

# SUMMARY

## MEET YOUR HAPPY CHEMICALS

LORETTA GRAZIANO BREUNING



# **Summary of “Meet Your Happy Chemicals” by Loretta Graziano Breuning**

Written by Alyssa Burnette

Learn about the science of happiness.

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# Introduction

Do you want to be happy? If you don't, you might want to double check that you're definitely human, because the desire to be happy is a universal human nature as common as our fundamental cravings for food, shelter, and companionship. But despite its universal appeal, happiness can be hard to come by. Whether it's due to traumatizing life circumstances or an imbalance in our brains, sometimes we struggle to be happy. That's why many of us turn to self-help books, therapy, antidepressants, or even drugs and alcohol. But the author wants to push past these surface attempts at accessing happiness and ask a deeper question: what really is happiness? How is it created? And how do we achieve it? Over the course of this summary, we're going to explore the answers to those questions by learning more about the happy chemicals we all have in common.

# Happiness and Evolution

If we consider the drives and qualities that characterize the human experience, we don't have to look too hard or too long to realize that most things-- our survival instincts, our fight-or-flight response, and our resourcefulness-- evolved over time to help humans adapt and survive. And happiness is much the same. To explain this concept, Breuning considers a brief evolutionary history of the concept of happiness. For starters, she explains that a structure called the limbic system regulates the chemicals in our brains. It's specifically concentrated on the four happiness chemicals: dopamine, endorphin, oxytocin, and serotonin. And-- because happiness is an evolutionary trait-- these chemicals are released every time we see something that promotes our survival. So, for example, our neanderthal ancestors would be motivated to hunt for food by a surge of happy chemicals which indicated that food was good for their survival. The rush of positive chemicals enabled them to make the connection that food was synonymous with reward. And although we may be more advanced than the cavemen that came before us, at the core, the same thing is happening when you encounter your favorite type of pizza.

The problem, however, is that the limbic system pretty much makes these decisions for us. Whenever we encounter new stimuli, it's filtered through our limbic system, which decides whether to promote the production of happy or unhappy chemicals as a means of guiding us on how to respond. And unfortunately, the limbic system isn't always the best judge of when to send which chemicals. That's because it has no means of assessing stimuli on its own. Instead, it relies on the neural pathways we've built up over time. Neural pathways are formed by our experiences.

So if, for example, you were bitten by a dog as a child and found that to be a particularly traumatic experience, this forms a neural pathway that connects to dogs. So, every time you see a dog in the future, your limbic system checks in with your neural pathways to ask, "Do we know anything about this stimuli? What do we think about that?" And when your neural

pathway responds with, “Danger! Trauma! We hate dogs!” your limbic system responds by flooding your brain with a rush of unhappiness chemicals. This, of course, is meant to be helpful. Unhappiness chemicals remind us to avoid danger and they warn us away from potentially harmful experiences. And the same is true of positive associations that are formed by our neural pathways.

For example, when I was an undergraduate student, there was a little Japanese takeaway up the road from my dorm. I loved the food because it was delicious and so I craved it all the time, especially after a long day or a stressful experience. And over time, this positive experience formed new neural pathways which indicated that this food made me happy. So, as a result, it became my comfort food and my cravings intensified during moments of stress. And at the end of a long study session, I commonly thought, “It’s okay, I’ll feel better once I have this food!” And I bet everyone reading this has a similar experience because that’s how neural pathways and our limbic system works!

# Let's Talk About Drugs

No, not illegal drugs-- we're going to talk about two happy chemicals in particular: dopamine and endorphin. These chemicals can be uniquely confusing because, although they all make us happy, each of them works differently and impacts our happiness experience in a very distinct way. Dopamine, for example, can be considered our reward hormone. It's produced whenever we experience something rewarding and it motivates us to pursue the activity that will produce increased bursts of the hormone. It also gives you a spurt of energy that encourages you to chase after the reward.

