THE EPOCH TIMES

How to Overcome Your Brain's Fixation on Bad Things

A new book reveals how the negativity bias operates in our lives and what we can do about it 6

> Things to Know About Sweets According to Chinese Medicine PAGE 16

We, humans, have a propensity to give more weight in our minds to things that go wrong than to things that go right.





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THE EPOCH TIMES

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Fermented foods contain beneficial bacteria that take up residence in your gut and help keep you well.

FOOD IS MEDICINE

This Is How Probiotics Can **Improve Your Gut Health**

LISA RICHARDS

o understand probiotics, it's important to first understand what's in your gut

Your gastrointestinal tract is lined with a vast community of microorganisms known as "gut flora," "microbiome," or just "gut bacteria." In humans, there are a larger number of bacteria in the gut microbiome than anywhere else in the body.

The gut flora is established not long after we're born, and changes as we grow and develop. The health of our gut flora is hugely dependent on our diet, as well as a number of other factors such as lifestyle, genetics, medications, health conditions, and even psychological factors.

The average human body contains around 3.5 pounds of these probiotic bacteria.

What Are Probiotics?

We often think of bacteria as bad, but that's not the case with probiotics. The word 'probiotic' comes from the Greek word pro, meaning "promoting," while biotic means "life." The scientific definition of probiotic is "live microorganisms that, when administered in adequate amounts, confer a health benefit on the host." In a nutshell, that just means probiotics are good for you.

Your gut is lined with hundreds of trillions of "good" bacteria that work to keep you and your body healthy. Of course, with the good there's always bad, which means bad bacteria live in your gut as well. It's the job of the good bacteria to keep the bad bacteria under control. That's where probiotics come in.

Probiotics are special types of bacteria and yeast that support the other good bacteria. They do this in a number of ways.

What Do Probiotics Do?

Maintain a Healthy Balance

Our health comes down to the balance of good and bad bacteria in our gut. Dysbiosis is the term used to refer to an imbalance of this bacteria-that is, more bad bacteria than good. Dysbiosis can happen because of illness, poor diet, certain health conditions, or even age and genetics.

Supplementing with probiotics or eating fermented foods has been shown to reduce the numbers of bad bacteria in the gut. Not only that, probiotics support the growth and proliferation of beneficial bacteria, helping to return the gut to a healthy balance.

Aid Digestion

Probiotics help the body to break down the food you eat. They do this using a special process called fermentation. When food passes through the small intestine and into the colon, probiotics work with digestive enzymes in the intestine to help your body break down the food matter and absorb the nutrients within it. Without this help, digestion can be slowed or impaired, which results in food passing through the body without providing you the benefits your body requires from it.

Support the Immune System

Did you know that about 70 percent of your immune tissue is in the gut? It's the good bacteria in your gut that fight off invading pathogens and other harmful invaders and then allow for them to be eliminated. Infections, diseases, and even autoimmune conditions are all

linked to the bacteria in the gut being unable to do their job properly.

Maintain the Integrity of the Gut

The lining of the gut is naturally permeable, as this is how nutrients pass from food into the bloodstream. The bacteria lining the wall of the gut act as a barrier to prevent harmful substances such as antigens, toxins, and other invaders entering the bloodstream. They also act as a filter to aid the uptake of nutrients, electrolytes, water, and other beneficial substances from the intestines.

When Should You Take Probiotics?

When gut bacteria are out of balance, you'll experience a number of unpleasant symptoms of dysbiosis, such as:

- Gas, bloating, indigestion
- Diarrhea or constipation
- Irritable bowel syndrome • Frequent infections
- Feeling tired or lethargic
- Aching joints
- Headaches
- Food allergies or intolerances • Low mood, irritability or depression Constant food cravings

Where Can You Get Probiotics?

The best way to get probiotics into your diet is through food or supplementation.

Fermented Foods

When fermented by lactobacillus bacteria, vegetables become a source of beneficial bacteria and enzymes. The culturing process produces beneficial microbes that help to balance intestinal flora and, therefore, overall immunity. This helps with the production of serotonin, which is essential for healthy mood. Sauerkraut, kefir, yogurt, and kombucha are all foods that have been cultured or fermented to allow rich probiotic bacteria to grow within them.

