The Power of Habit  
by Charles Duhigg

Drawing on anecdotes, as well as psychological and neurological research, NYT investigative reporter Charles Duhigg illustrates how habits form and how they can be changed. Most of the choices that we seem to make every day are actually not choices, he says, but habits that impact our productivity, financial security, and happiness. Once we can identify our habits, we have the power to change them.

Chapter 1: The Habit Loop

When you woke up this morning, what did you do first? Did you hop in the shower, check your email, or grab a donut from the kitchen counter? Did you tie the left or right shoe first? Did you choose a salad or hamburger for lunch? When you got home, did you put on your sneakers and go for a run, or eat dinner in front of the TV? Most of the choices we make each day may feel like the products of well-considered decision making, but they’re not. They’re habits. This chapter explains why habits exist, and how they work. At the core of every habitual pattern is a habit loop.

The habit loop can be broken down into three basic steps. First, there is a cue, a trigger that tells your brain to go into automatic mode. The cue can be internal, such as a feeling or thought, or external, such as a time of day or the company of certain people.

The second part of the habit loop is the routine, the behavior that leads to the reward. The routine can be physical (eating a donut), cognitive (“remember for the test”), or emotional (“I always feel anxious in math class”).

The third part is the reward. Not surprisingly, the reward can also be physical (sugar!), cognitive (“that’s really interesting”), or emotional (“I always feel relaxed in front of the TV.”). The reward determines if a particular habit loop is worth remembering.

In the habit loop illustrated below, a mouse learns to automatically run through a maze after hearing a click, because the habit has become ingrained through a chocolaty reward.

The basal ganglia, a small region of the brain situated at the base of the forebrain, play an important role in stored habits. Interestingly, scientists have discovered that mental activity in this part of the brain actually decreases as a behavior becomes more habitual. When a habit emerges, the brain becomes more efficient (and needs fewer resources) because automatic patterns take over. This chapter stresses that understanding how habits work—or, understanding the habit loop—makes them easier to control. By changing the cue or the reward in a habit loop, you can change the pattern of behavior.
Habit loop example – morning coffee habit loop: I’ll fill you in with a boiled-down version of how a habit loop works. There are three components: 1) a cue; 2) the behavior or habit; and 3) the reward. For an obvious example let’s turn to one of my favorite vices — coffee. In my routine, like many others, I wake up in the morning (the cue), feel instantly inspired to drink a cup of coffee (the habit), and immediately afterwards feel great, and ready for the day (the reward). The reward (feeling great) is what reinforces the behavior (drinking coffee) every time you encounter the cue (waking up). So it isn’t a surprise that my first unconscious thought each new day is that since coffee worked so well yesterday morning, as it did the last 10,000 mornings, I think I’ll try it again today!

Questions:
1. Thinking back to the example of McDonald’s restaurants presented on page 26 in the book, how does this company use cues and rewards to trigger habit loops in its customers?
2. What cues and rewards can you identify when you’ve been to fast food restaurants? What about other settings, like movie theaters, or clothing stores?
3. Using the graph on page 19 as a guide, diagram your own habit loop for entering a password on your email account or your pin number at the ATM. Identify the cue, routine, and reward for this habit.
4. Can you diagram the habit loop for when you go into the cafeteria, or have a meal at home?
5. On page 21 the author writes, “Habits are often as much a curse as a benefit.” What are examples of habits that are beneficial or detrimental in your own life?
6. The author writes that it is possible to reawaken a habit, and that habits never disappear, but are changed by new cues, routines, or rewards. Describe a habit of yours that has been changed or replaced. Do you agree or disagree that this habit can be reawakened? Why? What would it take to reawaken your habit?
7. Why are habits so hard to change? Think about a time when you have tried to change one of your habits. Was it hard? Were you successful? If so, how did you do it? If not, what should you have done differently?
8. Make a plan for a new habit you would like to develop. Identify what you can use as a cue, the steps involved in creating a routine and the reward this new habit will deliver.
Chapter 2: The Craving Brain
Recall that a habit loop is the pairing of a cue, a routine, and a reward. We learn in this chapter that a cue and a reward, on their own, are not enough to make a habit last. The cue, in addition to triggering a routine, must also **elicit a craving for the reward**. Only when your brain starts anticipating—or craving—the reward, will the behavioral pattern become automatic. (That’s why, even if you’re not hungry, once you see a box of donuts it’s so easy to automatically pick one up.)

