

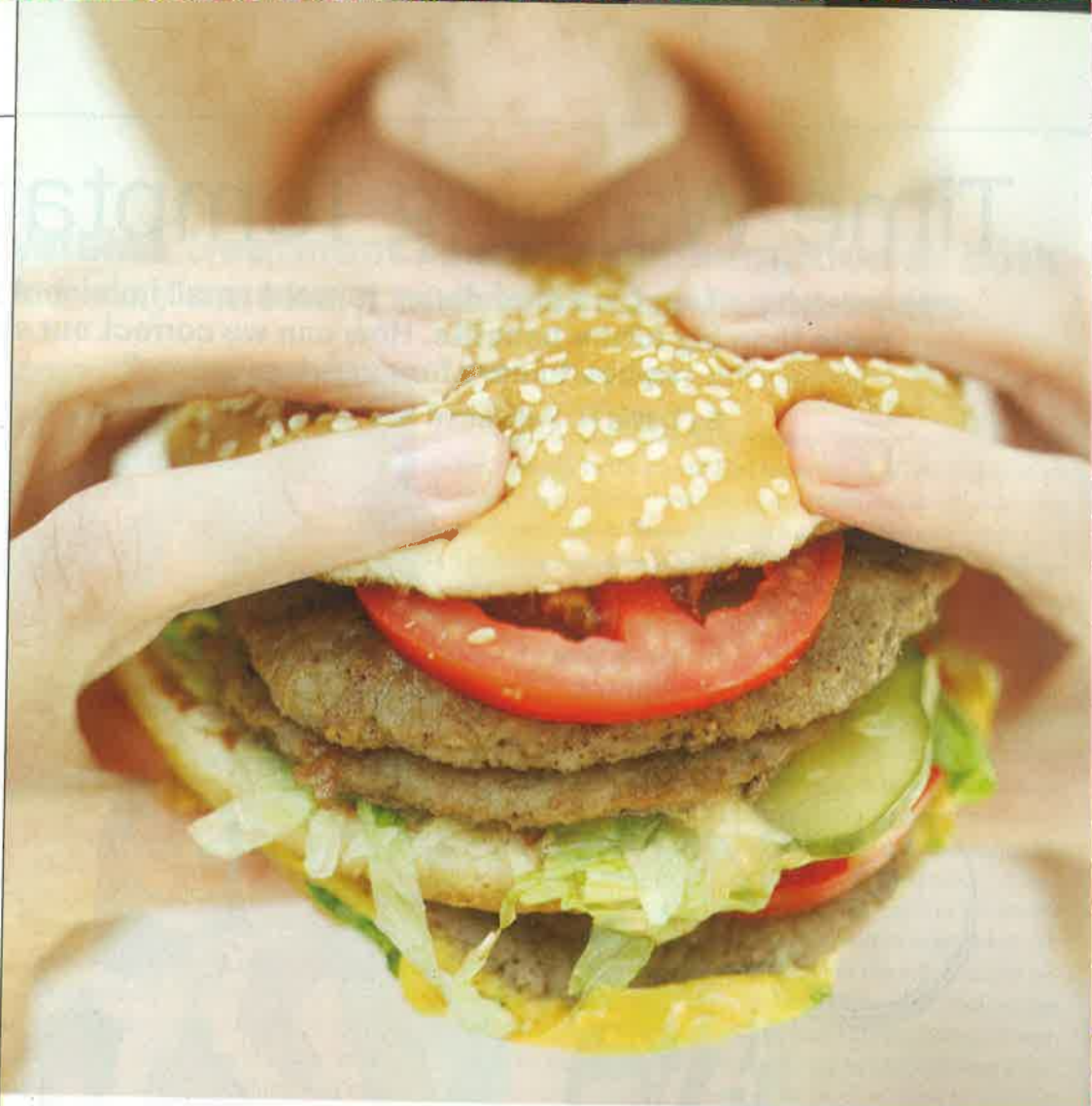
Time-Warping Temptations

Impulsivity arises from a tendency to want small imminent rewards more than big future benefits. How can we correct our skewed values to care for our future selves?

By David H. Freedman Illustration by Josue Evilla



The popularity of fast food speaks to the human tendency to value what we can have now more than larger payoffs that would accrue to us down the road.



