**Technology's Effects on our Brains & Bodies**

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Our technology use can be a big part of shaping how we relate with ourselves. While sometimes we may notice this when our necks begin to ache from hunching over a device, or when we feel like a failure after seeing a friend's Instagram story; often, the impacts of technology on our brains and bodies escape our consciousness.

The key to discerning how we can acquire a healthy use of technology is in the realization that our brains are pliable. We can be both negatively affected and positively affected by our use of technology. Here are five ways technology use can impact us physically with ideas for how to better manage moving forward.

**1. Technology Use Can Create Structural Changes in the Brain.**

Pings, alerts, rings, and notifications can shift our focus in a way that can lead to long-lasting difficulties with paying attention. Difficulties paying attention can lead to poorer performance on academic, personal, and professional tasks. In fact, researchers from France and the United Kingdom found that frequent media multitasking may contribute to diminished gray matter in the anterior cingulate cortex, an area of the brain where attentional control resides (Loh & Kanai, 2014).

**Tip:** Turn off most—if not all—alerts and notifications on your phone. Practice scheduling a chunk of time to focus on one task and do not check your email, messages, or notifications until that determined time has finished.

**2. Technology Use Can Wear Out the Pleasure Center of Your Brain**

Dopamine is the neurotransmitter released in response to pleasure or excitement. When we take in near-constant technological inputs of text messages, YouTube videos, pictures, or video games, our brain's pleasure centers (ventral tegmental area, nucleus accumbens, and basal ganglia) can become hyperstimulated by dopamine. This overstimulation can make our brain's pleasure centers less responsive to other enjoyable experiences, such as eating a meal, reading a book, having a conversation, or holding hands.

**Tip:** Swap the highlights of your social media news feeds for a meal with someone in your home-- cell phones off the table. Ever had an in-person conversation and walked away from it feeling like you had forgotten how wonderful it is to go deeper into life updates? Make more time for that and you won't miss the time away from social media.

**3. Technology Use Can Reduce Physical Activity**
The allure of digital gadgets can keep us preoccupied indoors causing us to miss out on physical activity and outdoor experiences. Caring for our bodies requires regular physical activity that strengthens our muscles and cardiovascular system. Studies have linked increased computer and technology use with a sedentary lifestyle and obesity (Fotheringham, Wonnacott, & Owen, 2000). God calls us to take good care of our bodies because they have value in and of themselves and hold our soul and the Holy Spirit. "Do you not know that your bodies are temples of the Holy Spirit, who is in you, whom you have received from God? You are not your own; you were bought with a price. Therefore honor God with your bodies" (I Cor. 6:19–20). We can honor God by not allowing our technology use to interfere with our body's need for physical activity.

**Tip:** Arrange time each week to workout with a friend. Walking, hiking, playing a sporting game, or even taking a Zoom workout class with someone you know can help mitigate the feeling that you are sacrificing social time if exercising regularly is not already a part of your routine.

**4. Technology Use Can Hinder Our Memories**
Research shows we are remembering less information because we know we can look it up on Google or other digital platforms. In one study (Sparrow, Liu, & Wegner, 2011), participants were asked to type 40 trivia facts. Half of the participants were told the computer would save their work, while the other half were told the computer would erase what they had typed. Next, all participants were asked to write down as many of the 40 trivia facts they could recall from memory. The group who had been told the computer would erase their document performed much better on the task than the group who had been told the computer would save what they had typed. This phenomenon of decreased long-term and working memory is often called the "Google Effect." When we consider that some researchers believe cognitive conditions like Alzheimer's disease could be associated with failing to maximize our cognitive capacities, the Google Effect becomes alarming.

**Tip:** Try memorizing the phone number of a close friend or family member. Revive memorizing Bible verses or a quote that is meaningful to you each week. Write down on paper something you learned that you want to remember.

**5. Technology Use Can Reduce Our Sleep**
There are several ways that technology use can result in you getting less sleep. Many people hit the bed at night with phone in hand, planning to make one final check of email or a social media feed. Yet, it can be all too easy to just keeping clicking, and before you know it, you've wandered down several rabbit trails and sacrificed a few hours of sleep. Even after you put down your phone, the blue light your eyes absorbed from your screen may disrupt your natural sleep process, stealing yet more sleep time. Or your sleep may be impaired because you can't stop thinking about your friend's sad social media post or the alarming national or world story you just read. However, reduced sleep increases the risk of psychiatric disorders—including anxiety and depression—and is associated with lower overall brain activity, which can impact productivity, physical safety, and weight management.

**Tip:** Reclaim the last hour before bed as a technology-free time to improve your sleep. Initially, you may want to commit to this for just three nights in a row to see if you notice a difference in your sleep. Often small and concrete goals can lead to better follow-through.

Remember, your brain and your body is moldable. If you've been feeling overwhelmed by all of the technology in your day-to-day life, listen to your body. By implementing periods of intentional limited technology use, you can regain healthier relationships with yourself and others.