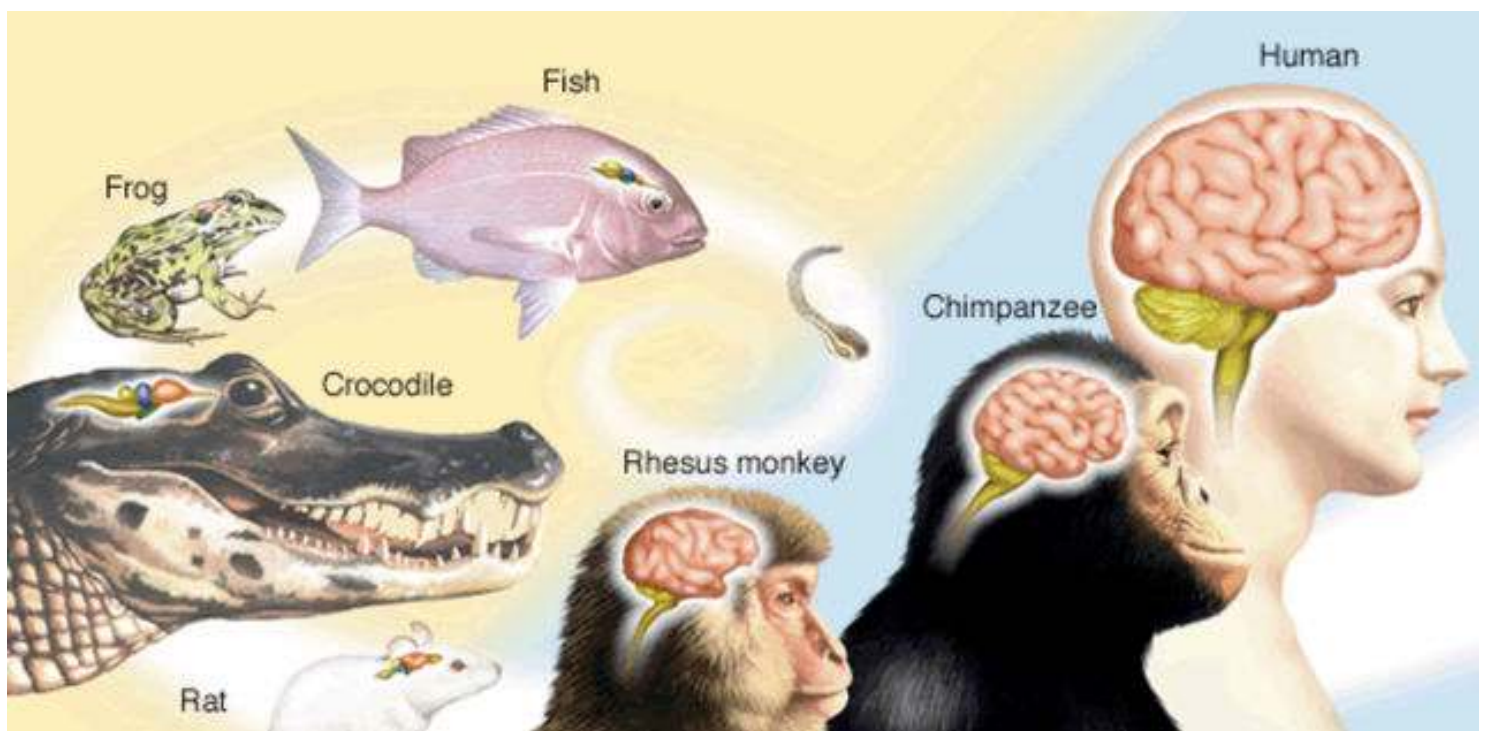


# You Have Power Over Your Brain Chemistry



**You can manage your brain chemicals when you know the job they evolved to do.**

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Source: Riken Brain Science Institute/ w permission

Your brain has an operating system inherited from earlier animals. It rewards you with happy chemicals when you take steps toward meeting your needs. It alarms you with unhappy chemicals when you see a threat or obstacle to meeting your needs. Your ups and downs make sense when you know the job they evolved to do.

You have power over your brain, but it's limited. It helps to know exactly where that power is. Here is a simple introduction to your inner mammal so you can build your power over it.

1. [Happiness](#) comes from brain chemicals we've inherited from earlier mammals: [dopamine](#),

serotonin, [oxytocin](#), endorphin.

