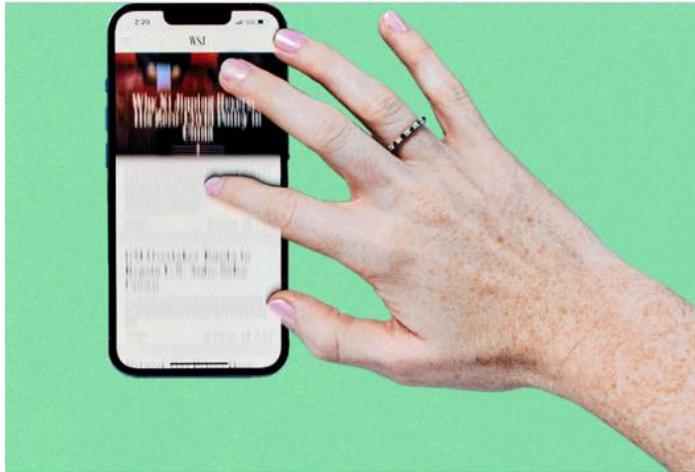# How to Restore Our Dwindling Attention Spans

By Gloria Mark

A question has increasingly plagued me since I began studying our relationship with technology about two decades ago: Will we ever pay attention again? The concern arose from measuring the shrinking attention spans of hundreds of knowledge workers in a variety of work roles. Whether we're talking about a Gen Z or a baby boomer, a CEO or an administrative assistant, attention spans on our computers and phones are short and declining.

To study people's attention on their devices, with my research team at the University of California, Irvine, and with colleagues at Microsoft Research, I observed people in their natural environments and created living laboratories. We used sophisticated computer logging techniques to measure attention spans and heart rate monitors and wearable devices to measure stress. Back in 2004, we found that people averaged 150 seconds on any screen before switching to another screen. By 2012, it had declined to 75 seconds, and between 2016 and 2021, it diminished to 47 seconds. Studies by others have replicated these results within three seconds.

We might be inclined to blame this trend on our growing mass of digital alerts and notifications, or on targeting algorithms aimed at capturing our focus. These do play measurable and increasingly insidious roles. But it turns out that people are nearly as likely to switch their attention of their own volition. We are determined to be interrupted, if not by others, then by ourselves. Simply choosing to check our email is a major reason for interruptions. Our research found that, on average, people check their inboxes 77 times a day. More than 40% of the time, they do it of their own volition, without being spurred by any alert. We now traverse through the internet in an associative whirlwind, and it's hard to stop surfing once we start.

The inability to pay sustained attention has repercussions. Studies consistently show that our blood pressure rises and our heart rate increases with fast attention shifts. In a 2017 study in the journal Media Psychology, subjects reported higher anxiety and stress and lower productivity, while the researchers found that frequently shifting attention leads to more errors and delays in finishing tasks, known as a "switch cost." When we spend time switching attention and reorienting back to a task, we are draining our precious and limited cognitive resources. It's like having a gas tank that leaks, leaving less fuel for the mission at hand.

Are we doomed to see our attention spans spiral into shorter and shorter durations? Completely unplugging from technology might help us recover, but few of us are ready to give up the many benefits of online connections—nor can most of us unilaterally do so at work. There are possible remedies, however, if not real solutions.

As individuals, we can try to use digital technology in a more constructive way. Here we can take our cue from the psychologist Albert Bandura, who developed a number of strategies to regulate behavior such as smoking and substance abuse, but they can also help us to protect our attention spans.

First, we can become more intentional in our actions by examining the reasons behind them: Am I distracting myself because I am bored? Are there other options? Forethought can sharpen our focus by imagining how current actions will affect the rest of the day: Will getting distracted by social media mean that I'll be up until midnight meeting that deadline? Taking proper breaks is also important; research shows that even a 20-minute walk in nature can lead us to increase our generation of ideas. Finally, people can plan to concentrate on important tasks when their mental resources are at their peak for avoiding distraction. Our research found that most people have peak periods of focus in the late morning and midafternoon.

Ironically, new digital technology offers some solutions, too. An AI program can act as a coach promoting productivity and wellbeing by helping to guide and sustain our attention, as in two studies I've done with colleagues at Microsoft Research in 2018 and 2019. In the first, we found that a simple intelligent conversational bot could help keep participants better focused on their goals and able to avoid distraction just by checking in at the beginning and end of the workday about plans and completion, which helped participants detach from work in off-hours and re-attach to their priorities the next morning.

In the second study, a smart digital assistant prompted people throughout the day to take intentional, periodic breaks and alerted them when their social media sessions lasted more than five minutes at other times. In both cases, the technology was designed not to dictate how to work productively but to guide participants to observe their own behaviors and decide their own response.

Institutional decisions can also help us to preserve attention. It's not realistic to cut off email completely, but the volume can be reduced. We found that cutting email off in an organization for one workweek helped people to focus longer on screens and reduced stress. Companies with an email-free day a week have reported positive results. Organizations can also assign a daily quiet time without electronic communications, which can curtail checking the inbox 77 times that day.

The German companies Volkswagen and Allianz have gone a step further and adopted a policy of not penalizing workers for failing to answer electronic communications after work hours. "Right to Disconnect" policies, which impose similar limits, have been instituted in the past few years in Ireland, France and most recently, Ontario. How does this help? A 2017 Academy of Management study found that after-hours work communications created emotional exhaustion, and a 2014 study in the journal Stress Health showed that detaching from work can improve sleep. Our own research found that when sleep deficits increase, attention spans decrease.

Our online behavior is greatly influenced by the wider culture and the ever more sophisticated tools of digital technology, but we can't just blame our short attention spans on algorithms and notifications. We still own our attention, and rather than simply submit to its further attenuation, we can take change into our own hands. Human beings created the internet, and it's up to us, in the end, to decide how much we want to be absorbed by it.

Dr. Mark is the Chancellor's Professor in the Department of Informatics at University of California, Irvine. This essay is adapted from her new book "Attention Span: A Groundbreaking Way to Restore Balance, Happiness and Productivity," which will be published on Jan. 10 by Hanover Square Press (which, like The Wall Street Journal, is owned by News Corp).

Appeared in the January 7, 2023, print edition as 'How to Restore Our Attention Spans'.