In the early 1900s, for instance, an advertising magnate named Claude Hopkins inspired millions to habitually brush their teeth by linking the cue of “tooth film” to the reward of beautiful, white teeth. But for that habit to take hold, people had to crave the minty sensation of toothpaste.

**Questions:**
1. The chapter breaks down several behaviors into habit loops, including running, eating, and cleaning. Think about how you exercise, eat, or clean. What are your cues, rewards, and cravings for these activities? Which ones are the same and which ones are different from those described in the chapter?
2. What is the difference between the reward and craving in the habit loop?
3. Are habits adaptive or maladaptive? How can you tell? What factors determine whether they are adaptive or maladaptive? Provide examples of adaptive and maladaptive habits in your answer.
4. Think of a common pattern of behavior (i.e., checking your email, taking a shower in the morning, buying a certain type of cereal, studying for your Introduction to Psychology exam).
5. Describe the cue, routine, reward, and craving for that habit. This can be challenging, as we are often unaware of the cues and cravings in our lives.
6. How can we relate the idea of craving to personal finance? Say your goal is to build an emergency fund or reduce your credit card debt?

**Activity:** In this chapter you read about examples of habits in people, rats, and monkeys. Have you observed habits in your pets? Animal trainers often rely on habit loops to elicit specific responses from animals (even if they don’t know they’re doing it).
1. Describe one habit you have witnessed in a pet or another animal. If you don’t have a pet, search online for a video example (people love to post memorable examples of their animal’s habits!). You might also want to look for examples of habits that animal trainers have taught to dogs or other animals. Think creatively!
2. Observe the habit closely. What makes this behavior a habit? Identify the cue, routine, and reward for this habit.
3. What kinds of rewards were likely involved in learning this habit? Would the habit have developed without the rewards?
4. How would you train an animal to create a specific habit?
5. What if you were trying to encourage a habit in a friend? How would your “training” be different for a person than an animal?
Chapter 3: The Golden Rule of Habit Change

This chapter focuses on changing habits. The golden rule of habit change says that to change a habit, it is important to keep the cue and the reward the same, while inserting a new routine into the habit loop. It sounds easy in theory, but given the strength of most habit loops, changing behaviors can be very difficult.

Belief is at the core of modifying many habit loops and plays a critical role in habit change. For habit change to be permanent, people must believe change is possible. Studies show that people must believe in their capacity to change and that things will get better to achieve more permanent habit change.

Groups can have a powerful effect on belief by providing shared experiences and opportunities for people to publicly commit to change. If you want to change a habit, it usually helps to recognize the cue (“I always want to go to a bar when I feel stressed”), deliver the expected reward (“I feel more relaxed around my friends”), but find an alternative routine (“Instead of going to the bar, I’ll go to an Alcoholics Anonymous meeting”). And remember, your odds of success go up dramatically when you commit to changing as part of a group.

Questions:

1. When people try to change their habits (such as quitting smoking or exercising more), how do they typically go about it? How are their strategies different than those described in this chapter?
2. Why are habits so hard to change? Think about a time when you have tried to change one of your habits. Was it hard? Were you successful? If so, how did you do it? If not, what should you have done differently?
3. Can individuals change their habits without the support of a group? Discuss your answer in several sentences.
4. As stated on page 92, “There is, unfortunately, no specific set of steps guaranteed to work for every person.” Do you have some habits that could not be changed by inserting a new routine into your habit loop? Why are those habits so resistant to change? What would it take to change them?
Chapter 4: Keystone Habits

On the surface, remaking a multi-billion dollar corporation and training to win gold medals in swimming don’t seem to have much in common. However, keystone habits explain how Paul O’Neill transformed the Alcoa Corporation and how Michael Phelps became an Olympic champion.

