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What Is a Habit?

Habit is a cable; we weave a thread each day, and at last we cannot break it.

—Horace Mann

In her teenage years, Joelle was an avid reader of books, but now, in her 30s, she never seems to have the time. Recently, Joelle realised how much she missed the enjoyment of reading a good novel. She wanted to get back to reading so she decided to set her alarm just 20 minutes earlier each morning and read a few pages with a cup of coffee before doing anything else. The first couple of days she was tempted to ignore her alarm, but she didn't give in and, after two weeks, it became a routine which Joelle looked forward to. By the end of the year, Joelle had read and enjoyed 14 books. She felt more focused and relaxed each morning.

Every night after dinner, Tom told himself he'd just check his phone for a few minutes – scroll through messages, maybe watch a couple of videos. But a few minutes always turned into an hour or more. Before he knew it, Tom had spent the evening watching random clips and comparing his day to what other people had posted about their day. Finally, he would go to bed tired and annoyed with himself, telling himself that tomorrow night would be different. But it never was.

Leah used to be an early riser, starting each day with a run and a healthy breakfast. But after a few late nights at work, she hit the snooze button once, then again the next day, and again a few times the following week. Soon, morning runs disappeared, and breakfast became whatever she had time for before rushing out the door. What started as a small choice turned into a daily habit that left her feeling sluggish before the day had even begun. It wasn't until a friend asked, 'When's the last time you ran?' that Leah realised how far she'd drifted from the routine that made her feel good.

These three stories share a theme: each story shows that what we repeat – whether helpful or unhelpful – eventually becomes our default behaviour. It becomes a habit.

Joelle *built* a new habit (reading again) by repeating it daily until it became automatic. Tom *reinforced* a bad habit (evening phone use) through nightly repetition. Leah *lost* a good habit (morning runs) after a few small changes disrupted her routine.

Despite our best intentions, many of us struggle with dropping bad habits and establishing new, good habits. And yet at some time in our lives, we *have* each dropped a bad habit – staying up too late, for example, or smoking or vaping. And we all have good habits: the habit of looking both ways before crossing the street and the habit of brushing your teeth at the beginning and end of the day are habits that we have no problem carrying out.

Whether it's what you eat and drink, how much you exercise, the way you interact with others, how you structure your workday, or even how you think, developing positive, helpful

habits – and letting go of unhelpful ones – can make a big difference to your physical and mental health and wellbeing.

To make those changes effectively, it helps to first understand what a habit is and how habits work.

A habit is simply a behaviour that's repeated regularly until it becomes automatic. Whether it's a healthy habit, like regular exercise, or a less helpful one, like snacking on sugary foods, most habits follow a habit loop – a learned connection between a cue (something that prompts the behaviour) and a response (the behaviour itself).

Habit loops

A habit loop is a concept from psychological and neuroscientific research explained by Charles Duhigg in his 2012 book *The Power of Habit*. In the book, he describes how habits form through a simple three-part cycle: cue → routine → reward.

Cue: Habits begin with cues that prompt automatic responses, even when we don't consciously notice them. A cue acts as a prompt that your brain learns to associate with a specific action. For example, feeling stressed (an internal cue) could prompt a habitual response – maybe to smoke a cigarette or to eat chocolate. Seeing your running shoes by the door (external cue) could be the cue for you to go for a run. Shutting the front door is the cue to lock it.

In the stories at the beginning of the chapter, Joelle's cue was her morning alarm and cup of coffee. Tom's cue was finishing

dinner and seeing his phone on the table. Leah's cue was the sound of her alarm – but tiredness led her to hit snooze.

Routine (or behaviour): This is the action or behaviour that follows on from the cue. It's the habit itself – smoking a cigarette or eating chocolate or going for a run. The running shoes are the cue, going for the run is the routine or behaviour. Another example is the habit of looking both ways when you cross a road. The edge of the pavement and the intention to cross the road is the cue, looking both ways is the behaviour.

Joelle's routine – her habit – was reading her book, Tom's routine was scrolling through his phone and Leah's was hitting the snooze button and going back to sleep.

A cue can trigger different kinds of routines and behaviours – physical or mental – that make up the routine part of the loop. Physical behaviours are the observable actions – for example, having a snack (cued by an ad break while watching TV) or biting your nails (cued by feelings of anxiety).

