

In the pursuit of a healthy lifestyle, sheer grit only takes you so far

By MARY BECKMAN

How hard is it to exercise, really? I mean, come on. The elliptical machine is right there in my back room, I can zone out with *Friends* reruns while I train, and I've got more than the usual motivation to exercise every day. You see, my mom died at 50 of a heart attack, and now at 39 years of age I've got high blood pressure and the high cholesterol that probably gummed up her arteries.

Paul Blow



But more often than I like to admit, I take a nap instead. And I still don't eat enough fruits and veggies, and drink way too much beer. Why? Why? My friends say, "Come on, girl. You can do it if you put your mind to it." The same attitude is ingrained in this country's psyche like images of the Nike swoosh: Just do it.

Well, it might not help me change my ways, but I've finally got an explanation. A shift in the thinking of health-behavior researchers makes it official: In the long run, willpower just isn't enough. Not for me, not for anyone. "There are lots of problems you can solve with just willpower," says Stanford psychologist [Keith Humphreys](#), PhD. "The problem is, you've already solved them. People who come to a health professional with a weight or drinking problem have already used their willpower to do things like get through school, learn how to drive, become proficient at their jobs. If willpower were enough to

solve their current problem, they wouldn't be seeking help from someone else."

Our physiology, our unconscious and our environment play such large roles in our decisions that pure willpower can hardly be expected to trump them. At least, not always.

"Most health-behavior researchers have long abandoned the concept that willpower is sufficient for people to change unhealthy behaviors," says clinical psychologist Cynthia Castro, PhD, a researcher at the [Stanford Prevention Research Center](#). "Instead, people need specific behavioral skills and an environment conducive to healthy choices. They also need the confidence to change their bad habits."

The thinking brain

The Bible's creation story is an early purveyor of this concept — that humans can make purely logical decisions and then abide by them. But this same story also highlights the flaw. Genesis seems to place humans above the animals because of free will, but that same free will got them booted from the garden after succumbing to temptation. Where's the logic in eating an apple that could cost you paradise?

"It's the old philosophical problem," says cognitive scientist Paul Thagard, PhD, of the [University of Waterloo](#) in Ontario, Canada. "Wasn't it Aristotle who asked, 'If people are rational, why do they do stupid things?'" From a health perspective, the most obvious is smoking."

The thinking of economists who place logic and cognition at the center of decision making just doesn't mesh with reality. "The economic model is like Mr. Spock. Emotions have been stripped away," says behavioral economist Colin Camerer, PhD, of the [California Institute of Technology](#) in Pasadena.

About a decade ago, some economists and psychologists began to work together to better understand how people make choices, and emotion found its place alongside cognition in the brain. Camerer says the change in thinking about how people make choices has been gradual. "Think of a sand dune, with the wind moving the sand slowly," he says.

The feeling brain

This shift is indeed helping to explain why we do stupid things. The emotional side of our brain has far more influence over our rational thought processes than the other way around. Part of this is a result

of evolution: The affective system is a much older part of the brain, which we share with all animals, than the relatively young cognitive part, known as the prefrontal cortex. “People don’t make decisions like computers. They make them like animals,” says psychologist Peter Ubel, MD, who directs the [Center for Behavioral and Decision Sciences in Medicine](#) at the [University of Michigan](#).

By the mid-1990s, researchers realized that a multitude of neural connections link the emotional systems — such as the amygdala and nucleus accumbens — and the prefrontal cortex. And these connections go both ways. But more neurons run from the emotional side to the cognitive side, explaining why emotions can overwhelm willpower so easily. “When it comes to tooth-and-nail competition between the two, the affective will win out,” says behavioral economist George Loewenstein, PhD, of [Carnegie Mellon University](#) in Pittsburgh.

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The emotional side often overrides our will when facing a choice that offers long-term health advantages in exchange for some near-term unpleasantness. “Some types of healthy behaviors, such as exercise, have an immediate cost for a long-term gain. Our emotional system is not designed to deal with immediate costs,” says Loewenstein.

For instance, people with a prescription for statins to lower their cholesterol weigh the immediate costs (going to the pharmacy, paying for their drugs and remembering to take them every day) against the intangible benefit of living a little longer. While the rational decision would be to take the pill, experts estimate 50 percent of people don’t keep up on their meds.

“In many disciplines — medicine, economics — scientists have ignored a huge aspect of what it means to be human, the emotional aspect,” says Stanford psychophysicist James Gross, PhD, associate professor of psychology. “Physicians usually get little training about this and are surprised when their patients don’t fill their prescriptions or take their medications.”

But we can’t wipe out the emotional side to get control of our decision making. People in whom the emotional and cognitive sides fail to communicate because of brain damage, for example, can’t make good decisions. Sometimes, they can’t make any decisions.