So, how did Paul O’Neill transform a huge, “stuck in its ways”, aluminum-smelting company into a profit machine with an impressive safety record? He changed organizational routines, of course! Organizations—including companies, student groups, and entire universities—have habits of their own. They occur across dozens, sometimes thousands or people. Within organizations, habits are often referred to as “routines”. And within organizations, as well as individuals’ lives, some habits are more powerful than others. These are known as keystone habits and they have the power to change how other habits work. Making a change in a keystone habit (“going for a run before work”) can start a chain reaction that over time transforms other patterns (“eating a healthy breakfast instead of a donut” and “drinking water instead of coffee throughout the day”). As you can imagine, it can be difficult to find the critical habits that can impact other routines. Once these critical habits are identified and changed, they have the potential to have wide-reaching effects!

Much to the shock of stockholders, when Paul O’Neill became Alcoa’s CEO, he focused on safety routines. (“Why isn’t he directly focused on making us more money?” shareholders questioned). O’Neill understood the importance of choosing one priority, such as safety, and using it as a powerful lever to create widespread change in the organization. The focus on safety forced the creation of a new culture with new organizational routines. These changes ultimately spread through the organization resulting in a reduction in production costs, an increase in quality and productivity, and, much to the stockholders’ delight, a huge increase in profits!

Keystone habits encourage widespread organizational change in three important ways. First, keystone habits produce small wins. Small wins are accomplishments that stimulate larger, transformative changes. A series of small wins can leverage modest advantages into patterns that convince people that larger achievements are possible. Small wins convert cumulative successes into routines. Second, keystone habits encourage change by creating structures that help other people thrive. Third, keystone habits can create a new organizational culture that embodies new values. Particularly during times of uncertainty, a new culture can transform behaviors, and make decision making an automatic outgrowth of an organization’s values.

Questions:
1. At age 34, Lisa Allen was $10,000 in debt, obese, and unemployed (chapter 1). Four years later, she had lost 60 pounds, was debt-free, and had bought a home. How did she change everything? By focusing on one thing: quitting smoking. She replaced smoking with jogging, which changed how she ate, worked, slept, saved money, and planned for the future. By focusing on only one pattern, known as a “keystone habit,” Lisa launched a series of changes that affected other areas of her life. What is a keystone habit in your life?
2. Define the concept of “small wins” and relate it to keystone habits.
3. Explain how the exclamation, “Put in the videotape!” that Michael Phelps’ coach shouted, relates to habit loops (page 111).
4. The social science research cited in this chapter is particularly relevant to personal finance. For example, when people begin to exercise, which appears to be a keystone habit, they often reduce their credit card use. One study even found that making the bed every morning is associated with greater
ability to stick to a budget. It is worth further exploring which behaviors constitute keystone habits that improve people’s financial health.
Chapter 5: Starbucks and the Habit of Success

Willpower is the most important keystone habit for individual success. In the last chapter you learned that keystone habits have the power to change other habits. The best way to strengthen willpower is to make it into a habit. Sounds easy enough, right?

So how is it that Susie can resist cupcakes during a mid-afternoon meeting, while Marie regularly eats two? How can some people make self-discipline look so easy? The key to their success is that they make self-control into a keystone habit. They build habit loops that make good decision-making automatic. In other words, they learn to have more willpower. This chapter builds on the last chapter’s main point regarding the role that keystone habits play in widespread change.

People can get better at regulating their impulses and learn how to resist temptation. Similar to other habits, repeatedly resisting temptation can increase willpower as the brain practices a new habit loop. In a series of experiments, Megan Oaten and Ken Cheng found that as individuals’ willpower “muscles” strengthened, people were able to self-regulate their behavior in other areas of their lives. In other words, changing the keystone habit of willpower can positively influence other habits. As people changed their exercise habits or spending habits, these willpower habits spilled over to other areas of their lives, such as what they ate or how hard they worked.

In Chapter 2, we learned about football players who were more likely to “choke” at critical moments during a game. People with weak willpower behave similarly. They seem fine most of the time, but their self-control is more likely to evaporate when they are confronted with unexpected stresses or uncertainties.