2. The mammal brain releases a good feeling when it sees something good for your survival, and a bad feeling (cortisol) when it see a survival threat.
3. But it defines survival in a quirky way: it cares about the survival of your [genes](#), and it relies on [neural](#) pathways built in youth.
4. We can build new pathways to turn on our happy chemicals in new ways.
5. These chemicals are not designed to flow all the time. They evolved to turn on in short spurts to motivate survival behavior. Each spurt is soon metabolized and you have to do more to get more.
6. When you know what stimulates happy chemicals in the state of nature, your ups and downs are easier to manage.
7. Dopamine creates a feeling of excitement when you expect a reward. Animals have to forage constantly to survive, and dopamine gives them a good feeling when they approach a potential resource. The joyful feeling is released with each sign that a reward is at hand, and it spurts when a resource is more than expected. But the brain takes what you have for granted and it takes new rewards to trigger dopamine.
8. Serotonin creates a calm feeling good when you gain a social advantage. Mammals live in groups where they face constant [competition](#) for resources. If an animal never asserts itself, its genes get wiped out; but when it asserts, it risks pain. Natural selection built a brain that continually compares itself to others and rewards you with a good feeling when you're in the position of strength. But the serotonin is soon metabolized and a mammal has to assert itself again to enjoy more of it. It's not easy being a mammal!
9. Oxytocin creates the good feeling of social support. Leaving the herd can mean instant death in the jaws of a predator, so the brain rewards you with oxytocin when you have safety in numbers. The nice safe feeling is triggered by trust and touch: they go together in the state of nature because a critter close enough to touch you is close enough to hurt you. The brain makes careful decisions about when to trust instead of releasing oxytocin all the time.
10. Endorphin is triggered by physical pain. It masks pain with a euphoric feeling, which gives an injured body a chance to run for its life. The endorphin soon passes because a mammal needs to feel pain in order to protect its injuries. Endorphin evolved for emergencies, not for a mammal to inflict pain on itself to enjoy the short spurt.
11. Cortisol is the body's emergency alarm. It's triggered by pain and the anticipation of pain. The bad feeling of cortisol motivates a body to act urgently to make it stop. Neurons connect when cortisol flows, wiring a brain to turn it on faster when anything related to past pain is detected. Cortisol signals internal threats, like [hunger](#), cold, or injury; and external threats, like predators and [social isolation](#). Mammals experience social pain when they see a threat to the social alliances that promote their survival.
12. Neurons connect when these chemicals flow, wiring a mammal to meet its survival needs by approaching whatever felt good before and avoiding whatever felt bad before.
13. Humans are born with billions of neurons but very few connections between them. We build our

neural network by interacting with the world.

14. The electricity in the brain flows like water in a storm, finding the path of least resistance. Each brain relies on the pathways built from its unique individual experience.
15. Electricity flows much faster down neural pathways coated with myelin. Anything you do with your myelinated neurons feels natural and easy.
16. Myelin is abundant before age eight and during [puberty](#). Thus, experience during those years builds the neural superhighways that you respond to the world with.
17. We humans are capable of diverting our electricity from the path of least resistance to a new path through our jungle of neurons. But it takes tremendous energy and focus to send electricity down unmyelinated neurons and across undeveloped synapses.
18. If you activate a new neural trail repeatedly, synapses develop and electricity starts to flow. But you have to activate it often or the new trail disappears into the undergrowth and your hard work is lost. Blazing a trail through a jungle of neurons takes so much effort that we are often tempted to fall back on old highways, even when they lead where we don't want to go.
19. You can build a new neural circuit if you repeat a new behavior or thought pattern for 45 days without fail. During that time, the new choice feels wrong, even when you know it's right, because it doesn't flow with your lifetime of experience with rewards and pain.
20. If you carefully design your new behavior or thought pattern, and focus your energy on the trail-blazing effort for 45 days in a row, your electricity will have a new place to flow.
21. You can build a new dopamine circuit by setting a small goal each day and taking steps to reach it. You will train your brain to expect to reach your goal by taking step after step.
22. You can build a new serotonin circuit by focusing on the value of what you have instead of on the shortcomings of what you have. You will train your brain to feel good about what you have instead of feeling pain about what you lack.
23. You can build a new oxytocin circuit by trusting others in tiny steps, often. You will train your brain to find safe opportunities to trust, and you'll learn to trust your ability to choose them.
24. You cannot build an endorphin circuit because it takes more and more pain to trigger it, and that floods you with cortisol. Fortunately, [laughing](#) triggers a bit of endorphin because it jiggles your innards. You can make space in your life for laughter every day for 45 days. It takes a real belly laugh, so give yourself permission to find things you think are funny instead of squandering the time on what others think is funny. Exercise is essential, and can feel good, but exercising to the point of pain to stimulate oblivion is a bad survival strategy.
25. The best feeling of all, to the mammal brain, is relief from cortisol. Anything that relieves a threatened feeling is a life saver to your inner mammal because avoiding harm promotes survival more than any one reward. This is how people built attachments to threat relievers that hurt them in the long run. Fortunately, we have the power to re-wire ourselves with a variety of more sustainable ways to relieve that internal sense of alarm.
26. When you know your power over your brain, you start expecting to feel good.

**The Inner Mammal Institute** has all the resources you need to make peace with your inner mammal. With books, free videos, podcasts, blogs, slideshows, infographics and a training programs, you can learn to build new neural pathways to turn on your happy chemicals in new ways. Our [5-day Happy Chemical Jumpstart](#) is a great place to start!