The endorphin chemical operates in a similar fashion, but with one distinct twist: it's triggered by physical pain. And even though we all know that physical pain does not make us happy, endorphin can be helpful because it motivates us to fight through injuries or activate our fight-or-flight response. For example, let's imagine that you're running through the woods with a serial killer hot on your heels. You know what will happen if he catches you and your limbic system picks up on two things: the unhappiness chemicals associated with the thought of being caught by a serial killer and the motivation of the reward you're pursuing. In this case, the reward would be escaping with your life, so your dopamine and endorphin work together to say, "We've got to get out of here! Keep running!"

They motivate you to do this by flooding your brain with a surge of positive hormones that encourage you to push yourself beyond your limits to survive. And even though you might be conscious of your fear or exhaustion or the pain in your feet, these positive hormones will imbue you with an almost superhuman energy. Driven by dopamine and endorphin, you won't feel your discomfort quite as strongly. Rather, that will set in later when you're safe and the rush of hormones subsides. Sounds like a pretty nifty feature of our brains, right? And it is! In fact, there are occasions when

these happy chemicals can literally save our lives. But there are also times when they can work against us.

Consider, for example, the reward-seeking nature of the dopamine hormone and its relationship in traumatic or abusive relationships. Because controlling and abusive partners often make their victims feel as though they have to fight for or earn every crumb of affection, the quest to pursue their approval translates as reward-seeking behavior to our brains. As a result, we often give in and engage with unhealthy or abusive behaviors because our brains motivate us to do so. And without a great deal of self-awareness, self-control, and the ability to resist our hormones, it's easy to fall prey to the surges of dopamine that occur even in toxic situations.

# There is Happiness in Numbers

Humans are social creatures; nothing reveals that more than a global pandemic. An overwhelming percentage of the population finds social distancing excruciating and that's why we've adapted to connecting virtually via platforms like Netflix Party and Zoom that enable us to schedule online meetups with our friends. We tag each other in challenges on Instagram, drink together on FaceTime, and stay connected almost 24 hours a day. Why? Here's a hint: it's not because we have to force ourselves! Rather, as pretty much everybody knows, hanging out with our friends is fun. It brings us happiness. And, as you might expect, it also activates our happiness chemicals, although activities like socializing with friends triggers different chemical responses.

For example, if dopamine and endorphin are your reward-seeking and energy hormones that motivate you to survive, the final two-- oxytocin and serotonin-- encourage you to seek connections with others. That's because our early ancestors quickly recognized that there is safety in numbers and our brains evolved to promote the pursuit of social connections. So, every time you form a close bond with another person, share a meme, or laugh at a joke together, you get a little surge of oxytocin that tells you, "This is good! You want more of this!" And because our brains recognize that social survival is every bit as important as our needs for food and shelter, oxytocin continues to influence our interactions with others throughout our lives.

In fact, it even starts when we're born! The moment your mother gave birth and held newborn you in her arms, her brain overwhelmed her with a massive surge of oxytocin that said, "You'll feel good if you take care of this small, helpless human." Likewise, it kicked in in your newborn brain, encouraging you to develop positive feelings about interactions with your mother. And it only continues as your bond with your mom develops throughout your life! So, if you've ever found yourself wanting your mom or longing to be physically close to her without knowing why, oxytocin is the answer! Your brain is telling you that being with your mom just feels good.

And the same is true for the varied relationships we develop throughout our lives.

Likewise, serotonin encourages you to fit in by establishing your place in the social pecking order. Even if you wouldn't describe yourself as someone who likes to dominate others or assert your will over somebody else, the truth is that everybody likes it a little bit. We like getting our own way. We like feeling respected. Serotonin rewards us for this by feeding our brains happy chemicals when we assert ourselves, take charge, or get what we want. And, as you've probably already figured out, this is also an evolutionary mechanism. As human civilization evolved, early humans understood the concept of "survival of the fittest" long before Darwin put it into words. We understood that if we had better access to food, water, shelter, and other resources, we were more likely to survive. So, our brains adapted by producing chemicals that would motivate us to continue these behaviors!