So, how do some people resist temptation when confronted with unexpected stress? How do some people marshal their willpower when the going gets tough? How, in other words, do some people make willpower into a habit? One way is they anticipate possible challenges. Anticipation of inflection points, or challenges, allows people to plan to deal with pain, stress, and temptation ahead of time. Is it the delicious smell of the cupcakes that is too much for Marie to resist? Or is it that she gets sleepy in the mid-afternoon and the cupcake is a quick pick-me-up? Anticipating these inflection points (i.e., going for a quick walk prior to the meeting to prevent drowsiness) allows Marie to choose a routine ahead of time (“When I feel tired (my cue), I’ll go for a walk (my routine,) and I’ll end up feeling refreshed (my reward) instead of hungry for a cupcake.”). Over time, these plans become automatic habits.

Another reason why some people are better at creating willpower habits is because they feel in control. It is critical for companies and organizations to give people a sense of agency, a feeling of control, in order to increase how much energy, focus, and productivity they bring to their jobs. Capitalizing on this information, Starbucks has trained employees to anticipate inflection points and has instilled a sense of control among workers who are trained in willpower habits. And, it has helped the company boost revenues by more than $1.2 billion a year.

Questions:
1. Describe the “marshmallow study” that was conducted in the 1960s and the results of this study. What does this experiment tell us about the concept of self-regulation? Why is willpower a keystone habit?
2. Describe the “radish and cookie experiment” conducted three decades later. How did the findings of the “radish and cookie experiment” add to what researchers already knew from the “marshmallow
study”? How does this change your understanding of self-regulation, and willpower as a keystone habit?

3. Define “inflection point”. Think about a behavior you are trying to change (for example, checking your email less frequently, reducing the number of cigarettes you smoke, etc.). What are the inflection points for this habit? When are your newly created habits most likely to falter?

4. On page 144, you learned that patients who didn’t write out a plan for recovering from hip replacement surgery were at a significant disadvantage compared to people who had a plan to cope with pain. Why did writing out a plans “cause” the patients to handle pain better?

5. In other words, willpower becomes a habit by choosing your behavior ahead of time. How would you go about writing down a plan for how to deal with anticipated financial stresses and drawbacks? How are writing down a plan and writing down a budget or spending plan similar?

6. Keeping a written expense log may increase individual’s focus and self-control in other areas of life such as diet and exercise. Have you ever tracked your expenses? How successfully?

7. What advice would you give yourself to increase your willpower habits regarding improved financial habits?

**Activity:** Identify some of the strategies used by children in the marshmallow studies by observing their behavior first hand. Watch footage of children who are trying to stop themselves from eating marshmallows.

1. Identify two strategies the children used to avoid eating the marshmallow.
2. Why did these strategies help them sustain their willpower?
3. Based on the information in this video, do you believe culture plays an important role in delayed gratification (willpower)? Why or why not?
Chapter 7: How Target Knows What You Want Before You Do

Did you ever wonder how coupons for items you already intended to buy miraculously show up in your mailbox? How do advertisers know that you need garbage bags again? Can these companies read your mind? Or, are they spying on you? You may be surprised to learn how much retail companies know about you!

This chapter focuses on how companies capitalize on our shopping habits. Studying people’s patterns has increased many corporations’ abilities to make money. Companies collect data about how we habitually shop. **Humans prefer familiarity, and when we are doing activities like shopping, we often make choices automatically by relying on our habits.** So if companies can figure out those habits, they can predict what we will buy. It doesn’t stop there, however.

As you’ve been learning in this book, our habits can be influenced and changed. Retail stores use knowledge of our shopping behaviors to change what we habitually buy. To increase profits, companies figure out each shopper’s habits and then send personalized advertising pitches designed to appeal to customers’ unique buying preferences. You learned in the last chapter that organizations are more likely to change their routines after a crisis, when everything is in turmoil. Similarly, **people’s buying habits are more likely to change when they are going through a major life event**, such as the turmoil of bringing home a new baby. So, companies use data from observing customers to predict when a major life will occur—such as watching women’s buying patterns to guess if they are pregnant, or observing families’ purchases to see if it seems like they are moving into a new house. Once companies have identified a potential life event, they flood shoppers with advertisements and coupons to promote new shopping habits. Bingo! Soon-to-be parents and first-time homeowners are suddenly buying diapers, baby clothes, new pots and pans, and everything else at a store they hardly used to visit.