Probiotic Supplements

These are often the easiest way to get a high-dose quantity of probiotics. Supplements include freeze-dried bacteria in powder, capsule, or tablet form. Choose a probiotic with a high number of guaranteed 'live' bacteria in order to have a therapeutic effect. Your best options are ones that contain at least 10 million+ bacteria and have multiple strains of bacteria species. Also, look for a brand that uses time-release tablets to get those bacteria safely past your stomach acid.

Balance With Probiotics, Maintain With Prebiotics

Your whole body is dependent on the health of your gut-so it makes sense to keep it in balance. Nourish your gut bacteria with probiotics and you'll reap the benefits of better digestion, a stronger immune system, and a clearer mind.

Keeping those probiotic bacteria thriving requires some food. Prebiotics are compounds in food that feed these beneficial microorganisms. Chicory root, dandelion greens, Jerusalem artichoke, garlic, onions, leeks, asparagus, bananas, barley, oats, and apples are foods rich in prebiotics, so eat up.

Lisa Richards is a nutritionist and the creator of the Candida Diet. She has been featured on Today, Women's Health magazine, Reader's Digest, and Shape, among others. Through *her website, theCandidaDiet.com, she* explains the benefits of a low-sugar, anti-inflammatory diet.



THE ROOT CAUSE **Evidence for the Gut-Brain Axis Continues to Accumulate**

This crucial connection is redefining how we understand many diseases and treatments

ARMEN NIKOGOSIAN

ood gut health is central to our overall health. For years, doctors and researchers thought that the delicate interplay between gut microbes, the immune system, and the cells lining the gut were solely responsible for this important balance. We have now discovered that nerve cells in the gut are critically important in this process as well.

That finding means that our gut has another direct connection to our central nervous system, further affirming the importance of the gut-brain axis.

In a recent study in the journal Cell, scientists at Harvard and Yale medical schools discovered that nerve cells within the intestinal wall release cytokines. Cytokines are a broad group of small proteins known as peptides. Cells use cytokines for signaling what is going on in their immediate environment. Cytokines can spur cell develop-

ment, immune modulation, and inflammation cycling. Cell signaling between the brain and gut is also carried out by hormones, neurotransmitters, growth factors, and—as the researchers discovered—cytokines.

The discovery that nerve cells in the intestinal wall have this communicative function is further evidence of the importance of the gut-brain axis. The gut-brain axis is the biochemical signaling that takes place between the gastrointestinal system and the central nervous system.

The importance of this connection has been a central tenet of functional medicine. Problems with this connection between our gut and brain should be evaluated early in a patient's diagnostic workup.

One of the first digestive functions known to be controlled by the nervous system was peristalsis, the rhythmic contraction and relaxation of muscles used to propagate food from ingestion to excretion. The nervous system also controls the secretion of digestive enzymes and neurotransmitters. Now we can add the extensive and growing class of cytokines to that list.

The ability to communicate rapidly over long distances is one advantage to having the nervous system in charge of secreting these important cell signalers. This rapid communication becomes essential when you

realize that the surface area of the average gut is 3200 square feet or approximately the size of a tennis court.

This discovery calls into question our current classification of organ systems

The original distinction of our nervous, immune, and endocrine systems goes back well over 100 years ago and does not take into consideration new findings, such as this study. These are complex systems made of different organs, types of cells, and biochemical reactions. From a functional perspective, the neurons, immune cells, and hormones work synergistically in many instances. This finely tuned symphony of impulses, cells, and molecules work together as a single neuro-endocrine-immune system that performs daily life-sustaining functions. Regarding it as a single system would seem practical, especially since treating a part of it in isolation can disrupt its broader functions.

These findings may advance our choice of treatments for classical

Doctors once knew the fundamental connection between diet and health, but that understanding was displaced as modern medicine came to emphasize drugs and surgeries. But as research reveals more about the gut-brain axis, the importance of diet has re-emerged.

The gut-brain axis is the biochem ical signaling that takes place between the gastrointestinal system and the central nervous system.

> gut-brain axis, it is now time to begin looking at many gut and neurological disorders from a different viewpoint. To what extent do all of them have some form of connection? Did the gut problem start the neurological problem or vice versa? This broader viewpoint may even enter the realm of everyday health. Did that poor quality fast food you ate for lunch affect how your cognition worked in the afternoon and evening?

> Though research continues to expand our understanding of the importance of gut-brain access, this is unlikely to rapidly influence normal clinical practice. That said, functional medicine practitioners and other forms of medicine have long understood the importance of a whole-of-body approach to care, factoring in basic and essential aspects of lifestyle, like what we eat.

