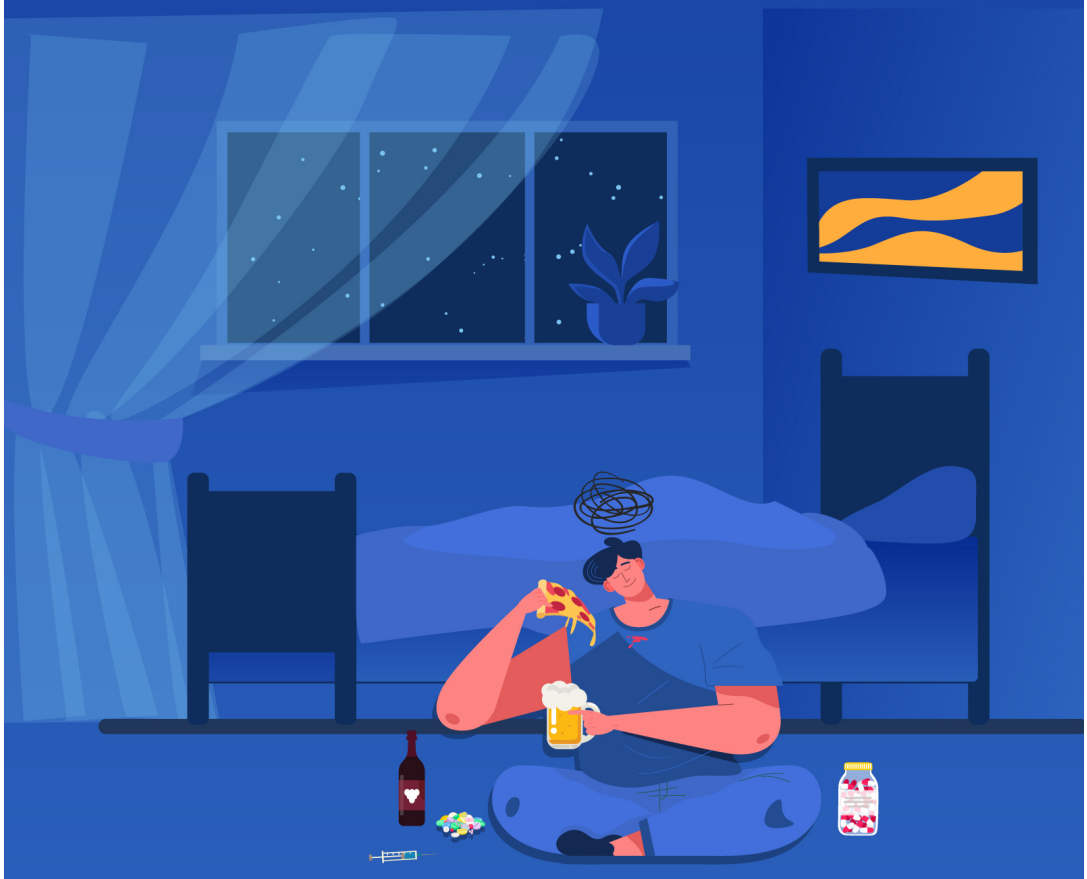
SUMMARY

NEVER ENOUGH

JUDITH GRISEL



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Summary of “Never Enough” by Judith Grisel

Written by Alyssa Burnette

Learn about the science behind addiction.

Introduction

“I’m sorry for what I said before my coffee.”
“This morning’s good mood is brought to you by coffee.”
“First I drink the coffee, then I do the things.”

Each of these statements are popular Instagram captions and decorative slogans. We put them beneath a cute photo of ourselves with our coffee or adorn our walls and throw pillows with these messages. And in so doing, we gleefully tout our addiction to a substance. The same is true of other popular messages like, “Dear Santa: the wine made me do it,” or, “I make wine disappear. What's your superpower?” And although alcohol is arguably more addictive and more detrimental than coffee, chances are that we think nothing of publicizing our addictions in these manners. That’s because, whether we’d like to admit it or not, our inability to function without our morning cup of Joe is also an addiction. Same goes for that evening glass of rosé that we need to relax.

