

Extract from the article **How to Be Happy: It Isn't About the Dopamine** by Darya Rose Ph.D (neuroscientist)

The reward system of your brain (*basal ganglia*, for you neuroscience geeks) is responsible for reinforcing behavior that is immediately rewarding.

It is the neural system associated with addiction and habit formation, and is necessary for initiating movement (it is damaged in patients that have Parkinson's Disease). Activation of this system involves the release of the neurotransmitter dopamine.

When a rat is taught to push a lever to stimulate the basal ganglia of its own brain it will do so repeatedly, to the exclusion of food and other rewarding activities. It will even subject itself to pain to get a hit.

One of the assumptions scientists made upon seeing this behavior is that activation in this area of the brain must feel very good. Euphoric even. Why else would the rat keep pressing the lever until it collapses from exhaustion?

Since we already knew that this area was responsible for the reinforcement of rewarding behavior this conclusion made logical sense.

The only problem is that it isn't true.

Follow up studies (on humans who can actually talk) have shown that the release of dopamine and the activation of the brain's reward center doesn't lead to a feeling of bliss and satisfaction. Instead it leads to intense desire and frustration.

Like you are just on the brink of satisfaction, if only you could have a little more.

Dopamine fools your brain into mistaking reward for real pleasure. In the heat of the moment you believe that following your dopamine urges will guide you to certain happiness, but more often than not it leads you into temptations you later regret.

After my second cocktail at the party my reward system had me completely convinced that one more drink (and another, and another) was the best thing I could possibly do to make the evening even more magical. The hangover I was left with lasted for two full days.

If you were under the illusion that dopamine is your friend, I'm really sorry to burst your bubble. It has its value for sure--if it weren't for dopamine you would never do *anything* essential for survival--but it won't make you happy.

Fortunately, there is something that does.

Serotonin, GABA and oxytocin are chemicals in your brain that are actually associated with feeling good. They boost your mood, help you relax and cause you to feel close and connected to people and things you love.

Activities that promote the release of these brain chemicals include exercise, music, meditation, prayer, creativity, learning and socializing.

You know this intuitively when you are cool, calm and collected. When everything is fine the rational part of your brain can clearly articulate that these wholesome activities lead to real fulfillment, and that following your urges and cravings usually leaves you feeling worse (with a dose of shame thrown in for good measure).

But once your reward center has you in its clutches, it's almost impossible to step back and see the forest through the trees. Your rational brain is locked in the closet while your basal ganglia convinces you that just one more cocktail (or cookie, or cigarette) is the only thing that you need.

How does this happen?

Anything that inhibits the rational part of your brain, the frontal cortex, will cause you to rely on impulses and intuition to guide your behavior.

Alcohol is a quick way to do this, but stress is usually the culprit. Stress makes you anxious and stimulates the fight-or-flight response in your brain.

Your fight-or-flight response evolved so that you can act quickly in an emergency. If you're being chased by a tiger you don't have the luxury of rationally deliberating over which tree is best to climb. You just need to get your ass up the nearest tree ASAP.

Your frontal cortex is tossed out of the driver's seat and your instincts, which act much more quickly, are put in control.

If you're really being chased by a tiger, this is a very good thing. But if you're stressed because there's a ton going on at work and your kids have a big school project due tomorrow, it is way less helpful.

Instead of going to the gym to destress from work then going home and calmly working through the project, you frantically run home, order a pizza, and slap together some construction paper and glue. Maybe later you'll polish off the rest of the ice cream.

It is unfortunate that most of the time our stress response leads us to act against our own best interest, but we don't have to live entirely at its mercy.

A pleasant side effect of the feel-good activities I mentioned earlier such as exercise, meditation, and spending time with loved ones is that they actively reduce feelings of stress.

This can be hard to remember in the heat of the moment, but building stress-relieving habits into your daily routine can help you be less vulnerable to dopamine's siren song.

When stress does get the better of you, simply being aware that your brain has been hijacked by dopamine is incredibly powerful.

It helps to have an arsenal of go-to stress relievers like **breathing exercises**, stretching or even someone to give you a long hug that you can always turn to so that you don't seek relief in less healthy ways.

Stress comes in many forms and can unravel the best of intentions. In those moments remember that what you *think* will make you happy is very different from what will *actually* make you happy.

That serotonin, not dopamine, is your true friend.

Have you been bewitched by the false promises of dopamine?

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