- Brain / Social networking

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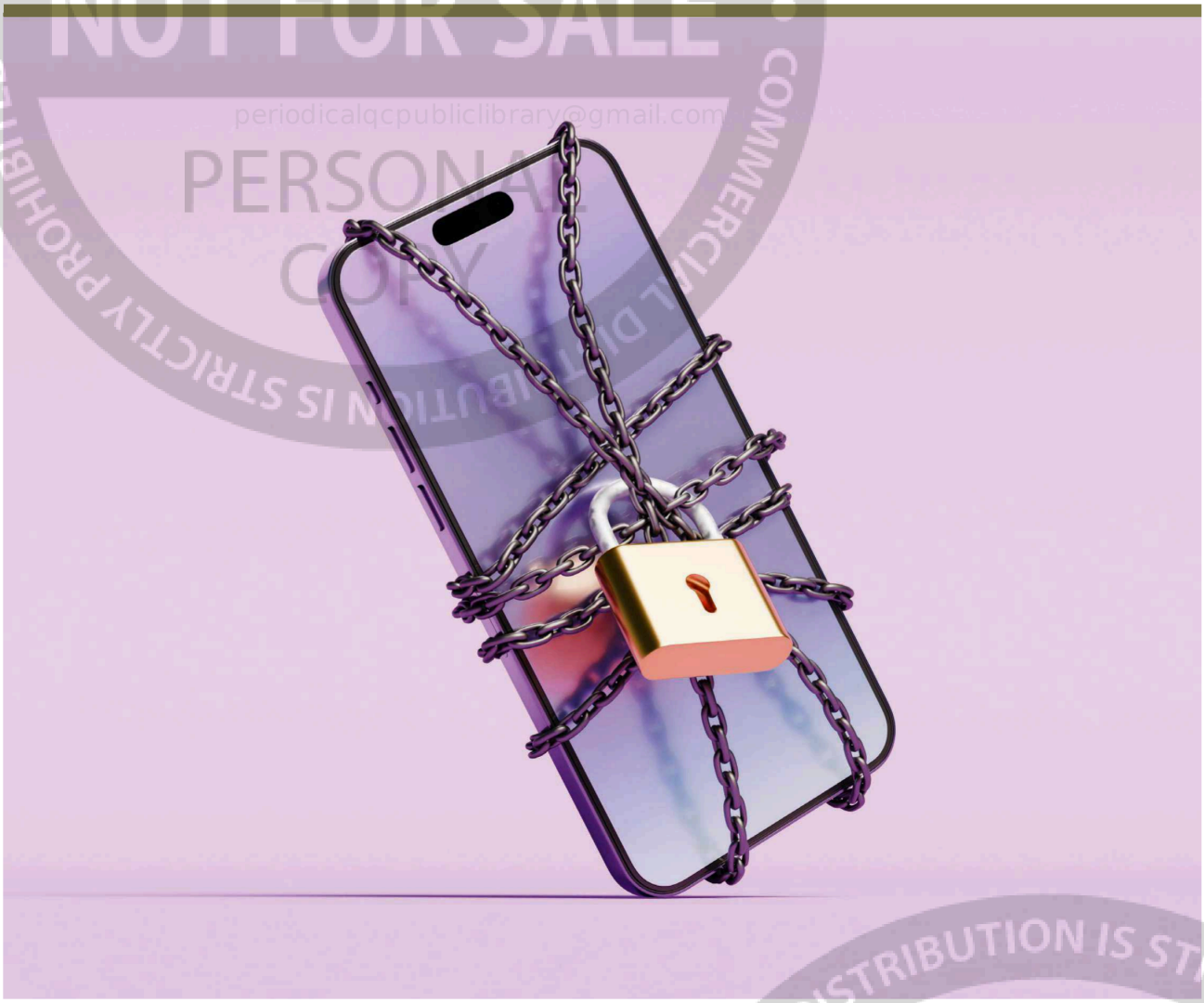

REVIEW

A dopamine detox does little for your brain chemistry

Swearing off social media may well improve your mood, but probably not because it resets your dopamine levels

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The internet is currently awash with articles, videos and podcasts promising to help you "reset your brain's reward system" and "rediscover the joy in life's simple pleasures." Lowering your current level of stimulation, they claim, will help you not only regain your ability to focus, but also become more productive.

The practice has come to be known as dopamine detoxing and, according to its advocates, the reason so many of us are so easily distracted and apathetic is because of the over-availability of short-term rewards. Temptations such as social media, video games, junk food, online shopping, coffee and alcohol have burnt out our brains' dopamine-based reward systems.

