

# 5 Steps to Changing Habits

More than 40% of our daily behaviors are done not consciously, but habitually (Verplanken & Wood 2006). Whether we put that extra scoop of mashed potatoes on their plates, get fast food on Friday nights or stay up late playing their favorite video games, the behaviors become so ingrained that the brain must mount a massive battle to overcome the cognitive dissonance. We must think *beyond* exercise and dive into the scary world of psychology without becoming psychologists. In this article, we'll look at the anatomy of a habit, explore the neurophysiology of behavior change, and provide strategies to break bad habits and create new ones.

## Anatomy of a Habit

A habit is an automatic behavioral pattern that occurs in response to a situation where a particular behavior has been performed repeatedly and consistently (Lally 2010). In his book *The Power of Habit*, Charles Duhigg explains that habit is more than a repetitive behavior; rather, it's a construction of three sequential components that make up the **habit loop**. Those three components are the cue, the behavior and the reward (Duhigg 2012).

**The cue** is an environmental or internal trigger that provokes us to learn a behavior. An example of an environmental trigger is the chime you hear when you sit in your car and insert the key. That sound triggers you to put on your seatbelt (the behavior). Another example is placing a foam roller next to your shoes, which triggers you to do self-massage prior to running. Hunger pangs cue you to eat. Internal cues are related to mood. For some people, depression or stress triggers the urge to drink an alcoholic beverage or eat a pint of ice cream.

**The behavior** is the actual routine we commonly think of as the habit. This learned behavior occurs automatically, free from a specific goal or task. It may be as simple as always tying the right shoe before the left shoe, or doing an activity—like showering—in a sequential manner (get wet, shampoo, rinse, condition, rinse, wash body, rinse, dry).

**The reward**, or incentive, makes behavior stick. The “high” that runners feel after a 6-mile run is enough to make them want to repeat the experience. Even though smokers know lighting up isn't good for them, they still get an immediate blast of endorphins the moment they inhale. Fast-food companies have been known to engineer food to hit your tongue with salt and fat in the quickest way possible, so the taste will trigger the brain's reward centers. Rewards teach the brain that the behavior in question promotes pleasure, creating a lower barrier for entry for that behavior to recur in the future (John et al. 2016).

The more habitual a behavior is, the more it becomes ingrained in the brain to the point where it never leaves (Wood & Neal 2007). Understanding the neurophysiology of habits can help us empathize about why it's such a struggle to break old habits and create new ones.

## **Neurophysiology of Habits**

The mechanisms through which the brain creates a behavior are incredibly complex and deserve respect. The following is an oversimplified perspective of what occurs in the brain when it is forming a habit.

Let's say your New Year's resolution this year was to lose 30 pounds. You made up your mind you were going to join a gym and go every morning, eat three times a day and not skip breakfast, and go to bed by 10 p.m. instead of your normal time of midnight. These are all great habits with admirable intention. Unfortunately, by mid-February you hadn't been to the gym in 2 weeks, you'd been skipping breakfast and overeating at dinner, and you were lucky to get to bed by 1 a.m. This pattern is all too familiar.

The problem lies in the processing systems of the brain and in the tug of war between two major systems that need to work together: the new brain and the old brain. The new brain is associated with the outer region of the brain (cerebral cortex) and the prefrontal cortex. Often termed as the conscious, rational part of the brain, the new brain helps us think critically, plan our next steps and learn behaviors (Miller & Cohen 2001).

The old brain is associated with the inner regions of the brain known as the limbic system and the basal ganglia. They are associated with emotional processing. The basal ganglia are responsible for remembering whether a behavior created a positive or negative response, which helps in determining whether we perform the behavior again or avoid it altogether. The basal ganglia also assist in behavior automation. For example, it initially takes a lot of brainpower to learn how to drive a car with a manual transmission. But as the behavior becomes learned, the basal ganglia store the response and we can drive a stick shift without having to consciously think about it, which allows us to divert our brain energy to other tasks. This automation is the brain's way of saving valuable energy (Yin & Knowlton 2006).