## How Happy Chemicals Wire Our Brains

So, now that we've briefly explored each of the four happiness chemicals, let's take a closer look at their impact on our lives. For starters, we'll revisit a concept we discussed earlier in the book: our desire to pursue happiness. Because we all want to be happy, but even if we are informed about happiness chemicals and their impact on our brains, we still struggle to identify the things that make us happy. And if you think that's not true, just try making a list of the things that make you happy. What would you list? Your friends and family, perhaps? The interests and passions you pursue? You might even add your favorite foods or pets or places you like to visit. But if you really pause to flesh out the things on your list, do they really bring you deep and lasting happiness? Or do they just promote a fleeting sense of enjoyment?

Sadly, this discrepancy impacts us more than we realize and it's mostly due to our neural pathways. Because we rely on our past experiences to identify activities and experiences that bring us pleasure, our limbic system often attempts to combat sadness by activating our known neural pathways. But, as previously mentioned, it doesn't always distinguish between healthy and unhealthy coping mechanisms. For example, if your pattern is to stave off feelings of inadequacy by pursuing frequent, meaningless, and anonymous sex, your brain is likely to present this as a compelling option for every moment of insecurity. And, unsurprisingly, pursuing this strategy can often lead to negative results like the avoidance of personal development or the formation of healthy relationships.

But there's another negative side of the coin and that's where "habituation" comes into play. Habituation kicks in when you engage in the same standard pursuits of happiness every time until it becomes routine. Of course, when something becomes ordinary, it loses that little burst of delight and satisfaction that triggers your dopamine and endorphin. And, unsurprisingly, what used to make you happy can become flat and boring over time. Although you'd think your brain might figure this out and give

up eventually, as we've previously discussed, the limbic system can't really think for itself. So, it's going to present the same strategies every time unless you re-wire it to do something different.

So, how can you beat the cycle? Well, as is the case with any toxic habit, awareness is the first step. Now that you know how your brain works, you can learn to fight its toxic patterns. And you can do so by breaking the routine! If, for example, your brain continually tells you that alcohol will solve all your problems and make you happy, you can start by acknowledging that you know this isn't true. Sure, it might give you a temporary rush, but that isn't real happiness and it's only going to encourage your neural pathways to continue promoting toxic habits. So, shake things up a little! The next time your brain presents an old familiar option, shake it off and try something new. Go for a walk instead, perhaps, or call a friend. The only way you'll retrain your brain is by developing new habits to give you a new conceptualization of pleasure.

And if you want to avoid falling prey to activities that bring you fleeting pleasure rather than lasting happiness, the author recommends pursuing connections that are known to be more meaningful. This could include deepening your bond with your family, for example, doing something kind for a friend, or volunteering. Although these meaningful activities might not be the most fun at first-- for example, watching TV in your pajamas is a lot more fun than baking two dozen cupcakes for your daughter's bake sale-- by continuing to pursue them, you can create new neural pathways.

It might surprise you to learn that it only takes 21 days to form a habit and 45 days to rewire a new neural pathway! So, when you think about it, it's really not that much time! If you can just keep at it for 45 days, you'll literally retrain your brain to derive happiness from something that's both healthier and more meaningful! Not to mention that these activities will promote happiness and help you stay happier for longer! So, what are you waiting for? Dive in and learn more about what else makes you happy!

## Final Summary

We often think of happiness as a mystical force that comes and goes. Sometimes, it's something we can trigger by enjoying a scoop of our favorite ice cream or snuggling with a pet. But sometimes, it's impossible to manufacture on our own. However, the truth is that happiness isn't as arbitrary as we might think. If we simply learn more about the science of happiness and the four key chemicals that promote happiness in our brains, we can learn to reclaim control of our emotions.

By understanding the relationship between happiness chemicals and our neural pathways, we can unpack the motivations that drive our fight-or-flight response, our social connections, and our pursuits of toxic pleasures. And by putting this new information into practice, we can literally retrain our brain to develop healthy neural pathways and promote lasting happiness.



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