

Decisions, decisions

Too much choice can leave you weary, mentally taxed and vulnerable to decisions that you might regret

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One has to wonder whether Liberal MP Justin Trudeau might have been suffering from decision fatigue when he launched an s-bomb on Environment Minister Peter Kent during question period in mid-December.

Parliament was in its final days of a five-week session and Trudeau had recently been under attack for his views on abortion and the long-gun registry.

The mental work of parliamentarians can wear them down, leading to slipups in self-control.

It's a form of mental distress recently labelled by psychologists as decision fatigue. It can leave doctors prone to making medical errors late in their shifts and cause homeowners to throw up their hands in exasperation over exactly what colour of white they should paint their living room walls.

A growing number of studies shows that making too many decisions or having too much choice can leave people weary, mentally taxed and vulnerable to outbursts and bad decisions they might regret.

In a new book, *Willpower: Rediscovering the Greatest Human Strength*, authors John Tierney and Roy Baumeister argue willpower is a limited resource and when we overdraw from this finite bank of mental energy, typically level-headed people lose their self-control and start to make bad decisions.

"Making decisions consumes willpower and the basic energy the mind and the body have. After making multiple decisions, you have a reduced amount of energy available, and then decision fatigue sets in," says Baumeister, a social psychologist at Florida State University in Tallahassee who teamed up with New York Times journalist Tierney to write the book.

Through a series of experiments, Baumeister found willpower could be depleted in much the same way that driving consumes the gasoline in a car's fuel tank. Resisting the temptation of a chocolate bar or forcing yourself to go for a run before work reduces the amount of "energy" available to exert control over future actions, he says.

He wondered whether he would see the same effects when people were asked to make many decisions.

The first experiments came out of the real-life experience of one of Baumeister's post-doctoral researchers: registering for wedding gifts. The post-doc had found the experience of choosing china patterns, towel colours and sheet quality draining and she wondered whether making all those decisions had sapped her willpower by the end of the day.

It was behaviour that Jonathan Levav of the Stanford Graduate Business School saw when he reviewed 1,100 parole decisions made by judges.

Inmates whose cases were heard in the morning were freed 70 per cent of the time; those who came before the judges late in the day were paroled only 10 per cent of the time. Parole success fluctuated over the course of the day, popping back up after the judges took a break.

As choices get made during the day, it becomes harder and harder for the brain to make each decision. Eventually, it starts to look for short cuts. In the case of the judges, the easy way out was to deny parole.

"Did we expect it to be so dramatic? No. It's one of those things you hope not to find. I want to believe the legal system works, that it isn't subject to all these biases," says Levav, who says the study showed how mental fatigue can affect even those who are considered to be excellent decision makers.

There are 563 toasters for sale on Amazon.ca. Most of the listings offer detailed technical specifications and reviews from customers and consumer magazines. In the quest for the best, "it's so easy to be seduced, so easy to search some more," says Barry Schwartz, a professor of psychology at Swarthmore College and author of the 2004 book *The Paradox of Choice: Why More is Less*.

No surprise then that when faced with many choices, the willpower to sift through the options is sapped and the brain freezes.

There may be a limited number of choices the brain can handle at one time, says Lesley Fellows, a neurologist at the Montreal Neurological Institute and Hospital at McGill University who studies the neuroscience of decision making.

People are usually able to hold in their minds a string of seven numbers, but not much more.

"Presumably, it takes up brain power to hold onto that information and keep track of it," she says.

By limiting the number of choices to evaluate, you can avoid the paralysis associated with decision fatigue, though you may not end up with the best toaster, Schwartz says.

Not only does more choice not promise perfection, but it tends to lead to regret. "If you choose something and it is not perfect - and so very few things are - it is extremely possible to imagine that something else is better," Schwartz says.

But just where does willpower come from?