To that end, you'd be well advised to stop shopping for food based solely on price and taste and start thinking about how that food will affect your gut and then your brain and mind. While the concept of the gut

neuro

logical

disorders

which many

practitioners have

clinically known for years

to have strong connections with gut health. These include autism

spectrum disorder. Parkinson's

disease, and Alzheimer's disease,

to name a few. Studies continue to

find links between these diseases

Improvements in therapeutics

would likely be seen in two cat-

egories. First, direct intervention

using the nervous system itself or

agents, such as a supplement, herb,

to alter the nervous system in order

If we are able to alter cytokine

profiles, for example, there could

be a whole variety of conditions in

the gut that could be modified to

The second improvement in ther-

apeutics would be a more general

shift in the way we see disease pro-

With tangible, experimental evi-

dence supporting the concept of the

further an individual's health.

to impact gut health.

gression.

armaceutical, or medical device,

and aspects of our gut health.

and mind being connected was commonplace for the nineteenthcentury physician and patient, this connection was somehow lost over the past century. Now with the help of modern scientific inquiries, we return full circle from where we started: with a functional gut-brain axis critically important for our continued overall health.

Armen Nikogosian, M.D., practices functional and integrative medicine at Southwest Functional Medicine in Henderson, Nev. He is board-certified in internal medicine and a member of the Institute for Functional Medicine and the Medical Academy of Pediatric Special Needs. His practice focuses on the treatment of complex medical conditions with a special emphasis on autism spectrum disorder in children, as well as chronic gut issues and autoimmune conditions in adults.

Build a Breakfast to Battle Cholesterol



Get your day off to a great start with whole foods including berries, oatmeal, and nuts

Simple foods full of fiber will fuel your body without clogging your arteries

DEVON ANDRE

kipping breakfast is one thing you may want to avoid if you're J serious about battling cholesterol. Why? For a number of reasons. The first is that breakfast is a great opportunity to include more nutrition into your day. Research indicates that breakfast eaters tend to do a better job of hitting daily nutritional targets each day. When this happens, it means you're getting all the vitamins, minerals, and fiber that your body needs to stay healthy. A healthy body promotes lower cholesterol.

Another way breakfast can help reduce cholesterol is through appetite regulation. There is research to suggest breakfast can regulate hunger hormones that prevent snacking later in the day.

Many times, it's mid-morning and early afternoon snacking that promotes unhealthy cholesterol. The

foods people typically reach for are high-sugar processed foods that produce "bad" LDL in the body (the stuff that creates atherosclerosis).

Of course, not all breakfasts are created equal. To maximize your breakfast's effect on cholesterol levels, there are good choices and bad ones. Good choices are high-fiber foods like plain oatmeal (regular or steel-cut), wholegrain toast and avocado, fruit, and high-fiber, low-sugar cereal. Adding protein is also recommended as a way to help regulate appetite. Some examples of tested cholesterol

battling breakfasts are:

Research indicates that breakfast eaters tend to do a better job of hitting daily nutritional targets each day.

• One-third cup plain, dried oatmeal with blueberries (fresh or frozen), almonds or peanuts, cinnamon. • Two slices whole-grain, wholewheat avocado toast.

- One-half or three-quarters cup of Greek yogurt, strawberries (fresh or frozen), nuts.
- Whole grain English muffins with herbed eggs or egg whites
- Egg white omelet with spinach, onions, peppers, and a slice of
- whole-grain toast · High-fiber breakfast cereal
- Overnight oats • Homemade oatmeal bars

On the other hand, breakfast won't bust cholesterol if you're eating sugary cereals, muffins, Danishes, donuts, or other high-sugar refined foods. This is also true for processed meats like bacon, sausage, and corned beef. Regular consumption of these options will generally boost cholesterol levels and contribute to other potential health problems like weight gain, Type-2 diabetes, and heart disease.

Devon Andre holds a bachelor's of forensic science from the University of Windsor in Canada and a Juris Doctor from the University of Pittsburgh. Andre is a journalist for Bel-MarraHealth, which first published this article.



(Above) The popularity of Dar a Luz and other birthing centers suggests that growing numbers appear to be choosing the opposite trade-off: participation and movement over medical pain relief. (Below) From a doctor's point of view, having mothers lay down on a bed to give birth makes sense. For many mothers, not so much.



