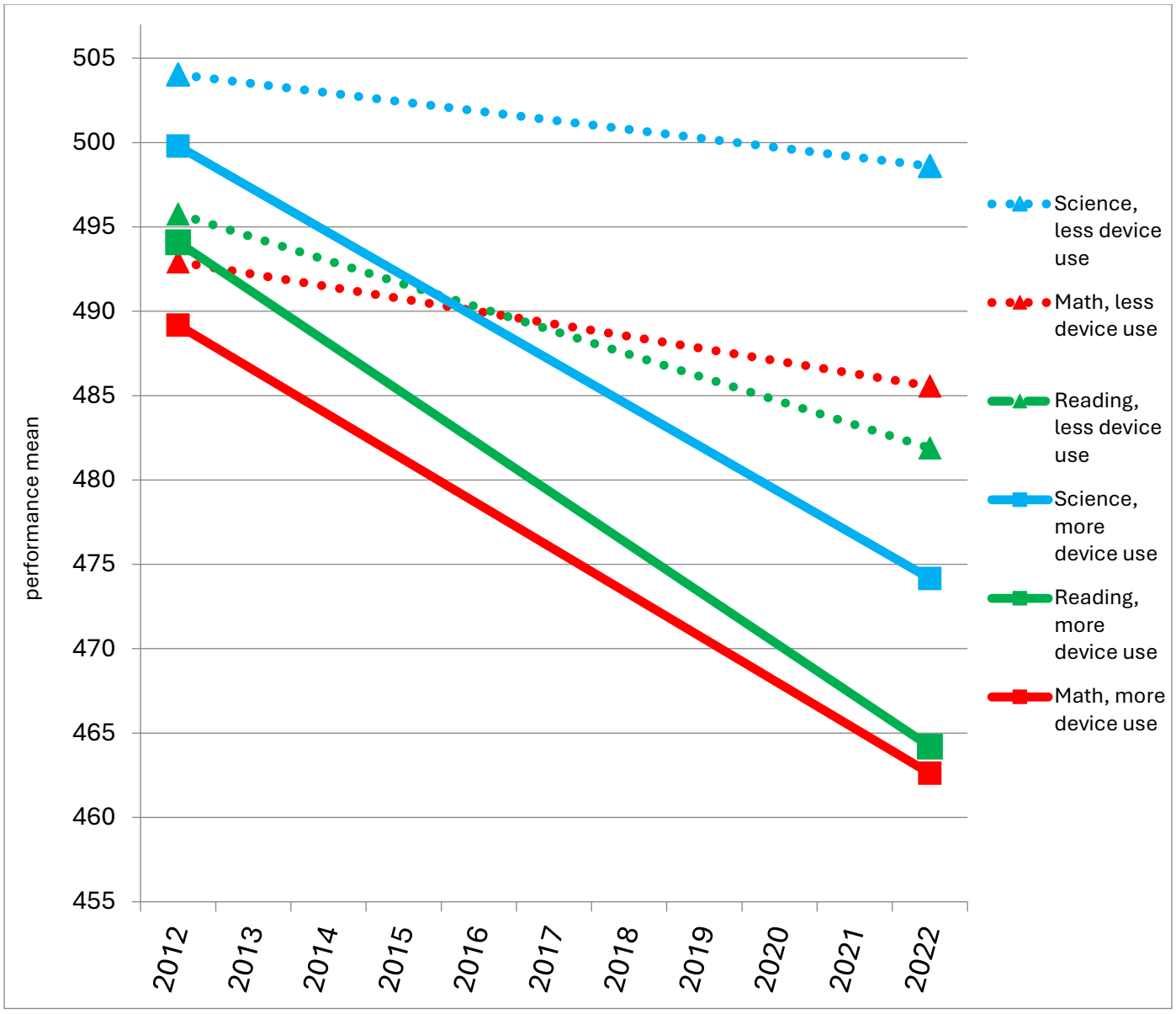

Figure 14: Standardized test scores of 15-year-old students in math, reading, and science, by use of electronic devices for leisure purposes during the school day, 2012-2022. Source: PISA; Analyses in Twenge (2026).

Finland was once known for having the best school system in the world. In 2022, teens in Finland admitted to using their devices during the school day for non-school purposes for nearly ninety minutes. Perhaps as a result, the test scores of Finnish students plummeted between 2012 and 2022. In countries such as Japan, where students spend less than half an hour on their phones

for leisure during the school day, academic performance has instead stayed steady (Twenge, 2026). A recent study in the U.S. found that high school students used their phones during the school day for an hour and 10 minutes, with virtually none of that time for educational purposes. Instead, students browsed social media, played games, and watched videos and TV shows (Negata et al., 2026).