Baumeister's research suggests it is tightly linked to sugar and that consuming sugar restores depleted willpower. In one study, he gave people lemonade made with sugar or artificial sweetener after a series of decision-based tasks had worn them down. Only the drinkers of the sugaredlemonade could invigorate their brain performance.

"Decision-making processes deplete glucose and they suffer when it is low," he says.

Not everyone agrees with this concept of willpower. Research done by Carol Dweck, a psychology professor at Stanford University, showed decision fatigue is real and willpower can be limited, but only if you believe that.

"But when people believe that willpower is self-renewing - that when you work

hard, you're energized to work more; that when you've resisted one temptation, you can better resist the next one - then people successfully exert more willpower," Dweck and Stanford psychology professor Greg Walton wrote in the *New York Times*. Their recent work shows that people who believe in willpower don't need sugar boosts to maintain their performance.

And the study of the judges? Although they tended toward parole soon after breakfast, lunch or coffee breaks, the study couldn't directly tie sugar to decision-making, nor whether any of the decisions were unwarranted.

More likely, willpower, and therefore the ability to make decisions, is more closely tied to genetics and upbringing than blood-glucose levels.

Marshmallows are at the centre of one of the earliest experiments in self-control and self-regulation. In the 1960s, researchers at Stanford University invited preschoolers from a local nursery school to test their mettle against a marshmallow.

The children were left in a room with a single, puffy, white marshmallow on the table in front of them.

Before the experimenter left the room, he explained that the marshmallow could be eaten at any time, but if the child waited 15 minutes, he or she would receive two marshmallows. Many of the kids gave in after only two minutes, popping the treat into their mouths in haste.

Others persevered.

The researchers, led by Walter Mischel, found some of the children developed strategies that allowed them to hold out longer: They sang, they looked away, they thought of the marshmallow as something other than a delicious goodie.

Mischel tracked down the kids 12 years later, when they were in high school. He discovered the children with greater self-control were doing better academically and scored higher on college entrance exams compared to those who scarfed down the marshmallow in seconds.

Forty years after the first experiments on preschoolers, the researchers found about 60 of the original participants. Since marshmallows would not tempt the 45-year-olds, the scientists gave them a different task. They flashed on a screen a series of male and female faces displaying various expressions (happy, neutral, fearful) and instructed some participants to press a button only when they saw a female face, others only when they saw a male face.

Then the researchers changed the rules. Participants were only to press the button when they saw a fearful face. The ones who had had the toughest time squaring off against the marshmallow as children racked up errors during the face test - often pressing the button when a smiling face appeared.

"The happy face is a social cue that is hard to resist," says B.J. Casey, a neuropsychologist at the Sackler Institute for Developmental Psychobiology at the Weill Cornell Medical College in New York City.

Carey was one of the scientists who carried out the study along with Mischel, now a professor of psychology at Columbia University.

"I was blown away by the results. We saw that they could stop themselves from reacting to a neutral cue, but whenever a happy face came up, they had a hard time stopping themselves from pressing that button," says Casey.

She then asked half the group to repeat the test while lying in a brain scanner. The scans revealed two important differences: The participants with better self-control showed more activity in the inferior frontal gyrus, the part of the brain implicated in risk aversion and inhibiting behaviour. Those with poorer self-control showed increased activity in the ventral striatum, a brain region associated with reward, including addiction.

"The high-delayers weren't activating the ventral striatum," she says. "It was like they had cooled down the situation. The low delayers couldn't or didn't want to."

TIPS TO AVOID FEELING OVERWHELMED

- 1 Don't make important decisions late in the day; tackle them first thing in the morning.
- 2 Impose a structure to your decisions. Separate the options into a few categories.
- 3 iPhone? Android? BlackBerry? Can't figure out which to choose? Call a friend for a recommendation.
- 4 If you know you can't fit another commitment into your schedule, eliminate it and don't pine over what you can't have.
- 5 Don't wait for perfection. Stop looking and make the purchase once something meets your standards.

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