In the book *The Happiness Hypothesis*, Jonathon Haidt uses the analogy of the old brain being a large, emotional elephant, and the new brain being the elephant's rational rider (Haidt 2006). Picture the rider holding the elephant's reins. As you probably know very well from experience, the "elephant" can override the "rider" any time it disagrees with him. For example, the elephant will fling itself into oncoming traffic to protect its calf. The rider might rationally recognize that jumping into traffic could lead to his death, but of course he has no say in the matter considering the size discrepancy between him and the elephant.

When it comes to New Year's resolutions, the new brain plans out an exciting journey for creating a new you, and your old brain is willing to go along. But as you initiate the behaviors, the old brain quickly realizes how cumbersome the process is, especially when the reward is minimal or nonexistent. For example, after your first workout, you're sore for 3 days. The basal ganglia store the behavior as having a negative outcome, even though the prefrontal cortex knows that soreness is part of the journey. The elephant overrides the rider, and soon you're sleeping an extra hour instead of exercising. Cognitive dissonance ensues, and you revert to behaviors that give you immediate rewards.

## **Breaking Old Habits**

If you're going to help clients break old habits and create new ones, it's imperative to understand the cue-behavior-reward anatomy of a habit and the neurophysiology of behavior change. Let's personalize this by looking at breaking the habit of eating something sugary and fatty after dinner.

### **Step 1: Identify the Cue-Behavior-Reward Loop**

**The cue.** Multiple cues can exist. The cue may be a television commercial, having dessert in your fridge or your partner wanting to indulge in dessert. Let's say your partner has made a beautiful apple cobbler. Your rational brain says, "No, we're full, and we're trying to lose weight, not put weight on." Your emotional side has other ideas, as it thinks the dessert is probably going to taste amazing, plus you don't want to be rude to your partner.

**The behavior.** The elephant overrides the rider. You eat dessert.

**The reward.** The apple cobbler is insanely good, plus you're enjoying the company of someone you love and whose happiness you value, which in turn gives you an immediate feeling of satisfaction. On a chemical level, the cobbler provides a rush of dopamine, a neurotransmitter associated with reward and pleasure (Vallone, Picetti & Borrelli 2000). The basal ganglia store this behavior as positive.

This prompts you to eat dessert with your partner again, and as this happens more, the behavior becomes habitual. The next thing you know, you're grabbing dessert after lunch because the same set of cues has arisen. The cue and reward become so intertwined that they lead to cravings. By the way, are you craving dessert yet?

### **Step 2: Change the Behavior, Maintain the Same Cue**

People often try self-imposed challenges when attempting to break a habit. The 30-day no-sugar cleanse. The no-bread diet. The workout-at-5 a.m.-every-day challenge. There are three reasons why these challenges don't work long term:

1. The basal ganglia always remember the old habit. Even when new habits have been formed, the right cue can trigger an old habit.
2. You didn't address the habit loop. When you address the behavior by saying you're simply going to eliminate it, you haven't addressed the "elephant" in the room, nor the triggers that remind the elephant of the potential for a pleasurable experience. Remember, the elephant will always win at some point.
3. Saying no every day, multiple times a day, is energy-expensive. Willpower will eventually be drained, and you'll succumb to the cue and go back to your old habit.

*To change a habit, find a way to create the same cue and reward by using a different behavior.*

If the trigger of eating dessert is having dinner with your partner, then an easy change would be to ditch your partner and replace him or her with a cat or dog. The great thing about Fido is he can't make you an apple cobbler.

The biggest challenge to changing a cue is the amount of willpower it requires (Gailliot et al. 2007). Remember, a habit becomes so automated that your brain uses minimal energy to recreate the behavior. What's more, the basal ganglia will always remember the cue of least resistance. On the other end of the habit loop, changing the reward is also cumbersome. Eating dessert with your partner gives you not only a dopamine rush but also the satisfaction of seeing your partner really happy. If you change the reward in this example, it must have the same incredible value as the initial reward.

