

Video Transcript: About Behavioural Addictions Video Series – Episode 2: Your brain on shopping, gambling, and eating

Have you ever wondered why people keep repeating a behaviour, even when it becomes self-defeating?

Hi, I'm Dr. Bruce Ballon, a psychiatrist working with the PGIO, the Problem Gambling Institute at CAMH. Welcome to the second episode of our series regarding behavioural addictions.

There's been a common belief that it is only drugs that people become addicted to. These days, science is showing us that we don't need to be using drugs to be addicted. The key to that mystery includes many biological, psychological, social, spiritual, and cultural factors.

Today's episode will look at some of the biology implicated in behavioural addictions. In other words, we will be exploring your brain on gambling, shopping, eating, sex, internet gaming, and more. But first, a little background on the brain.

Our brains are made up of nerve cells, also known as neurons. These neurons communicate with one another through neurotransmitters, chemical messages that carry signals from one brain cell to another, or to other parts of our bodies.

There are two major types of neurotransmitters. Excitatory: think of these as a team of hockey players trying to get you riled up. The message they give is "Go!". While inhibitory neurotransmitters are your brain's brakes. They send messages saying "Stop!", "Slow down."

When you put substances into your body, your brain releases neurotransmitters, including dopamine, an excitatory neurotransmitter important for addictions. When you have an experience you like, dopamine is released, sending you "Go!" messages. "Give me more of those drugs or that pleasing behaviour!" Everything from a tasty food to an exciting experience: your brain learns to associate the things that surround the reward experience with the reward.

People also have rituals around their drug use: seeking it, buying it, getting paraphernalia. This ritual can also release dopamine and give the person a sort of high before even taking the substance. So you start to get a dopamine reaction in anticipation of the rewarding experience.

This reaction to what was formerly a neutral stimulus, such as the drug paraphernalia or the place where you engage in the behaviour, is called classical conditioning. You may have learned about Pavlov's Dog in school. If you're not familiar with the story, scientist Ivan Pavlov discovered that, if he rang a bell, and gave his dog some food, repeating

the sequence several times, the dog started to salivate at the ring of the bell, before the food was even presented.

Of course, human beings are much more sophisticated, but conditioning can work in a similar way. Let's say Harry goes to the casino and wins big time at the slots for a few times. The next time he goes to the casino, the slot machines act like a cue, and he starts getting quite excited. Then he starts gambling and his brain releases dopamine and other reward chemicals. Dopamine helps us to remember when something was really, really good. This leads to what we call 'chasing the high', like a person who won a big jackpot. "Wow! I feel so great! I won a lot of money, and I wanna get that feeling back again!" These feelings affect our brains, making us want to return to the activity again and again, just like with drugs. The same process can happen with shopping, eating, internet porn, and a range of other behaviours. Of course, not everyone who gambles, shops, eats, or watches porn gets addicted, there is some evidence that some people may be more sensitive to cues.

Also, as we talked about in our last episode, people who become addicted often have risk factors, such as having another mental health issue, or having experienced trauma. We'll explore this and other issues and we continue our series.

If you or someone you know might need some support, find out more at ProblemGambling.ca.