

Student Notebook: Why We Fall Into the Machine Zone and How to Get Out

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The next time you're sitting in a crowd of faculty and graduate students waiting for a seminar to begin, take a moment to look around. You'll notice that many of those around you are on their phones — maybe you are too. Whether we're playing games, scrolling through social media, or responding to messages, many of us spend more time on our phones than we'd like to admit. These habits can be detrimental to our productivity and even our mental health. They can take a significant amount of the time away from things that we struggle to find time to do, like finally writing up that manuscript or enjoying much-needed self-care activities. So why do we succumb to this habit?

Need for Social Connection

Most activities that we engage in on our phones are social (e.g., texting, liking posts, looking at photos), reflecting our evolutionary need for social connection. However, smartphones exploit our need for connection, motivating us to meet this need in an unhealthy way (Veissière & Stendel, 2018). Just as it's adaptive for us to crave sugary foods so that we have enough energy to fuel basic bodily functions, it's adaptive for us to desire social connection to survive. However, in both cases, having an overabundance of either can be unhealthy. In the case of social connection, our phones seem to contribute to hypersociality, or a constant need for social connection (Veissière & Stendel, 2018). As graduate students, we should be mindful of this, as our work involves a lot of writing and analyzing data — tasks that are isolating by their very nature. These solitary tasks, coupled with stressful programs of study, can end up amplifying our need for social connection, making our easily accessible smartphones that much more tempting.

Unpredictable Rewards

Psychological scientist B. F. Skinner believed that human behavior is largely controlled by the consequences of our actions. If an action has rewarding consequences, it's more likely to be repeated (Ferster & Skinner, 1957). When rewards are random or difficult to predict, we increase the frequency of a particular behavior with the hope that we'll eventually receive a reward. Our phones can become addictive precisely for this reason — we never know when we'll get that next notification. The buzzing of a notification, and the knowledge that there is a reward to collect, increases dopamine levels in our brain. We anticipate them, sometimes to the point of hearing phantom buzzing (Sauer et al., 2015). It is precisely the unpredictability of the next dopamine rush that elicits frequent phone checking and strong arousal (Veissière & Stendel, 2018). As psychology graduate students, we know all about reinforcement and the famous B. F. Skinner, but that doesn't make us immune to developing these habits. I bet you've even checked your phone while reading this article.

Powerful Habits

Over time, the variable reinforcement schedule of notifications can cause checking our phones to become a habit. Many of us will mindlessly unlock our phones and check one app after another without awareness that we're engaging in this behavior at all. We do this in repeated cycles, referred to as *ludic loops*. For example, you might pick up your phone to check your email, but then you enter a loop of checking Facebook, Instagram, and back to email again, hoping this time around you'll be rewarded with an exciting message, like, or email. Thirty minutes later, you may suddenly realize that you've been scrolling endlessly through these same apps, going from one post to the next, clueless as to how you ended up there. Notifications may initially hook us into checking our phones when we see or hear them but, at some point, we don't even need this cue anymore. Instead, we engage in this checking behavior out of habit.

State of Flow

Flow is a positive state in which you become so pleasantly absorbed with a task that your awareness of your surroundings and even your sense of time seem to fall away. Because flow is so pleasurable, it also has the potential to be addictive (Csikszentmihalyi, 1975). Researchers investigating the dark side of flow have called this the "machine zone" (Schüll, 2012). Similar entering a flow state, when we enter the machine zone, we tend to forget about daily worries, painful emotions, and even our own sense of self (Schüll, 2012). When you're scrolling endlessly through various social media platforms, you may enter this rewarding and reinforcing state, and naturally, it keeps you coming back. Not surprisingly, a recent study has demonstrated that flow is an important factor in problematic smartphone use (Chen et al., 2017). It's important to be mindful that although the state of flow brings about pleasant feelings, when we fall into the machine zone we're entering a dangerous autopilot mode that can pull us away from activities that we truly value.

How Can We Take Back Control?

Turn off notifications.

It's in our power to change the unpredictable pattern of rewards that draws us to our phones: Just turn off notifications and put your phone out of reach. Instead of compulsively checking for a random notification, you can now check your phone on your own terms, whether that's every 2 hours or at specific times of day. This strategy has been shown to help individuals be more mindful and intentional when it comes to their phone use (Alter, 2017; as cited in Veissière & Stendel, 2018).

Be accountable.

Not all apps are out to get you! Downloading an app that tracks your phone use, such as QualityTime, will allow you to set a goal for your phone use and can help keep track of how many times you pick up your phone and how much time you spend on different apps by the hour, day, week, and month. You can set time limits for specific apps, receive alerts when you've reached those limits, and prevent yourself from accessing them by having the apps become locked for a certain period of time (Gazzaley & Rosen, 2016). Seeing the number of hours you *could* have spent writing up that manuscript or working out at the gym may encourage you to take back control.

Make distracting apps harder to find.

We often get pulled into ludic loops without noticing — by taking distracting apps off your home screen, accessing them becomes a slower, more controlled, conscious process. This allows you to reap the benefits of technology without getting stuck in the machine zone (Gazzaley & Rosen, 2016). By limiting your unintentional scrolling, you can use the hours you've saved to do something intentional, such as seeing an old friend — maybe you'll even decide to take a much-needed (and guilt-free!) weekend getaway, just like the ones you're always seeing on Instagram.

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