The near-constant buzz of these hits has depleted our dopamine levels, leaving us unable to focus on what matters or appreciate the finer things in life.

The basic idea behind a dopamine detox is to cut out all the quick and easy pleasures in our lives for a certain period of time – some detox programmes suggest starting with a single day, before building up to weeks at a time. This, supposedly, will help bring your dopamine back up to a healthier level.

Dopamine detox proponents are tapping into our collective anxiety that attention spans are shortening amid the constant lure of instant gratification, whether it's bingeing on Netflix shows or playing games on our phones. As is often the case with these kinds of pop psychology fads, there's a kernel of truth to the notion, but also a lot of oversimplification and, at times, a cartoon-like interpretation of neuroscience.

> **"The function of dopamine is complex and nuanced"**

DOPAMINE'S DUTY

While it's true that the brain chemical dopamine is involved in rewarding activities, it's a huge oversimplification to imply that your ability to experience pleasure and focus relies on it entirely.

The function of dopamine is complex and nuanced. There are five types of dopamine receptors throughout the brain, all with varied roles. To put things simply, dopamine seems to drive us to want things, but it's not specifically involved in the pleasure we experience when we get them.

Various studies have demonstrated this important distinction between wanting and liking. For instance, when neuroscientists blocked dopamine in the brains of rats, the animals' facial expressions and behaviour suggested they still enjoyed their food, they were just less fussed about seeking it out.

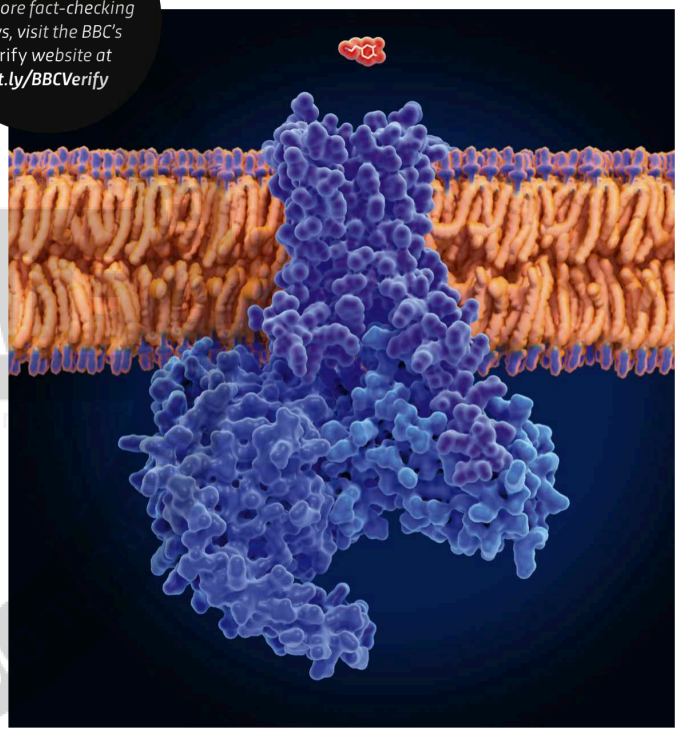
There are also many other brain chemicals involved in reward, such as endorphins and opioids, and attempting to reset your dopamine levels by entirely refraining from fun but frivolous activities is unlikely to make you happier.

There's even a drug for Parkinson's disease called levodopa that specifically boosts dopamine levels, but it's been shown that it doesn't lead to patients experiencing greater focus or happiness. This undermines the simplistic notion that going on a detox to build your dopamine levels back up will bring more joy into your life.

That said, there is some truth to the idea that a dysregulated dopamine system can interfere with a person's ability to experience pleasure. The chronic use of certain drugs – such as nicotine (via smoking), cannabis and opioids – can affect the way that dopamine functions and this can have psychological consequences.

For instance, there's research showing that long-term smokers are at increased risk of anhedonia (the loss of the ability to experience pleasure), especially if they try to give up smoking. It's thought that this is because nicotine artificially raises dopamine levels, so the brain makes adjustments to accommodate. Take the nicotine away and the brain is left with a dysregulated dopamine system, which interferes with the person's ability to find pleasure in other activities.

One way smokers are given support to quit is by encouraging them to find new, healthier ways to stimulate their brain's reward system. You can see this isn't a million miles away from the concept of going on a dopamine detox, which involves cutting out some undesirable rewards and replacing them with →



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ABOVE A model of a dopamine molecule (red) approaching a dopamine receptor cell (blue)

LEFT A dopamine detox often involves taking a temporary break from your smartphone

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"This isn't cutting-edge neuroscience, however, and I doubt it'll reset your dopamine to some fantasy optimal level"

→ supposedly healthier ones, such as exercise and meditation.