In addition to ramping up advertising during major life events, corporations also capitalize on people’s desire for the familiar. Shoppers, in general, prefer familiarity. So corporations often pitch novel items in ways that accent their familiarity. For example, in order to get people interested in a new song, radio stations play old, well-liked songs immediately before and after the new tune, so that listeners start to associate the unfamiliar melody with familiar, well-liked songs. What’s more, listeners will also stick a round for the advertisements that are sandwiched between those familiar hits.

**Questions:**

1. In this chapter, you learned that Target creates a “guest portrait” of many shoppers. If you were to create a “guest portrait” for a college student shopping at Target, what kinds of information would you study? What kinds of questions do you think you could answer with this “portrait”?

2. Why do companies (i.e., Target) collect data about consumers’ shopping behavior? Is it for your benefit or theirs? How do companies capitalize on “guest portraits”?

3. Ironically, when marketers manipulate human behavior to earn profits, it is considered an achievement of capitalism. However, if a psychologist manipulates human behavior to study the process of decision making, it might be considered unethical. Why don’t advertisers and marketers need to abide by the same ethical standards when it comes to manipulation of behavior? Is it ethical for corporations to collect data about your shopping habits without your consent? Why or why not?

4. After reading this chapter, what is your opinion of marketing that tries to change your habits? Are these marketing practices beneficial or detrimental?

5. Can you recognize shopping habits in yourself? Do you turn right most often in the grocery store? Do you purchase your veggies first and junk food later on during a shopping trip? Had you ever thought
about your grocery habits before? Examine your own shopping habits and describe the cue, routine, and reward for two of your own shopping habits.

6. As you learned in this chapter, significant life events can trigger changes in habits (shopping or otherwise). Would you consider starting college to be a major life event? Thinking back on your own experiences during the first few months of school, what habits changed? If you have not attended college, or if you did not consider it a significant life event, identify another event that may have produced new habits. What changed, and how?

Chapter 9: The Neurology of Free Will
Some habits are so powerful that they overwhelm our capacity to make choices. Are we responsible for our habits? Do we have control over behaviors like gambling or sleepwalking? This chapter vividly describes the development of Angie Bachman’s dysfunctional gambling and the horrific murder of a woman by her loving husband. The man killed his wife while he was asleep. He was later found not guilty, despite confessing to the crime, because the judge said his actions were due to automatism, as sleepwalking and other unconscious behaviors are known.

Our ethical culpability is determined by the habits we develop and keep in our lives. As we can all attest, changing habits is not easy! We’ve learned that in order to change a habit, we must understand it—the cues, responses, cravings, inflection points, and rewards—and must decide to remake our automatic behaviors through hard work, substitution of alternative routines, belief in our ability to control ourselves, and by becoming self-conscious enough to make a change. The will to believe is one of the most important ingredients in creating belief that change can occur.

Question: What are the similarities between the customer-tracking systems that casinos use and the guest portraits that stores (i.e., Target) develop?
So How Do You Change Your Habits? Appendix: A Readers’ Guide to Using These Ideas:

In perhaps the most useful part of the book for those who wish to change their own habits, Duhigg provides a framework for habit change and offers his own example of curbing his daily cookie habit. Below is his 4-part framework. Steps 1-3 identify the cue, routine, and reward, and step 4 is the intervention designed to change the habit.

1. Identify the routine
2. Experiment with rewards
3. Isolate the cue (time of day, place, emotion, presence of specific people, preceding behavior)
4. Have a plan

Here’s Duhigg explaining how to change a habit:
*How to Break Habits* video by Charles Duhigg: [https://www.youtube.com/watch?v=4H0fTwtPLfo](https://www.youtube.com/watch?v=4H0fTwtPLfo)

**Habits and Money!**

Do you think it’s possible to build habits which lead to wealth?


