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BRAINPOWER

How Our Brain Controls Our Habits

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A few weeks ago, I caught myself reaching for my mobile phone in the morning before I'd even had my first conscious thought. Not because I wanted to. My brain had already made the decision long before 'I' could even have a say. This is precisely the essence of what neuroscientists refer to as a habit, and this is where it becomes fascinating for our mental health.

Every new action begins in the prefrontal cortex, our centre for planning and decision-making. We weigh things up, consider our options and make conscious decisions. However, if we repeat an action often enough in the same context, control gradually shifts to the basal ganglia – deeper-seated structures specialising in automation. In doing so, the brain literally saves energy. Once an action has been automated, it no longer needs to weigh things up anew each time, but instead falls back on a kind of stored 'default routine'.

Reward and repetition

A particularly fascinating study from 2025 even shows that our brain uses two separate learning systems for this: one learns from reward ("Was that good for me?"), the other simply from repetition ("I've done it that way many times before"). It is precisely this second system, independent of any reward, that forges stable habits through repeated action. This explains why we sometimes cling to a behaviour even though it has long since ceased to benefit us. Part of our brain no longer even asks whether it's still worth it.

My neuro-hack No. 1: **When I want to build a new habit, I consciously link it to an existing, already automated routine in my daily life – for example, on my way to work, after brushing my teeth or whilst the coffee is brewing. The brain loves fixed contexts, so this linking makes the most of that.**

Why '21 days' is a myth

Hardly any other figure haunts self-help guides as persistently as the '21 days to a new habit'. It does not originally stem from habit research, but from observations made by a cosmetic surgeon in the 1960s. The most important system-

atic study on this to date, conducted by University College London, paints a very different picture: on average, it took 66 days for a new behaviour to become truly automatic, with a huge range from 18 to over 250 days, depending on the complexity of the behaviour and the individual. A major new meta-analysis involving over 2,600 participants confirms this picture. The comforting thing is that a single day's break does not undo the automation, as long as you get back on track afterwards.

Neuro-hack No. 2: **I consciously do not expect perfection from myself, but rather consistency. Because I know that, thanks to its great neuroplasticity (ability to change), my brain changes as a result of my consistent behaviour and neural connections are formed. A day off or a missed opportunity is not a setback, but part of the process. This takes an astonishing amount of pressure off.**

Willpower alone is not enough

For a long time, the idea persisted that willpower was like a muscle that tires over the course of the day or can even be 'recharged' with glucose – a phenomenon also known as 'ego depletion'. However, several large, carefully controlled studies in recent years have failed to confirm this effect. The belief in limited willpower even seems, to some extent, to contribute to one's own exhaustion. In practical terms, this means: it's less worthwhile to hope for more discipline than to organise one's environment in such a way that the desired action becomes the easiest option – and the undesired one the most inconvenient.

Neuro-hack No. 3: **I deliberately put obstacles in the way of bad habits – for example, my smartphone never goes into the bedroom or onto the dining table – and make good habits as convenient as possible, such as having my sports kit ready the night before. A little friction or simplified decision-making often achieves more than grand resolutions. A specific 'if-then' plan is also more effective than the mere intention 'I want to change this': 'If I'm sitting on the sofa in the evening, then I won't even pick up my smartphone, but will put on my running shoes first.' Such pre-planned responses to familiar situations bypass the automatic routine before it can even kick in.**

> Change doesn't require more discipline. It requires better habits.

Integrating brain-friendly habits in a targeted way

Not every habit we train ourselves to adopt has to be complicated. Some of the most effective ones are surprisingly simple – we've simply forgotten how to incorporate them regularly. For me, music and exercise are right at the top of the list. Even just a few minutes of dancing, or even spontaneous singing and humming, have a direct effect on our nervous system: The vibrations produced by humming have been shown to activate the vagus nerve – our most important 'calming nerve' – thereby immediately reducing stress levels and heart rate. Particularly in tense moments – before a difficult phone call, between two meetings – this is one of the quickest, most discreet interventions I know. Contact with nature also falls into the same category. A now widely cited study by the University of Michigan shows that spending just 20 to 30 minutes in an environment perceived as 'natural' – a park, a garden, even in the middle of the city – measurably lowers cortisol levels. The benchmark here isn't hiking amidst Alpine scenery, but simply: regular, brief contact with greenery.
And finally, the body itself: rather than a single long workout, recent reviews show that short 'exercise snacks' spread throughout the day – a brisk climb up the stairs, twenty squats between two appointments – have been proven to improve mood, blood sugar regulation and even executive brain functions such as working memory and attention. Combined with carefully chosen, blood-sugar-stabilising snacks instead of sugar spikes, this keeps the prefrontal cortex functioning significantly more effectively throughout the day.