OVERTREATMENT

Why Americans Give **Birth in Bed**

An OB/GYN explains how new pain drugs caused a shift in childbirth

NEEL SHAH

A few years ago, I visited Dar a Luz, the only free-standing birth center in New Mexico.

It looks nothing like the towering urban hospitals at which I have spent my career. Nestled into a valley on the outskirts of Albuquerque, Dar a Luz is more like an earthy homestead. At the perimeter, a wood fence surrounds a sun-drenched courtyard with a rock garden and a footpath where expecting mothers can pace while in labor.

Inside, the birthing rooms are bathed in the same natural light, with open spaces designed to encourage continuous movement. Beds are in the corners of the rooms, rather than as the central feature. Abigail Lanin Eaves, the executive director of the birth center and a certified nurse midwife, explained that at Dar a Luz, her patients arrive in labor walking—and usually stay that way until after the baby is born. The beds are for resting afterward, rarely for labor or the birth itself.

Each year, approximately 20,000 Americans choose to give birth out of bed, which usually requires giving birth out of hospitals. According to the Centers for Disease Control, centers such as Dar a Luz have become 83 percent more popular over the past decade, even as the vast majority of Americans still choose body's pain receptors requires dis-

their backs, with their knees up, legs spread, feet in the air. I attended the deliveries of thousands of babies before I ever won-

dered why As an obstetrician/gynecologist, this position is familiar to me. It maximizes exposure to the pelvis during office examinations and gynecological procedures. By extension, it seems to make sense for childbirth as well, particularly from my perspective as the doctor. The work of being on call on the labor floor can be grueling, a constant race from one bed to the next. Having the people I care for remain in bed allows me to sit down, optimize my lighting, and limit the strain on my back and my eyes.

But while convenient for me, few unmedicated people would choose to labor this way. In the absence of anesthesia, it would be too uncomfortable. Movement is an instinctive way of coping with the discomfort of labor. Remaining upright also appears to facilitate labor progress and, aided by gravity, the descent of the baby in the birth canal. In contrast, MRI studies suggest that on-the-back positioning may significantly narrow the baby's pathway through the pelvis.

However, in the presence of anesthesia, standing and walking throughout labor is challenging if not impossible. Turning off the to give birth while bed-bound, on connecting our nerve endings from our perceptions, a process that can remove our ability to move, to remember what happened or both. Anesthesia works by blunting our most fundamental instincts. This dilemma places our desire for

comfort at odds with our desire for control.

'Blessed' Chloroform

During the mid-19th century, childbirth wasn't an event that many women were eager to actively experience. Under desperate circumstances, physicians were often called upon to surgically rescue deliveries using brute force—to place metal forceps on the baby's head while still in the birth canal, and to strenuously pull. Even for the steeliest mothers, many hours. Epidurals require more holding still would have been impossible

an early anesthetic, would instantly the potential for more interventions. drop them into a "dreamlike" state, of what had happened.

Chloroform was widely welcomed, even garnering an endorsement from Queen Victoria herself, who called it "blessed." But the crude method of administering it—inhaling vapors from a rag—led to dangerously uneven dosing. If too little was given, the woman would remain awake and in pain. Yet if too much was given, they could permanently stop breathing. As anesthesia became commonplace, many overdosed and died.

A solution to this problem arrived in the early 20th century. The same effects of inhaled anesthesia could be achieved with a combination of morphine and scopolamine, which are intravenous medications that could be carefully measured in a syringe. This new form of injectable anesthesia was alluringly marketed to pregnant women as "twilight sleep." And by the 1930s, it became the default approach to childbirth in the United States.

Cruelty in Maternity Wards

Then, in 1958, the Ladies Home Journal published a disturbing expose called "Cruelty in Maternity Wards." In a series of letters, American nurses provided direct accounts of laboring women being left alone for hours, strapped down to beds, crying "violently," and involuntarily writhing against the restraints. At that time, fathers and other family members weren't allowed in birthing rooms to bear witness. Under heavy sedation, the memories of the mothers themselves were fuzzy.

The American public was horrified by these descriptions. Pregnant women wanted their voices back. They wanted the capacity to consent. They wanted more control.