Despite this, however, most of us are unlikely to wind up in rehab because of our relationship with coffee or get involved in a drunk-driving accident after one glass of Pinot at book club. So, what makes the difference? Why can some of us handle it-- and even flaunt our addictions-- and others can’t? And if these substances are addictive, why are some socially acceptable and others aren’t? Why, for example, is it not okay to embroider your throw pillows with slogans that proclaim your love for cocaine? Judith Grisel affirms that social stigma has a lot to do with our perception of which substances are acceptable, but that this shouldn’t be our standard for judging their impacts on our lives. And contrary to popular opinion, the standard also shouldn’t be determined by whether or not a substance is illegal. Instead, we need to be thinking about brain chemistry and the fact that every individual’s brain chemistry is different.

That-- rather than the opinion of our friends or neighbors-- is what makes the difference in our relationship with addiction. That’s why coffee can be a

gateway drug for some while others can drink a six-pack of beers every day with no ill effects. And that's what we're going to learn about through the course of this summary.

How Does Addiction Start?

Fortunately, you don't have to be a neuroscientist to understand Grisel's principles of the study behind addiction. But before we dive into her research, let's take a look at some early studies on addiction which paved the way for our current understanding. For example, one of the world's first studies was conducted by two Canadian psychologists named James Olds and Peter Milner. They wanted to conduct experiments on rats to learn more about how the brain responds to potentially addictive substances. And fortunately (unlike many psychological experiments!) their study was conducted humanely.

Although their experiment depended on the insertion of a small electrode in a rat's brain, they did anesthetize the rat first and put it to sleep. They waited until the rat was awake and feeling better and then used a light electrical current to tickle the region of the brain known as the "nucleus accumbens." Rats share this part of the brain with humans and most other mammals, so this experiment was beneficial because the insights it revealed about rats could be applied to humans as well. So, they conducted their experiment by repeatedly stimulating that part of the brain any time the rat went to a certain corner of its cage. It wasn't long before the rat headed to that part of the age over and over in hopes of receiving that little twinge of electrical stimulation.

This enabled Olds and Milner to identify the nucleus accumbens as the pleasure center of the brain or the part that is activated when we're rewarded with something we want. And, as you might imagine, this research helped them unlock the core principles behind our relationship with drugs. Put simply, drugs do for human brains what that little electrical buzz did for the rats. And because we love the feeling, we start to crave it, returning for more and more because we just can't get enough. But that's not the only component of addiction. Our hormones-- working in conjunction with our habit-forming processes-- combine to generate serious complications when we consume addictive substances.

For example, you've probably heard that it takes 21 days to form a habit. And you might also know that your brain secretes "happy hormones" called dopamine and oxytocin. These hormones affect us in a similar way to the rat in the experiment because they're driven by primal evolutionary defense mechanisms that originated in early man. For example, when our ancestors were learning to find food, their brains released dopamine as a means of motivating them to pursue activities that furthered their survival. Our brains continue to fulfill this function today, and although you might not have to forage for food or hunt down a mammoth in order to survive, the rush of happiness you feel when you bite into your favorite slice of pizza is the same.

Unsurprisingly, this motivates you to continue engaging in the actions that will generate that happy feeling; it's part of what keeps us coming back to our favorite foods and activities. It's also what motivates us to overeat-- because we just love the taste-- or to pursue pornography, because we get hooked on the feel-good hormones that are released when we look at images that bring us pleasure. The drive to continue engaging in these activities is also what helps us to form habits; much like the rat in the cage, we keep returning to the thing that gives us that buzz. But because our brains don't really know the difference between healthy and unhealthy habits-- and they also don't know when to stop-- we'll keep going back to those habits even after they stop making us happy. This, in turn, gets us hooked and that's what starts the process of habituation.

And as if that's not bad enough, your brain activates a new defense mechanism when you start consuming drugs. Even if that drug is something as mild or as acceptable as coffee, your brain's chemistry doesn't recognize the difference. So, whenever you consume an addictive substance, your brain releases neurotransmitters that try to cancel out the effect of that drug by generating feelings that are the exact opposite of whatever that drug induces. Put simply, your brain is trying to find balance and avoid being overwhelmed by a surge of too much happiness or too much sadness. For example, that's why you crash after your morning cup of

coffee! Because although you might feel fired up and awake after that first cup, it won't be long before you start to feel drowsy and depleted. So, the long-term effect will result in an increased dependence on coffee, leaving you feeling as though you can't wake up in the morning without it or without needing a few extra cups throughout the day.