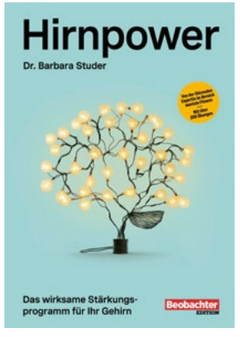
Neuro-hack No. 4: **I've got into the habit of consciously humming briefly or singing a few bars between appointments – even when I'm alone in the car or in the corridor. It feels a bit strange at first, but it has a surprisingly quick calming effect. To this end, I schedule a fixed 'green moment' every day, and if I realise I've been sitting for too long, I deliberately fit in a short exercise session before carrying on with my work – not as an extra item on my to-do list, but as part of the working day itself.**

Mindful media use to keep the brain fit

The more I understand about habits and automation in the brain, the more critically I view my own media consumption. Passive scrolling is perhaps the most highly automated habit of our time – short, unpredictable reward cues that tap into precisely the repetitive learning system we described at the start, regardless of whether the content actually helps us progress.

A second, more recent development particularly concerns me in this regard: our interaction with artificial intelligence. A study from 2025 involving 666 participants found a clear link between frequent AI use and weaker critical thinking skills – mediated by an effect known as 'cognitive offloading': we delegate the thinking to the tool instead of doing it ourselves. This doesn't mean avoiding AI – but it does mean using it consciously.

Neuro-hack No. 5: **My own rule is: think for yourself first, then bring in AI. I formulate my own assessment or solution before I even ask an AI – and then use it as a sparring partner to challenge my thinking, not as a substitute for it. That way, the thinking stays with me, and the tool becomes a complement rather than a shortcut.**



Hirnpower, the book

Dr Barbara Studer is a neuroscientist and co-founder and CEO of Hirncoach AG, an award-winning start-up offering hybrid programmes for mental fitness and health. She conducts research and lectures at the University of Bern and is a bestselling author, speaker, musician and recognised science communicator. Dr Barbara Studer's workbook *Hirnpower* is the number one non-fiction bestseller and offers a year-long programme to strengthen the brain.

Consciously strengthening connections

Perhaps the most underestimated lever for a healthy, high-performing brain is not individual at all, but social. Amy Edmondson's research and Google's well-known 'Project Aristotle' study, which examined over 180 teams over a two-year period, independently reach the same conclusion: psychological safety – the shared feeling of being allowed to admit mistakes and ask questions without being exposed – is the strongest single factor for team performance, more important than individual skills or experience.
Even though working from home is now possible almost everywhere, face-to-face interaction offers something that is difficult to replicate via video. Research into interpersonal synchronisation shows that speaking rate, facial expressions and even heart rate synchronise during direct contact – an effect that is noticeably limited via screens due to delays and the absence of secondary communication channels. This does not mean that remote working is bad for relationships, but it does mean that face-to-face meetings are not just a nice bonus, but a distinct contribution to genuine connection that cannot be fully compensated for digitally.

Neuro-hack No. 6, as CEO of Hirncoach: **I deliberately schedule regular in-person days for our team, precisely because working from home is an option – not on principle, but because I know how much trust and openness is built up in the informal moments in between, which are almost impossible to create online. And in every team meeting, I try to actively ask at least once where someone is feeling uncertain or needs support, rather than just asking for results. Psychological safety isn't created by a single announcement, but through many small, repeated signals – and in this respect, it's remarkably similar to every other habit we've discussed here.**

A personal closing thought

What reassures me most about this research is that habits aren't a reflection of character. They're a clever, very human mechanism our brain uses to conserve energy. Once you understand this, you no longer need to condemn yourself for a 'lack of discipline', but can start working with your own brain rather than against it. For me, this is where true brain power lies: not in a constant battle with yourself and your own discipline, but in the clever design of your own environment and routines.

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