Mental behaviours are thoughts and feelings prompted by a cue. For example, when you're reminded of someone who, a long time ago, you argued with and have not spoken to since, you replay the argument in your head.

Reward: The reward is the positive outcome your brain receives from completing the routine. It might be a feeling of achievement, satisfaction, relief, distraction, comfort, or relaxation. The habit of going for a run, for example, may be rewarded by a sense of achievement and feeling mentally and physically energised. The habit – the routine – of

replaying the argument is rewarded with feelings of self-justification or righteousness.

Joelle's reading habit gave her pleasure and a sense of calm. Tom's scrolling habit rewarded him with entertainment. Leah's snooze habit gave her comfort and pleasure.

Rewards aren't always something you consciously notice. More often, they're felt subconsciously as emotional or physical relief, comfort, or pleasure. This reward is what reinforces the habit loop, teaching your brain to repeat the behaviour the next time the cue appears.

The habit loop: from cue to craving to reward

As you keep responding to the same cue, your brain begins to automate the behaviour. The cue–behaviour–reward loop becomes more efficient, requiring less conscious thought or effort. Over time, your brain even starts to *anticipate* the reward as soon as it detects the cue, which strengthens the habit and makes it feel automatic.

This subconscious learning is what cements the habit loop and keeps the behaviour firmly in place.

Duhigg views cravings as the driving force of the habit loop. They're what make a cue powerful, because the cue triggers a desire for the reward. That craving – often an emotional or mental urge, like wanting enjoyment, calm, relief, or a sense of control – compels you to carry out the routine so you can experience the reward. Once your brain recognises the cue,

it immediately begins anticipating – and craving – the reward it has learned to expect.

So the cue sparks the craving, the craving drives the routine, and the routine delivers the reward. That reward then strengthens the connection, making it even more likely that the same cue will trigger the same behaviour the next time it appears.

The science

Rewards and dopamine

When a habit leads to a positive or pleasurable result, your brain releases dopamine – a chemical that signals reward and satisfaction. This release doesn't just make you feel good in the moment; it also strengthens the brain's connection to whatever behaviour caused it. In other words, dopamine motivates you to repeat that action again, because your brain now associates it with pleasure and a sense of wellbeing.

Neural pathways

The core components of the brain are neurons: cells in the nervous system that process and transmit information. The interconnections between neurons mean that when you do or think in a new way your brain creates new connections – neural pathways. It's like when you walk through a field of long grass, each step helping to create a new path. If you then regularly walked that same path through the field of long grass, very soon you would make a clearly defined path that you would take each time you wanted to cross that field. You wouldn't think about it, you'd just automatically take that path.

In the same way, when you repeat a behaviour or thought, your brain continues using the same neural pathway and so it becomes stronger and deeper.

Over time, this forms a habitual pathway that your brain can follow with little effort. That's why repeated behaviours can become automatic: the brain is simply following a well-worn path.

Using a weekly habit as an example, here's how neural pathways and dopamine work together in habit formation.

1. A cue (end of the week, Friday evening) activates the neural pathway linked to the behaviour or habit (order a takeaway meal).
2. You perform the behaviour or habit (order the takeaway and eat it).
3. You experience the reward (the meal, enjoyment, feeling full) dopamine is released, reinforcing the pathway that led to the reward.

Each repetition strengthens the pathway, making the habit more automatic and less dependent on conscious decision-making. (It's Friday evening, I'll order a takeaway.)

The cue–routine–reward loop can apply equally to internal emotional rewards (enjoyment, comfort, relief) or physical, external ones – something you can see, touch, or measure (food, money, etc.).

Pepsodent and the habit loop

In the early 1900s, few people in the US brushed their teeth regularly. Toothpaste wasn't a popular product and sales were low. That is until advertising executive Claude C. Hopkins was hired to market a new toothpaste called Pepsodent.

(*Continued*)

Hopkins recognised that people weren't interested in the prevention of future tooth decay; they wanted immediate benefits. So, he introduced the concept of 'the film' – a layer on teeth that was unsightly and could cause tooth decay and other dental problems. His adverts asked people to do the 'tongue test' – to run their tongue over their teeth and feel the 'film' for themselves, making the problem tangible and personal.

The advertising for Pepsodent explained how the toothpaste removed this 'film' – it cleaned your teeth and led to a more appealing smile.