Walk into any fast-food restaurant, and you can watch a small crowd of ordinary people doing something that is utterly irrational: eating junky, excess-weight-inviting food likely to leave them feeling bad about their bodies and open to a host of serious ills. We literally line up to trade our health and self-image for a few minutes of pleasant mouth feel and belly comfort—because the latter is right here, right now, whereas the former is months, years and decades away.

FAST FACTS

Upturned Priorities

- 1**» Temporal discounting is our tendency to view small rewards available now as more desirable than even much bigger rewards we would get down the road.
- 2**» The lure of immediacy plays out in overeating, overspending, abusing drugs, and more.
- 3**» The drive to instant gratification appears to be hardwired in humans. But researchers are coming up with strategies for counteracting this impulse and changing shortsighted behavior.

This foolish exchange reflects a glitch in our brains that may wreak more havoc in our lives and in society than any other. Known as temporal discounting, it is our tendency to view small rewards available now as more desirable than even much bigger payoffs down the road. Scientists think this trait may have been programmed into us by evolution at a time when the environment, with its many threats to our survival, favored those who grabbed whatever they could get whenever they could get it.

Today this tendency plays out in overeating, overspending, abusing drugs, and more. “Because the rewards for our good behavior are off in the future where they seem less important, we are almost guaranteed to often act against our own

interests,” says Laurette Dubé, a psychology and marketing researcher at McGill University.

The drive to instant gratification appears to be hardwired in humans. But that fact does not mean we are destined to grab immediate rewards we will later regret. “It was long thought that impulsiveness was fixed,” says psychologist Samuel M. McClure

conflict with longer-term goals. Some of the same brain systems involved in temporal discounting also contribute to our ability to estimate spans of time. Researchers at the University of Pennsylvania, the University of Minnesota and elsewhere have shown over the past 10 years that these estimates become skewed when comparing sooner versus later re-

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New insights into the psychological subtleties of temporal discounting have suggested ways to counteract the distorted thinking behind the phenomenon and change shortsighted behavior. If these strategies work, we will be more likely to eat more healthfully, exercise, stay out of debt, and even avoid drug and alcohol addiction.

A Matter of Time

Temporal discounting has long been seen as the triumph of feelings or impulses over reason. To go beyond that imprecise insight, several groups of neuroscientists, including teams led by Paul Glimcher of New York University and B. J. Casey of Weill Cornell Medical College, have scanned people’s brains using functional MRI while they were tempted to grab immediate rewards. They found that this urge seems to originate in the brain’s limbic system, a set of cerebral regions charged with emotion, along with the ventral striatum, a hub for reward, among other areas associated with feelings and impulsivity.

Thoughtful decisions to resist temptation, on the other hand, appear largely rooted in the prefrontal cortex, the seat of executive functions such as working memory, attention and inhibitory control. In people who have lesions in the prefrontal cortex or in whom prefrontal responses are diminished by other means, the urge to grab at what is offered becomes more intense. If we can make the sooner, smaller reward seem less compelling or get the larger, later reward to attract more attention, researchers have discovered, activity shifts from the limbic system to the prefrontal cortex—and we make wiser choices.

Important clues about how to combat rash behavior come from studies of how we perceive time when making decisions in which immediate desires

wards. That is, the later benefit feels further off than it really is, diminishing its appeal.

What is more, that perceived gap between the value of sooner and later rewards grows as the time to the sooner reward approaches, according to a number of recent studies. For example, in a study published in 2009 marketing professor Gal Zauberman of the University of Pennsylvania and his colleagues showed that students placed much less value on a gift certificate that they had to wait a relatively short time to use as compared with one they could use right now. On the other hand, the students perceived only a minimal difference in the worth of two certificates when one required waiting a long time and the other, even longer. Thus, an ice cream sundae may seem like a health- and figure-destroying bomb when contemplated a few days before it appears at a party, but as the party approaches the price of eating it will recede further into the future, even as the sundae becomes ever more appealing.

Finding ways to delay the more immediate reward can counteract this time-skewing effect. Research has shown that requiring people to wait just

If you are forced—or can force yourself—to wait, even just five minutes, before splurging on something you cannot afford, you are more likely to forgo the indulgence and thereby avoid its negative consequences.



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If you think of your future self as a person who is dependent on you, you are more likely to behave in ways that benefit you later, such as making large contributions to a retirement account.



five minutes for a treat cuts the appeal of the treat in half. Thus, if you are about to order a double cheeseburger at the fast-food counter or if you are eyeing an unaffordable new watch, persuade yourself to run a few errands before deciding whether to indulge. You can also think of the later benefits as coming more quickly. Imagine seeing a lighter reading on the scale that evening or a lower balance on that credit-card account when you look online. Such tactics will make the temporal playing field a bit less tilted and give the better decision a fighting chance.