Instead, focus on changing the behavior *without* changing either the cue or the reward. In this case, a great replacement would be planning an *activity* for “dessert,” as long as the incentive behind it is strong. For example, you could try:

- going for a romantic walk;
- cuddling on the couch while you watch your favorite show; or
- running a hot bath and giving your partner a massage.

All three options create a strong bond with your partner and could also lead to sex, which would replace the dopamine response created by sugar. This adds great value to the new behavior, which may lead to a new habit with a more positive outcome for the waistline.

#### Creating New Habits

Use the habit loop to establish new daily habits that will help to achieve a desired outcome.

#### **Step 1: Establish Goals and Milestones**

Contrary to popular belief, habits do not take 21 days to form. The time varies greatly from person to person and can be as long as 66 days on occasion (Gardner, Lally & Wardle 2012). The automaticity of habit formation is a long process that requires consistent implementation and coaching. It's therefore important to set expectations about the journey. Focus and buy-in are paramount for habit formation and retention.

You may have an ambitious goal, like losing 60 pounds, becoming a starting quarterback, or lowering blood pressure and cardiovascular disease risk. These objectives can seem overwhelming. Once a goal is established, it's important to “chunk” it into smaller, less daunting, more realistic outcomes. For example, instead of focusing on losing 60 pounds, a good first milestone is to lose 5 pounds in the first month.

#### **Step 2: Identify Motivational Factors**

To be motivated means *to be moved* to do something (Ryan & Deci 2000). Motivation can be both intrinsic and extrinsic. The client who wants to lose 60 pounds may have been told by her doctor that she might die if she doesn't lose weight. This scare tactic is an extrinsic motivator—the motivation comes from an external driver. This form of motivation is a powerful way to get someone started on a new behavior, but the long-term effectiveness is poor.

Intrinsic motivation involves doing an activity for the inherent satisfaction, not for a separable consequence. Losing weight may be intrinsically important to a person because she gains a sense

of accomplishment, feels more self-confident, finds a mate or accelerates her career. Intrinsic motivators are long-lasting compared with extrinsic factors.

Motivational factors are closely linked to cues and rewards, and identifying them influences the habit loop. Motivational interviewing tactics such as expressing empathy, establishing rapport and assessing readiness to change are useful for identifying motivational factors (Bundy 2004).

### **Step 3: Pick a Goal-Oriented Behavior**

Parents struggle to get their kids to eat vegetables. The reward (“Vegetables are good for you”) is not valuable for most children, and attempts to force vegetables on them will often meet with strong resistance. Autonomy is a powerful tool for stimulating behavior change and sustaining it over time (Ryan et al. 2011). It’s a parent’s dream to have a child eat veggies of her own accord. Likewise, personal trainers dream of a client who makes healthy decisions on his own. Here’s a key: In order for clients to establish a habit, *they must select the habit*.

Let’s go back to the kids and vegetables example. To get your child to eat her veggies, you must give her the power of choice. Before dinner, select three green vegetables for her to choose from: kale, green beans or broccoli. She picks the one that sounds most appealing, and because she was given the power to select it ahead of time, she becomes more likely to eat a vegetable with less resistance in the future.

Select two to three goal-oriented habits, provide the rationale for how each habit supports the goal and then use the power of choice. While it might seem appealing to engage in multiple habits at one time, focusing on one simple habit at a time may lead to greater behavior change (Gardner, Lally & Wardle 2012). For example, for weight loss identify three habits along with their benefits:

1. Walk and track 10,000 steps per day. There is evidence that regular, “incidental” physical activity is effective for weight loss and overall health.
2. Drink 2 cups of water before every meal. Not only can this help with satiety, but water is calorie-free, and proper hydration may aid in fat loss and contribute to overall well-being.
3. Get to bed by 10 p.m. every night. A good night’s sleep supports the body’s ability to lose weight.

Select the habit you want to focus on first, which creates a sense of ownership.

### **Step 4: Create the Cue and Reward**

Once you have selected a behavior, provide a few potential cues that will trigger it. For instance, if you opt to drink two cups of water before every meal, offer the following cues to choose from:

- Set a reminder alarm.
- Keep a water bottle next to the computer screen.
- Schedule water consumption on a calendar.