We're All Special

Before you start rolling your eyes, I don't mean it in the way that your grandma did when you were in the second grade and told you you were more special than everybody else. Because, unfortunately, we all grew up and realized that it's impossible for everybody to be special in that way. Instead, the author is speaking from a medical point of view: one which understands that we all have unique body chemistry and a unique genetic makeup which results in a unique reaction to every drug we encounter. That's why it's impossible to create a truly foolproof "one size fits all" drug. Because even though that drug might save 99 lives and be exactly the cure those people needed, for the 100th person, that same solution might be deadly or at least result in a severe allergic reaction.

And the same is true with commonplace addictive substances. This accounts for the variation of responses you see with regard to certain drugs. For example, that's why some people find coffee to be the perfect stimulant while others can't handle it and become overwhelmed by the jitteriness it invokes. Similarly, some people won't be able to sleep if they drink coffee after 4:00 pm, but others can have a full cup at midnight and still drift peacefully to sleep. But when it comes to harder substances like opiates, these differences can manifest with devastating effects. For example, many gravitate toward opiates like heroin, fentanyl, and oxycodone because their effect is similar to that of the body's natural painkillers. This means that-- initially-- they can make you feel calm and safe. They numb the pain of what you're going through, physically, emotionally, or both. Rather than giving you a traditional "high," they make you feel as though you're drifting peacefully away.

But sadly, after that initial sensation of calm wears off, opiate users are left feeling shaky, drained, and emotionally shell shocked. As we discussed in the previous chapter, this occurs because your body is striving for equilibrium. So, after sensing-- and succumbing to-- an initial surge of hormones, your brain responds by producing anti-opiates which have

exactly the opposite effect. If you felt safe and calm before, now you are overwhelmed by the depth of your suffering. If you were previously able to escape your pain, now it's all you can think about. And the worst part is: you can't just stop. "Think happy thoughts" or "just don't worry about it" can't cut it in this scenario because your brain is being overwhelmed by negative hormones. And, as you might imagine, this soon sends users rushing back for another hit because they're desperate to avoid the pain. And sadly, this soon traps them in a deadly cycle of addiction.

Addictive Tendencies

As you can see from our brief analysis of brain chemistry, our brains are simply hardwired in such a way that addiction is a possibility for everyone. But some people are at greater risks of developing addictions than others. So, how does that work and why? To learn more about this process, let's consider a very common example: alcohol. Unlike heroin usage, alcohol is normalized. You won't see people sitting around in their favorite restaurant shooting up or businesses dedicated to the luxurious consumption of heroin, but of course, you frequently see elegant wine-tastings or people sitting around with a cold beer. And because this is so commonplace and so widely accepted, drinking is considered a safe and pleasurable social activity.

But unfortunately, social drinking can easily lead to the development of crippling addictions. To explain this, the author cites an influential 1996 study conducted by researcher Christina Gianoulakis. A leading researcher at McGill University, Gianoulakis studied the connection between social drinking and alcoholism and she discovered that the two are linked by something called beta-endorphins. These hormones aren't inherently bad, however-- they're actually a natural substance our bodies already produce. And we both like and need them because they help us to feel relaxed in social situations; without them, it's highly likely that we'd feel painfully awkward all the time.

So, because alcohol consumption leads to a natural increase in the production of beta-endorphins, we feel really great while we're drinking in social situations! We're enjoying the company of our friends, the taste of a good drink, and our brains are flooded with happy hormones that tell us everything will be okay. What's not to love?! Unfortunately, however, many people love it a little too much and this is especially true of those whose brains produce lower levels of beta-endorphins as a general rule. In these cases, people aren't drinking to excess because it's so much fun-- they're drinking more because they need the extra beta-endorphins to stop feeling

so anxious. And, unsurprisingly, that's a recipe for the rapid onset of addiction.

And although most of us are already familiar with a few of the most common risks, you don't have to look too far or too long to come up with a lengthy list of reasons why alcohol addiction is harmful. Liver damage, for example, is a big one; excessive drinking can quickly put strain on your liver and before you know it, it's no longer capable of filtering out your body's toxins. It can also increase your risk of developing cancer and decrease your heart health. And if you want to add insult to injury for all the social drinkers out there, just two drinks a day can decrease your life expectancy by two years! So, you can imagine how quickly that starts to add up. And of course, none of these risks have even touched on the embarrassing states we can get into or the risk of memory loss, bad behavior, and drunk driving.