Can “The Power of Habit” teach you how to get into the habit of regularly reviewing your finances?

Thinking about your finances in terms of habits is a great first step. If you can develop good habits around your finances, meaning you incorporate your finances into your daily/weekly/monthly life – you’ll find that dealing with your money is so much easier than you ever imagined. You may even come to enjoy it. When you know what to expect, what to do, and when to do it, good financial habits can give you a real sense of effortless accomplishment and relief.
When you look at the financial habits you’ve honed over the years, you may find that many of them could be characterized as unproductive.

Revisit coffee habit loop slide - And relate it to finances:

Let’s turn this discussion back to coffee and look at a seemingly innocuous $4-a-day latte habit. Yes, I know it’s cliché to talk about the price of coffee, but since we’re already on the topic, and it’s one of the more universal fixations, I’d say it’s worth getting clear on the actual cost.

If you spend $4 every day on a venti latte at Starbucks, after 25 years you would have invested $36,500 in coffee, and as large as that number is, it’s not the whole story. There’s a much larger opportunity cost attached to those deliciously frothy beverages. If you were instead to invest $4 every day into a portfolio of stock and bond index mutual funds, compounding at an average annual rate of 7%, after 25 years you’d have $97,232. Unless you’re rolling in dough, a Starbucks latte habit can be characterized as unproductive, but it’s also a perfect opportunity to examine your unconscious actions and make some changes.

As I’ve said before, I love my coffee, and I plan to be sipping a nice hot cup on the morning I drop dead, but if I make the decision that instead of spending $4 per day at a café, my default would be a cup brewed at home for 50¢, and to save the rest. With this plan, after 25 years of enjoying my coffee fix, I’ll spend $4562.50 on home brew (1/8th the amount of the previous example) and have $3.50 a day more to save. Invested at the same annual compounding rate of 7%, I’ll end up enjoying my cup of joe next to a warm pile of $85,077.57 — now that’s having your coffee and drinking it too! Show new Personal Finance Habit Loop.

Katie Pulsifer Coaching: When you think about your daily and weekly behavior around money thoughts and money management, are there things that you are "putting up with" or "tolerating" because they are just well formed habits? Are there results & rewards that you desire with money thoughts and money management that could inspire new action steps in forming a new habit loop?

Wrap Up:

“To modify a habit, you must decide to change it!. Once you know a habit exists, you have the responsibility to change it. ... That, in some ways is the point of this book. Perhaps a sleep-walking murderer can plausibly argue he wasn’t aware of his habit and so he doesn’t bear responsibility for his crime. But almost all the other patterns that exist in most people’s lives – how we eat and sleep and talk to our kids, how we unthinkingly spend our time, attention, and money – those are habits that we know exist. And once you understand that habits can change, you have the freedom – and the responsibility – to remake them. Once you understand that habits can be rebuilt, the power of habit becomes easier to grasp, and the only option left is to get to work!” Duhigg pp 270-271.

If you dislike dealing with your finances, and generally try to ignore them, why not put some effort into creating productive habits to move things along in a positive direction, while ultimately minimizing your mental effort? We challenge you to take the next couple months to really focus on developing good personal finance behavior, such as identifying and adjusting existing unproductive habits, tracking your spending, automating your savings. Acting now will free up immeasurable mental processing power!
Charles Duhigg (born 1974) is a Pulitzer Prize–winning reporter at The New York Times, where he writes for the business section. Prior to joining the staff of the New York Times in 2006, he was a staff writer of the Los Angeles Times. He lives in Brooklyn, New York City. He is a graduate of Yale University and Harvard Business School.

In 2012, he was part of a team writing a series titled "The iEconomy" about Apple, and the company's influence within the U.S. and abroad. That series won the 2013 Pulitzer Prize for explanatory journalism. He wrote the series Toxic Waters, Golden Opportunities, and was part of the team that wrote The Reckoning.