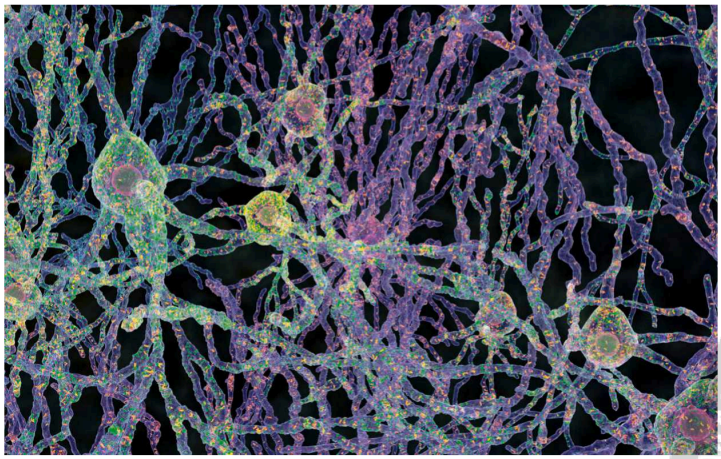
The dopamine detox fad assumes that lifestyle habits, such as social media use and online shopping, are rewiring your brain in a powerful way, similar to using a drug that directly interacts with your brain chemistry.

This is where the comparison breaks down because, as much as we get anxious about aspects of modern life such as screen time and social media, it seems unlikely that they're dysregulating our dopamine systems in a similar way to drugs that have specific chemical effects in the brain.

But although the neuroscience used to justify the dopamine detox concept might be a little flaky, could the practice actually do you any good? Part of the answer comes down to common sense – for instance, if you think you eat too much junk food, then cutting back on it is likely to be good for your health.

But there's little, if any, scientific research on the consequences of taking a radical and complete break from a whole range of things like Instagram, online shopping and fast food. Scientists would typically want to see randomised controlled trials that compare the detox approach with other strategies, to see what benefits, if any, ensued.

Some studies have looked more specifically at having a digital detox – going on a brief retreat without your smartphone or other devices. One paper from 2014 compared a group of pre-teens who went on a device-free nature camp with a control group who went to school and had access to devices as usual.



BELOW The dopaminergic neurons in your brain play a key role in voluntary movement, mood, reward and stress

by **DR CHRISTIAN JARRETT**
Christian is a cognitive neuroscientist, science writer and author.

The device-free group seemed to improve their scores when taking a test of emotional recognition more than the control group, presumably because they got back into the hang of communicating in real life. However, the lack of scientific rigour in the study makes it hard to make any strong inferences. Other research has explored the benefits, such as reduced stress of mindfulness retreats, which typically involve adopting dopamine detox-style practices.

CHANGE YOUR HABITS

There's another perspective, based on the psychology of habits, that counts in favour of the dopamine detox approach, however, even though it doesn't really have anything to do with resetting your dopamine.

Let's say you feel that your social media use is out of hand. You spend every spare minute mindlessly scrolling through your social feeds. You could say your behaviour has become habitual – it's something you do automatically, without thought.

Habits build over time through repeated association between the behaviour and certain cues. In this case, the cue might be the sight of your phone.

To break this habit, you could try to use willpower. Whenever you feel the urge to start scrolling, you'll try to fight it. But this is going to be difficult considering you usually start using social media without even thinking about it (the same might be true for other behaviours you're unhappy about and want to do less of, such as shopping online).

Arguably, the framework of a dopamine detox could help you to break these various habits by taking the radical step of completely abstaining from social media and other fast rewards for a set period.

There are various 'blocking' apps that can help you with this, by weakening the associations that underlie the behaviours you want to do less of. The case could be made that this will help you start to behave less out of habit and with more intention instead.

This isn't cutting-edge neuroscience, however, and I doubt it'll reset your dopamine to some fantasy optimal level. It is a basic productivity and lifestyle hack that might be worth trying, though.

Just bear in mind that it's not guaranteed to be effective. You might find that you experience a rebound effect – after a week without the pleasure of watching TikTok, you might find the experience even more intense and alluring. So, rather than going cold turkey, it might be better to try setting a goal to reduce your unwanted behaviours by a set amount, say half. Why not experiment and see what suits you?

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