

Etc. Productivity



84

The Caffeine Coach

A new app serves as an intake-management consultant for Starbucks junkies. *By Drake Bennett*

I am an irregular coffee drinker. I don't need it to get up in the morning, but I do need it after a rough night or a heavy lunch. I am also, though, an irregular sleeper. Some nights I find myself wide awake at 3 a.m. Could it have been that last cup of coffee? Should I have had tea instead? Would that have been enough to get me through the afternoon?

Well, now, as they say, there's an app for that: Caffeine Zone, based on research on the "pharmacokinetics of caffeine." You enter how much coffee or tea you've had, when you had it, and how quickly you drank it, and the app sends you an alert when you might need another cup to keep you sharp. It also warns you when the coffee you're about to have might keep you up at night. On a graph, it maps the amount of caffeine in your body against color-

coded zones corresponding to the compound's metabolic effects.

What are those effects? Frank Ritter, the Penn State cognitive scientist who thought up the app, concedes that the scientific literature on the cognitive impact of coffee is thin; the numbers that undergird Caffeine Zone's real-time graphs are averages and estimates. Still, there is evidence that the compound improves memory and mental processing speed a bit. And it certainly makes people feel more alert.

One of the lessons Caffeine Zone teaches is that the first coffee of the day should be the biggest, and drunk the fastest for a big bump. The rest of the day's doses should be smaller and ingested more slowly to stay in that optimum range. It's trajectory management:

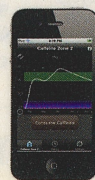
Launch rocket, achieve desired altitude, maintain orbit with tweaks.

According to my Caffeine Zone app, as I write these words 35 minutes after my first sip of Starbucks, I have just entered the forest-green band of optimum cognition. If I don't recaffeinate within the hour, I will leave the zone. I tell Caffeine Zone 45 minutes later that I am about to redose with a 16 oz. coffee. The app warns me this will propel me past the "Max Optimal" boundary—the point of diminishing cognitive returns (200 mg of caffeine per kilogram of body weight). It will also keep me wired past 11:30 p.m., which I entered as my bedtime.

I opt instead for a Cherry Coke with lunch. There is no button for caffeinated soda (there is, strangely, one for caffeinated gum), but there is a custom feature that allows me to enter Cherry Coke's dose information and my intake speed (usually the time it takes me to walk from the upstairs soda machine to my desk, which I round up to five minutes). My Coke's measly 34 mg of caffeine, it turns out, will barely keep me above the 150 mg/kg lower bound of the optimum zone. So I add a medium cup of tea after lunch, which keeps me in the zone for much of the afternoon but will, Caffeine Zone predicts, keep me up for an extra half-hour tonight. That's all right, 11:30 was sort of an aspirational bedtime anyway.

Ritter says he hasn't received any money from Starbucks, Coca-Cola, or any other corporate caffeine peddlers, though he'd take it if offered. He understands that this might compromise the perceived objectivity of the app, but the money would allow him to add new features: People have been asking for a soda button and a menu that allows users to input their smoking habits—nicotine makes the body process caffeine faster.

Of course, the next step might be just to connect the iPhone to a caffeine drip and have it pump a few dozen milligrams directly into a vein when I begin to flag. Or maybe I could rig the app to sync with my workstation and track my typing speed, dosing me when I slow. Where do these strange, idle thoughts come from? My iPhone chimes as Caffeine Zone warns me that I have dropped out of the optimum zone. Time for that cup of tea. **B**



Caffeine Zone alerts users when they're over- or under-caffeinated