Several experiments have found that the mere presence of a smartphone reduces attention capacity and cognitive performance (Skowronek et al., 2023; Ward et al., 2017). Students with access to devices during class perform more poorly on tests, primarily because phones are so distracting (Lee et al., 2021). In one experiment, college students were randomly assigned to either hand their phone in or keep it while watching a twenty-minute educational video, a format similar to college lectures. They then took a quiz on what they saw. Students who did not have access to their phones scored 7 percentage points higher on the test than those who kept their phones (Lee et al., 2017). A follow-up study found an even bigger difference—those without access to their phones scored 13 percentage points higher on the test (Mendoza et al., 2018).

Phone bans appear to be an effective solution. A study of Norwegian middle schools found that smartphone bans led to improved academic performance, less bullying, and better mental health, especially for girls (Abrahamsson, 2024).

Educational technology and academic performance

Even the use of electronic devices for educational purposes reduces academic performance. Several studies have found that reading on paper leads to significantly better reading comprehension than reading digitally (Delgado et al., 2018). U.S. fourth and eighth graders who spent more time using digital devices in language arts classes performed worse on reading tests (Salmeron et al., 2023). College students who took handwritten notes were 58%

more likely to get A's in college courses than those who typed notes on laptops, and those who typed notes were 75% more likely to fail the course than those who handwrote notes (Flanigan et al., 2024).

Digital homework can also cause issues. One study observed middle school, high school, and college students studying in their homes. Students lasted an average of six minutes studying on their laptops before they started browsing social media or texting. Even with someone observing them, students spent a third of their "study" time not studying – and that was before social media used sophisticated algorithms (Rosen et al., 2013). Distraction can be an issue even with school-issued devices. Many school-issued laptops allow access to YouTube, which can make it difficult for young students to focus on their homework instead of watching short video content. Others allow access to streaming services such as Disney+, Hulu, and Netflix, so students can watch TV shows and movies on devices intended for schoolwork.

The distractions of electronic devices at school

The consequences of device access at school go beyond the classroom. When students are able to use their phones during lunch and breaks, many choose to do so rather than talk to their classmates. Russell Shaw, the head of Georgetown Day School, described seeing students look at their screens instead of fully engaging with one another. "I've watched students who struggle to make friends not learn how to, because they can retreat into the short-term safety of their phones rather than tolerate the discomfort that often precedes finding one's way into a conversation," he writes (Shaw, 2024). "Phones teach our students to abandon the eyes of the person they're speaking to in order to glance at a newly arrived text or Snapchat message."

A Common Sense Media survey found that nearly one out of four teens watched pornography *during the school day*. Half of those said they used a school-issued device to do so

(Robb & Mann, 2023). Thus, not only are minors consuming pornography during school time, but other students can be inadvertently exposed to this adult content at school when students have access to their phones during the school day. My children's school district in suburban San Diego allows high school students to access their phones during the school day. My eldest daughter, who graduated from high school last year and is now in the Navy, sat behind a boy in a high school class who was watching pornography on his phone.

Many student discipline issues are precipitated by texts and social media posts students receive during the school day. In a rural district in Colorado, more than half of the school's disciplinary issues were due to phones, including incidents of cyberbullying, recording fights, and students taking videos of classmates in bathrooms without their permission (Jargon, 2024).

School districts that have banned phones during the school day have reported large declines in discipline referrals. When the North Adams school district in Massachusetts banned phones during the school day, discipline referrals dropped a stunning 75% (Banjeri, 2025). A Connecticut high school reported a 35% decline in suspensions and a 50% drop in students getting sent to the principal's office after requiring students to place their phones in a locked Yondr pouch during the school day (Cross, 2024; Rohn et al., 2024).

Conclusions

The era of smartphones, social media, and school laptops has produced a plethora of concerning trends for children and teens, including skyrocketing rates of depression, rising loneliness, less sleep, less time interacting face to face, declines in academic performance, exposure to pornography during school hours, discipline referrals due to electronic communication, and mass distraction. Electronic devices such as smartphones, tablets, and laptops are behind a substantial amount of these changes: They displace time once spent sleeping

and with friends in person, distract students from focusing on their schoolwork, and are linked to behavioral issues even among younger children. Solutions include raising the minimum age for social media to 16 (and actually verifying age), promoting policies of no student access to phones during the school day, requiring school-issued devices block social media and streaming services, and encouraging parents to delay giving their children smartphones (a recommendation I promote in my recent book, *10 Rules for Raising Kids in a High-Tech World:* Twenge, 2025b). Without urgent action, American youth are destined to struggle with their mental health and to fail to live up to their academic and social potential at school.

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