Brain imaging studies are revealing in real time the neuronal underpinnings of decision making. Neuroscientist Brian Knutson, PhD, a Stanford professor of psychology, has taken a peek inside the brains of people in the process of deciding to buy certain products, such as chocolate. When first shown products they liked, their nucleus accumbens would activate, indicating positive emotional engagement. Then when told the price for the product, an old part of the cortex known as the insula would light up if the price was too high, indicating a negative emotional response. If study subjects really liked the product but experienced conflict because it was too expensive, then a third cortical part of the brain would fire, the anterior cingulate cortex.

He says research is now poised to reveal what happens when people are faced with making decisions in which the emotional and cognitive brains fight for dominance. “Once we can visualize those circuits separately and see how they resolve conflicts, then we can address the really interesting questions.” For example, what happens when we make bad decisions that we come to regret? And how much control do we have over activation in those areas?

The unconscious brain and the uncooperative body

Emotions such as fear or pleasure thwart good choices by changing what we do with our cognitive brain. “People avoid getting information that would be useful,” says Loewenstein. For example, in the early days of HIV testing, people at high risk of acquiring the virus put off getting tested. From a purely rational point of view, such decisions make no sense. But emotionally, their motivations were clear. They were afraid to find out they had the deadly virus. Or, if they engaged in risky behaviors, then knowing they had HIV would require them to change their ways. These consequences outweighed the sensible choice of being tested, says Loewenstein.

Overweight people know that willing oneself to get healthy isn’t as easy as the economists contend. “I have so much sympathy for people who are overweight,” says psychologist Ubel. “They come in and haven’t lost much and say they’re trying. But they’re convinced that you don’t believe them and that you think they’re lazy and irresponsible.”

Obesity research shows that once people gain weight, the body works hard to maintain it. Evolutionarily speaking, Ubel says, the feast-or-famine days of our ancestors meant that people ate as much as they could when food was plenty. When food ran out, metabolism slowed down. “Your body goes into semi-hibernation and your appetite gets reduced. When you go on a diet,” he says, “your body thinks it must be wintertime and it’s time to shut down and wait for spring.” Hence people don’t lose weight as easily as they think they should.

Also, a variety of hormones control our appetites and how much fat we store. More than a decade of research has revealed that our weight acquires a “set point,” which is largely genetically determined. Experts say less than 5 percent of people who lose weight manage to keep it off.

And then there’s straight-up addiction. Everyone knows cigarette smoking is deadly. It’s the leading cause of preventable death in the United States. So it’s no wonder that 70 percent of adult smokers want to quit completely, according to a 2005 survey by the [Centers for Disease Control and Prevention](#). But recent research in monkeys shows how strong an addict’s drive really is — and why most human smokers will stay smokers. Researchers allowed monkeys nicotine by pressing a bar, but the bar required increasingly more taps to release the drug. Monkeys would sit for hours, pressing the bar up to 600 times to get their fix.

In plain sight

Going from our internal realm to external, our environment influences the decisions we make about our health in many ways, the most obvious being what choices are available to us. “For most Americans, the environment emphasizes abundance, convenience, urgency. We want things fast. We want things cheap. We want them right now,” says the prevention research center’s Castro. She says people value fast food because it’s cheap and doesn’t require the time and effort of going shopping and cooking, even though it’s unhealthy.

Behavioral nutritionist Brian Wansink, PhD, of [Cornell University](#) in Ithaca, has shown that people just don’t pay attention to what they are eating. “The vast majority of decisions we make about food are below the surface of consciousness,” says the Stanford business school alum. They follow cues outside of themselves when trying to decide whether to stop chowing. For example, people say they know they are full when the plate is empty or when everyone else is finished. “We eat with our eyes and not our stomachs,” he says.

To demonstrate this, Wansink designed a soup bowl that secretly refilled as a person slurped from it at a table. Surrounded by other diners, no one noticed that the soup kept creeping back up in volume. People eating from the bottomless bowls ate 73 percent more soup than their meal mates.

Being aware that our environment controls us isn’t necessarily enough to help cut calories. Other work shows that college students will eat half again as much snack food if they serve themselves from large containers, even after the students were told that people eat more from large serving bowls. However, allowing people to see how much they are eating can help reduce their consumption. For example, people at a sports bar eating chicken wings ate fewer pieces when the bones were left at their table than people whose chicken bones were busied away from sight.

Humphreys sees the same things with addicts trying to kick the habit. “Some alcoholics who are able to hold it together during the workweek get to the weekend and drink themselves into a stupor,” he says. “They had control in some settings, like at work where they have no access to alcohol. But then they go into a bar and drink. They are beaten by their setting.”

The experts recommend manipulating the environment to limit the bad choices and make the good choices available. For example, Wansink suggests using smaller plates. “It’s a lot easier to change your environment than to change your mind. The best diet is the diet you don’t know you’re on,” he says.