Certain environmental cues can also trick the brain into judging time in ways that mitigate temporal discounting. Students in McClure's laboratory at Stanford have observed that subjects exposed to a slow audio rhythm are less likely to overestimate the time to distant events and more likely to opt for later rewards than those who hear sounds at a swifter pace. That result suggests that faster-paced sensory cues might speed up our internal clocks, making time of the essence. Conversely, it implies that a calming environment may temper

temporal discounting—that a mellow McDonald's might sell more salads and fewer Big Macs.

Additional research supports the notion that the hustle and bustle of fast-food chains may magnify our desire for a faster payoff. In a study published in 2010 organizational behavior researchers Chen-Bo Zhong and Sanford E. DeVoe of the University of Toronto found that people who were asked to think about their last visit to a fast-food chain or shown logos of those companies tended to opt for immediate (over longer-term) rewards to a greater extent than did those not given the fast-food triggers. Those made to think about fast food also read faster and expressed more interest in time-saving products, hinting that the sensory cues of fast-food establishments may serve to speed up our internal clocks. Thus, staying away from fast-food restaurants can have a double bonus: avoiding being plied with less healthy food and easing the pernicious effects of temporal discounting on your health- and wealth-related decision making.

Details, Details

Another approach to combating temporal discounting involves collecting detailed data. A range of findings show that our brains tend to grasp events that are further in the future in vaguer terms than events close at hand. Gathering specific information

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about more distant rewards, therefore, may help far-off goals effectively compete for attention with more immediate wants.

Psychologist Michael Cameron of Pacific Child and Family Associates, a group of behavioral health clinics headquartered in Santa Paula, Calif., has applied this concept to antiobesity programs. He asks clients to document exactly how much weight they gain when they slip and then how long

test that theory, he and marketing researcher Hal E. Hershfield of N.Y.U. encouraged two groups of Stanford faculty and staff members to increase their pension deductions. One group was told that the benefits of doing so would accrue to “you” down the road; for the other group, Bryan and Hershfield described the beneficiary in the third person as a future self who was dependent on the subject’s behavior now. Sure enough, many in the latter group ac-

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it takes to get back to their previous weight. This ritual causes people to place greater value on the eventual downsides of eating too much. “Because of temporal discounting, people focus on how much they’re going to enjoy the binge, and they’re on autopilot when it comes to the consequences,” he says. “I found that if you give people specific information about those consequences and get them to say it out loud, they go into the decision with their eyes wide open and start wondering if they really want to go through all that.”

Cameron’s clinical observations strongly suggest that generic statements about consequences do not work. “It has to be information that’s specific to the individual and directly connected to a particular decision,” he says. So if you are tempted to drop more than you can afford on that flashy high-end model the car salesperson is pushing, take a breather and remind yourself out loud that the hefty monthly payments on that vehicle would downgrade your restaurant and vacation privileges for the next five years.

Psychologist Christopher J. Bryan of the University of California, San Diego, has a different approach to boosting the perceived significance of more remote gains. He and other psychologists have speculated that one reason temporal discounting can be so strong is that we do not like to think about ourselves in the distant future, perhaps because we do not like to imagine ourselves as old. (Never mind studies showing that people tend to get happier as they age.) “If we don’t want to think of our older selves, we’re less likely to worry about doing things that will pay off for our older selves,” he says.

In 2011 Bryan hypothesized that we might be able to circumvent this aversion by tapping into our sense of obligation to people who depend on us. To

actually ended up boosting their deductions, whereas few in the former group did. “When you evoke people’s moral obligation to take care of a future self who is dependent on them, in the same way we take care of our children and elderly parents, they make better choices,” Bryan says. To enlist this effect when you are about to give in to a costly temptation, think of the long-term damage you will be doing to that trusting person under your care who happens to be your future self.

If these kinds of seemingly simple tweaks prove effective and can be rolled out to society at large, the world 30 years from now could be one in which obesity epidemics, personal debt crises and other mass ills of poor choice seem like relics of another time. “By getting ourselves to understand how awful the prospects are for us in the future if we choose short-term rewards,” Bryan says, “we may actually be able to avoid that future.” **M**

(Further Reading)

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