Next, select a reward to reinforce the behavior. The more valuable the reward (the more intrinsically and extrinsically motivating it is), the more likely you will be to engage in the

behavior the next day. For example, if you meet the goal by dinner, you can have one glass of wine. While it can be argued that alcohol consumption could impede your weight loss goal, it's perhaps more important for you to feel that he can successfully accomplish a new behavior and form a healthy habit (Gardner, Lally & Wardle 2012).

### Step 5: Eliminate Disruptors

The Institute of Motion defines a disruptor as a factor that may inhibit, slow down or even prevent desired outcomes (Institute of Motion 2017). People use disruptors as excuses for not accomplishing a new behavior. If you can identify disruptors, you can overcome pitfalls before they occur.

As an example, not having water readily available and accessible disrupts the behavior of drinking two cups of water before every meal. Therefore, your first action should be to purchase a water bottle that's easy to fill and to transport. Brainstorm potential disruptors and create action plans to eliminate them.

### References

- American Council on Exercise (ACE). 2015. 4 techniques to master for motivational interviewing. Accessed Mar. 28, 2017. [www.acefitness.org/acefit/healthy-living-article/24/5302/4-techniques-to-master-for-motivational/](http://www.acefitness.org/acefit/healthy-living-article/24/5302/4-techniques-to-master-for-motivational/).
- Bundy, C. 2004. Changing behaviour: Using motivational interviewing techniques. *Journal of the Royal Society of Medicine*, 97 (Suppl. 44), 43–47.
- Cole-Lewis, H., & Kershaw, T. 2010. Text messaging as a tool for behavior change in disease prevention and management. *Epidemiologic Reviews*, 32 (1), 56–69.
- Duhigg, C. 2012. *The Power of Habit: Why We Do What We Do in Life and Business*. New York: Random House.
- Gailliot, M.T., et al. 2007. Self-control relies on glucose as a limited energy source: Willpower is more than a metaphor. *Journal of Personality and Social Psychology*, 92 (2), 325–36.
- Gardner, B., Lally, P., & Wardle, J. 2012. Making health habitual: The psychology of 'habit-formation' and general practice. *British Journal of General Practice*, 62 (605), 664–66.
- Haidt, J. 2006. *The Happiness Hypothesis: Finding Modern Truth in Ancient Wisdom*. New York: Basic.
- Institute of Motion. 2017. *Promoters and Disruptors*. Platform mobile application.
- John, L., et al. 2016. The role of incentive salience in habit formation. *Harvard Business School. Working Paper*, 16–90.
- Lally, P., et al. 2010. How are habits formed: Modelling habit formation in the real world. *European Journal of Social Psychology*, 40 (6), 998–1009.
- Miller, E.K. & Cohen, J.D. 2001. An integrative theory of prefrontal cortex function. *Annual Review of Neuroscience*, 24 (1), 167–202.
- Ryan, R.M., & Deci, E.L. 2000. Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25 (1), 54–67.
- Ryan, R.M., et al. 2011. Motivation and autonomy in counseling, psychotherapy, and behavior change: A look at theory and practice. *The Counseling Psychologist*, 39 (2), 193–260.
- Sharma, M.K. 2014. The impact on consumer buying behaviour: Cognitive dissonance. *Global Journal of Finance and Management*, 6 (9), 833–40.
- Vallone, D., Picetti, R., & Borrelli, E. 2000. Structure and function of dopamine receptors. *Neuroscience & Biobehavioral Reviews*, 24 (1), 125–32.
- Verplanken, B., & Wood, W. 2006. Interventions to break and create consumer habits. *Journal of Public Policy & Marketing*, 25 (1), 90–103.
- Wood, W., & Neal, D.T. 2007. A new look at habits and the habit-goal interface. *Psychological Review*, 114 (4), 843–63.
- Yin, H.H., & Knowlton, B.J. 2006. The role of the basal ganglia in habit formation. *Nature Reviews Neuroscience*, 7 (6), 464–76.
- IDEA Fitness Journal, Volume 14, Issue 6

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