Pepsodent included citric acid and mint oil, which created a cool, tingling sensation. That tingle became the reward – people associated the tingling with having clean teeth and saw it as proof that the toothpaste was 'working'. Furthermore, they started to miss it when they hadn't brushed, creating a craving and making brushing an essential daily habit.

Within a decade, daily toothbrushing in the US went from something few people did, to being a widespread habit; and by the 1930s, toothbrushing was a national norm.

Hopkins had created a *habit loop*.

Cue: The feel of the 'film' (plaque) on your teeth.

Routine: Brush with Pepsodent.

Reward: Tingling freshness and teeth feeling clean.

Today, toothbrushing is an automatic behaviour that most of us do twice a day without thinking about it.

Context: time, place, and circumstances

Charles Duhigg's habit loop suggests that cravings and rewards drive the formation of habits. However, not all habits are motivated solely by rewards. Often, context – the set of circumstances or facts that surround a particular event or situation – play a key role.

As a result of studies she conducted while at Northern California's Duke University, behavioural scientist Professor Wendy Wood suggests that many of our habits are the result of 'stable environments'. ('A New Look at Habits and the Habit-Goal Interface'. *Psychological Review*, 2007.)

Once a habit is formed, we often continue it without thinking or even noticing the outcome. The habit becomes automatic, requiring little or no motivation or conscious reward. The habit is just something you always do, without thinking about it at a particular time or when you're in a particular place. The habit of brushing your teeth each morning and evening happens – is cued – not so much for the expected reward but because you're in the bathroom (the place) first thing in the morning and last thing at night (the time). Another example is when you leave the house: shutting the front door and locking it. It's so automatic that later in the day it's easy to forget whether you did actually lock the door after shutting it.

And in another example, you might have a habit of buying a coffee at the same cafe on your way to work each morning. It started as a small daily treat – the coffee is good and the baristas are friendly. Eventually, your brain doesn't need the conscious reward anymore: the context alone – the time of

day and the fact that it's on your usual route to work – triggers the habit.

The more frequently a behaviour is performed in a specific context, the stronger the mental association becomes, making the behaviour more likely to occur automatically in that context.

Wendy Wood's and Charles Duhigg's theories on habits share several key similarities, even though they differ in emphasis. They both agree that habits are automatic actions that require little to no conscious thought. They agree that performing the same behaviour repeatedly is necessary for habit formation and both agree that a consistent cue – whether internal (e.g., stress or boredom) or external (e.g., time and place) – is what initiates a habit.

But Charles Duhigg's habit loop focuses on what drives the habit – cue, habit, and reward – while Wood focuses on how stable environmental cues – time, place, circumstances – make a habit automatic.

Shopping habits

The layout of shops is often designed to prompt and reinforce shopper habits, using the same cue–routine–reward principles and contextual behaviours that influence habitual behaviour.

Familiar store layouts and aisle categories in supermarkets ('Ready Meals', 'Crisps & Savoury Snacks', 'Canned Vegetables & Fruit', etc.) make it easy for you to move through the store on autopilot.

If you shop regularly at a particular supermarket, you probably have a route you follow every time you enter. In each aisle, you know exactly where to find the items and products you usually buy. The experience becomes a reward loop; cue (enter store) – routine (shop along familiar route) – reward (the food items you buy).

Personal identity

Cues, cravings, rewards, and context – time, place, and circumstances – aren't the only things that shape our habits. Our habits are also influenced by our identity (who we are or want to become) and our values (what matters most to us and what we care about).

If, for example, you see yourself as someone who keeps fit and healthy, all your actions and behaviour reflect that identity – you're more likely to have habits that confirm it: healthy eating habits, physical fitness, and exercise habits.

Myra's healthy habits

Twice a week, before work, Myra goes out for a short run – not because she feels she should, but because it's just part of who she is. Seeing herself as 'someone who keeps fit and healthy' is reflected in her everyday choices. As well as running before work twice a week, Myra walks the one-mile distance to work and back home each day and she takes part in the five km Park Run each Saturday. She eats healthy, well-balanced meals but she's not obsessive about what she does and doesn't eat – she also enjoys pizza and chips and frequent

lazy Sundays. And if she occasionally misses a run, she doesn't feel guilty. In the main, her habits consistently reflect who she is.