Why You Shouldn’t Get Addicted to Cocaine

You might not think we need a chapter on this topic; after all, cocaine is often touted as one of the worst possible drugs. But the author wants you to understand why cocaine is so dangerous to use, based on both her research and her personal experience with the drug. While the author doesn’t wish to get into intimate details of her own experience and its effects on her, she does want to make it known that she has a unique perspective on user experience with cocaine. Because her experience transcends the sort of knowledge you might glean in a lab or from a case study, she believes that this understanding is vital to developing our study of the drug.

So, here’s how cocaine works: for starters, as is the case with most drugs, it feels good when you first take it. That’s because it interferes with neural communication in your brain and body. If you were to think about your body’s pleasure receptors as a song, then cocaine has the effect of putting that song on repeat. It does so by activating your pleasure receptors over and over again and triggers a burst of intense euphoria. Users are then left to ride the incredible high until they crash and experience the same feelings we discussed earlier in relation to coffee and opiates. In this respect, the burst of euphoria is what makes cocaine more detrimental than other drugs, because users are almost paralyzed when they discover that the high cannot last forever; in fact, studies show that it rarely lasts for longer than 30 minutes.

This, in turn, generates a crippling cycle of addiction as users desperately attempt to keep the high from fading. And because many people turn to cocaine as an escape from feelings of sadness or anxiety, their experience with temporary relief makes it even harder to manage these feelings when they inevitably return. So, cocaine users quickly find their lives overrun by a new, all-encompassing pursuit: the need to find a new batch of cocaine and the drive to keep the high going.

Genetics and Addiction

Now that we've examined the effects of a few drugs and the relationship between addictive substances and brain chemistry, it's also necessary to take a look at the second factor which contributes to addiction: genetics. Because there can be such a vast disparity between those who develop addictions and those who don't, it's easy for those who are more successful or less informed to assume that people who become addicted to certain substances are simply lazy or lack willpower. But the author wants to make it clear that nothing could be further from the truth.

That's because genetic factors aren't based on how strong your willpower is or how hard you try to avoid getting addicted. To prove this, the author cites a 1999 study in which psychologists studied the relationship between alcoholism and genetics in sets of identical twins. The fact that they worked with twins was especially significant because identical twins share almost all of the same genetic material. The results of the study confirmed two things: firstly, that genetics and addiction are definitely linked because they discovered that twins were twice as likely to develop addictive habits than siblings who had less genetic material in common. And secondly, their study generated the unsurprising conclusion that if your family has a long history of addiction and substance abuse, chances are very high that future generations will inherit this.

They also learned that the environment you grow up in doesn't necessarily make a difference in the way you might think it would. For example, if you come from a family that has a generational history of addiction and you saw your parents drinking heavily or abusing drugs during your childhood, this would certainly normalize substance abuse for you. But that wouldn't automatically make you prone to developing addictive tendencies yourself. Conversely, if you were adopted into a family that did not have a history of substance abuse and who only had the occasional glass of wine on Christmas Day, this wouldn't off-set your genetic history. Even if you saw perfectly healthy behavior modeled by your adoptive parents, your family

history of substance abuse would still make you susceptible to developing an addiction if you tried a glass of wine on Christmas Day.

Final Summary

Drugs are all around us. They range from socially acceptable stimulants like coffee, cigarettes, and alcohol to more insidious, illegal substances like heroin, cocaine, and prescription painkillers. And because life often plagues us with stress, anxiety, depression, or traumatic injuries, it's likely that most of us will turn to some type of drug in our lifetime, even if it's only a glass of wine every night after work or the morning coffee we can't live without.

However, the author wants readers to know that all drugs have hidden risks and that factors such as genetics, family history, and brain chemistry give each of us a unique relationship with drug use. Some of us might be able to avoid addictions altogether or develop nothing more than a mild coffee dependence. But unfortunately, others might develop more debilitating habits through the introduction of social drinking or gateway drugs. These addictions can be almost impossible to shake and our pursuit of a certain substance can often ruin our lives. That's why the author believes it's vital for everyone to understand the impact of brain chemistry, genetics, and family history and make smart choices about what we put into our bodies.