Some believe national policy changes are needed to help Americans make healthier food choices. Organizations such as the [American Farmland Trust](#) and the [United Fresh Produce Association](#) want Congress to expand a program that helps schools serve fresh fruits and vegetables as snacks. The program provides money for fresh fruits and vegetable snacks in 375 schools in 14 states and three Indian tribal organizations. Lorelei DiSogra, vice president for nutrition and health for UFPA, hopes the federal farm bill, currently being hashed out in Congress, will expand the program nationally.

And the American Cancer Society is one of several groups pushing for the farm bill to require the government to update the nutrition standards for food sold in school vending machines. “They haven’t been changed since the 1980s,” says Christy Schmidt, senior director of policy.

Research funding is also one way the government can help encourage more healthy eating, says Laurian Unnevehr, PhD, professor of agricultural and consumer economics at the [University of Illinois at Urbana-Champaign](#), who did her graduate work at the Stanford Food Research Institute.

For example, Unnevehr says, in response to criticism of its menu, McDonald’s invested in technology to keep apple slices from turning brown so it could offer them as an alternative to french fries. “The technology just didn’t exist 10 years ago,” Unnevehr says. Now McDonald’s is a major buyer of apples. More research about fruits and vegetables could lead to more such innovations.

Castro agrees that the environment is key to being able to choose more wisely. By re-engaging with the environment, people can make sure that healthier choices are available to them. “Do you really need to drive all the time? Maybe you can build in some footwork in your daily routine. Take the stairs instead of the elevator.”

A willpower workaround

Work at Stanford’s Prevention Research Center has revealed ways to get people to change their unhealthy habits regarding exercise and nutrition. Castro says there’s no “magic bullet” that works for

everyone and, in fact, the center’s health-behavior specialists take individualized approaches to help people build the skills they need to eat better and exercise more. “The more you can tailor it to fit in with people’s jobs and where they live and work, the more successful they’ll be,” says Castro.

One of the biggest skills people need, says Castro, is setting clear, specific goals that are realistic and give them something tangible to shoot for. “Someone who’s saying, ‘I want to lose 3 pounds’ doesn’t tell you how. Instead you’d want to say, ‘I’m going to go out and walk 30 minutes every day’,” she says. Instead of trying to “eat better,” people can set the goal, “I’m going to stop eating foods out of vending machines.”

She says once people have a taste of success, they learn to want it. “I don’t put as much credence in the concept of willpower. You have to build in confidence. Confidence is part of the learning process.”

Surrounding oneself with like-minded souls is key, says Humphreys. “The behavior and opinions of the people around us are important.

Most people who drink too much hang out with other people who drink too much,” he says.

Willpower isn’t completely out the door, however. Stanford psychophysiolgist Gross asked students to complete math problems in the presence of loud, funny skits playing on a monitor. The students performed better when told to think of the math exercise as a challenge to their willpower. “If we think of temptations such as candy bars as tests of our willpower, then we see these temptations in a whole new light, and are much better able to stick to our guns,” Gross says. He adds it’s important to keep up one’s energy, though. If you’re low on energy, you’re low on willpower too.

So the fact that Americans are chronically tired could be a key to some of our national health problems. According to a 2005 [National Sleep Foundation](#) survey, most say they get fewer than eight hours of sleep on weekdays, and about 40 percent say they get fewer than seven hours.

But that’s a whole other bag of research. And I’m just too tired to get into it.

Major know-nos

Calories in a typical meal of hamburger and onion rings in a sit-down restaurant:	1,550
Calories diners estimate the burger and onion rings contain:	865
Recommended daily calories for an adult:	2,000
Calories in the Outback Steakhouse’s Bloomin’ Onion, a battered, deep-fried onion served with a dipping sauce:	2,200
Percent of U.S. adults who eat the amount of fruits and vegetables the government recommends per day (two servings of fruit and three servings of vegetables):	Less than 33
Percent of cholesterol in blood that comes from food:	15
U.S. states in which adult obesity rates rose in 2006:	31
States in which rates decreased:	0
Percent decrease in coronary events such as heart attacks, angina and sudden death resulting from lowering LDL (bad) cholesterol by 60 milligrams:	50
Percent of U.S. adults meeting the Centers for Disease Control and Prevention’s recommendation for regular leisure time physical activity of any intensity (five times a week for at least 30 minutes):	22
Annual U.S. deaths (2004):	2,397,615
Annual U.S. deaths due to smoking (1997-2001):	438,000
Annual U.S. deaths due to poor diet and physical inactivity (current):	300,000
U.S. adults with coronary heart disease:	15,800,000
Percent increase in risk of coronary heart disease for obese individuals compared with normal-weight:	12
Percent increase in risk of heart attack for women who go on vacation less than once every six years as compared with those who vacation at least twice a year:	50
Percent of U.S. workers who receive no paid holidays or vacation days:	25