When a habit becomes something that reflects who you are rather than just what you do, it is likely to stick.

Conserving mental energy

Along with cues, cravings, rewards, and factors like time, place, and identity, habits also establish themselves because of the advantages that come from their automatic nature.

At first, a new behaviour or habit takes a lot of mental effort because it requires conscious thought – deciding, reasoning, planning, and remembering. But each time you repeat the new habit your brain strengthens the neural pathways that make the behaviour faster and more efficient. Over time, your brain needs to make less of an effort – you don't have to consciously think about what you're doing – the habit becomes automatic and frees up your mind to focus on other, unrelated things.

For example, when your brain doesn't have to consciously think about your morning routine – brushing your teeth, getting dressed, making coffee, getting breakfast, etc. – it frees up your brain for other things: thinking about and planning the rest of your day.

And in another example, when you are learning to drive, you need to pay close attention to many things at once: the road, traffic signals, other vehicles, steering, changing gear, and so on. This requires a significant amount of concentration.

However, with practice, driving becomes more automatic. You can talk to a passenger, listen to music, and drive without constantly thinking about every move – looking in the mirror, signalling, changing gear, etc. This is because the actions involved in driving have become automatic – habitual – requiring less conscious thinking.

Obama's routine

Habits make daily life more efficient by being automatic. In an interview in 2012, President Obama told the magazine *Vanity Fair* 'You'll see I wear only grey or blue suits. I'm trying to pare down decisions. I don't want to make decisions about what I'm eating or wearing because I have too many other decisions to make'.

It wasn't just what he wore each day that Obama routinised. Important issues requiring a decision from the President were submitted in writing (known as 'decision memos') with three check-boxes at the bottom: 'agree', 'disagree', and 'let's discuss'. 'You need', he said in the interview, 'to focus your decision-making energy. You need to routinise yourself'.

Key points

Habit loops

- A habit is simply a behaviour that's repeated regularly until it becomes automatic.
- In his 2012 book, *The Power of Habit*, Charles Duhigg explains how habits form through a simple three-part cycle: cue → routine → reward.

- The cue triggers an automatic response, the routine is the behaviour itself, and the reward is the positive outcome your brain receives from completing it.
- Rewards are often subconscious, experienced as emotional or physical relief, comfort, or pleasure. Rewards reinforce the habit loop, teaching your brain to repeat the behaviour the next time the cue appears.
- Over time, the cue–behaviour–reward loop becomes more efficient and automatic, with the brain anticipating the reward as soon as it detects the cue. The cue sparks a craving that drives the behaviour or routine, delivers the reward, and strengthens the connection so the same behaviour is more likely to occur again in the future.
- Over repeated cycles, the habit loop (cue → routine → reward) becomes faster and more automatic because the neural pathway is well established. Dopamine plays a role too: the brain anticipates the dopamine reward as soon as it detects the cue.

Context: time, place, and circumstances

- Not all habits are motivated solely by rewards. Professor Wendy Wood's studies suggest that for many habits, context – time, place, and circumstances – plays a key role.
- Once established, a habit becomes automatic and no longer requires conscious motivation or reward. A coffee-buying habit, for example, may begin as a small daily treat, but over time the context alone – such as the time of day and the cafe's place on your usual route to work – becomes enough to trigger it. Repeating a behaviour in the same context strengthens the mental association, making the habit increasingly automatic.

- Wendy Wood and Charles Duhigg both agree that habits are automatic actions formed through repeated behaviour and triggered by consistent cues. However, Duhigg's habit loop focuses on what drives habits – cue, routine, and reward – while Wood emphasises how stable environmental cues – such as time, place, and circumstances – make habits automatic.

Identity

- Habits are further influenced by our identity (who we are or want to become) and our values (what matters most to us and what we care about). If, for example, you see yourself as someone who keeps fit and healthy, you're more likely to have habits that reflect and confirm that identity.
- In turn, when a new, repeated behaviour starts to feel like who you are or who you are becoming, it's likely to turn into an established habit.

Conserving mental energy

- Habits also establish themselves because of the advantages that come from their automatic nature.
- At first, a new behaviour takes significant mental effort because it requires conscious decision, reasoning, planning, and remembering. With repetition, the behaviour becomes faster and more efficient – it becomes automatic – and so frees your mind to focus on other things.