By the 1960s, a newer technology epidural anesthesia-offered an appealing alternative. Administered at the level of the spine, epidurals

effectively bypass the brain, allowing mothers to stay awake and alert during labor, to relay their symptoms and participate in care decisions. But they also require a different trade-off. The medicine spreads out to block all nerves that relay and receive signals to and from the pelvis and thighs. These nerves mediate sensation but also control all of the key muscles in that region, from the bladder to the quadriceps

Women with epidurals are unable to urinate on their own. A catheter must be placed to help them. Otherwise, their bladder will simply distend like a balloon. They are also unable to effectively move their legs and must remain in bed, usually for intensive monitoring, a multitude of wires that act as tethers. And by re-By contrast, inhaling chloroform, moving pain as a barrier, they bring

The same epidurals used for spon limp and silent, awakening hours lat- taneous vaginal deliveries can be er, peacefully, and with little memory sufficiently dosed for a broad range of procedures, including cesarean sections

Control Versus Comfort

Currently, more than 70 percent of birthing women in the United States receive epidurals, favoring some measure of comfort over physical control. However, the popularity of Dar a Luz and other birthing centers suggests that growing numbers appear to be choosing the opposite trade-off: participation and movement over medical pain relief.

At birthing centers, epidurals aren't available, and as a result, labor looks remarkably different from the hospital equivalent. While the mother may not necessarily look comfortable, her movements and her mindset more closely resemble an athlete accomplishing a feat than a patient undergoing an ordeal. Throughout, midwives are in attendance to provide support, careful monitoring, and coaching.

Occasionally, complications develop during labor that makes it necessary for these mothers to be transferred to a hospital. This requires acquiescing to changing circumstances and transferring some control to obstetricians and medical technology.

But the expectation of these mothers isn't absolute control any more than it is absolute comfort. Most recognize that labor is neither completely controllable nor completely comfortable. They, perhaps like all people giving birth, simply seek to understand the trade-offs and have the opportunity to cede control—or comfort—on their own terms.

Neel Shah is an assistant professor of obstetrics, gynecology, and reproductive biology at the Harvard Medical School. This article was originally published on The Conversation.

Centers such as Dar a Luz have become 83 percent more popular over the past decade, even as the vast majority of **Americans still** choose to give birth while bed-bound, on their backs, with their

knees up, legs

spread, feet in

the air.

ALL PHOTOS BY JULIA ROBINSON FOR KAISER HEALTH NEWS

NAVIGATING AGING

Extending 'Healthspan': Our Active and Healthy Years

Brain scientists are now attempting to tap into the secrets of living well longer

SHARON JAYSON

Retired state employees Vickey Benford, 63, and Joan Caldwell, 61, are Golden Rollers, a group of the over-50 set that gets out on assorted bikesincluding tricycles for adults they call "three wheels of awesome"—for an hour of trail riding and camaraderie.

"I love to exercise, and I like to stay fit," said Caldwell. "It keeps me young."

Benford encouraged Caldwell to join the organized rides, which have attracted more than 225 riders at city recreation centers and senior activity centers in Austin, Texas.

"With seniors, it's less about transportation and more about access to the outdoors, social engagement and quality of life," said Christopher Stanton, whose idea for Golden Rollers grew out of the Ghisallo Cycling Initiative, a youth biking nonprofit he founded in 2011.

But that's not all, according to brain scientists. They point to another important benefit: Exercising both the body and brain can help people stay healthier longer.

The new thinking about aging considers not just how long one lives, but how vibrant one stays later in life.

"If you're living, you want to be living well," said Tim Peterson, an assistant professor of internal medicine at the Washington University School of Medicine in St. Louis. "Most people who were interested in life span and were studying genes—which control life span—switched to 'healthspan.'"

"Healthspan," a coinage now gaining traction, refers to the years that a person can expect to live in generally good health—free of chronic illnesses and cognitive decline that can emerge near life's end. Although there's only so much a person can do to delay the onset of disease, there's plenty that scientists are learning to improve your chances of a better healthspan.

The work takes on special resonance in light of a new report published in the Journal of the American Medical Association showing that life expectancy in the United States has decreased in recent years. A rise in midlife mortality (ages 25-64) has dragged down the overall expectancy.

"The idea is to make people productive, healthier, and happier longer and more capable taking care of themselves," said Andreana Haley, a psychology professor at the University of Texas at Austin, who is among the breed of researchers working to understand healthspan. "We now live a long time with a lot of chronic diseases, and it's not fun. It's costlyin terms of productivity, caregiving responsibilities, cost of health care.' Haley, who collaborates with ex-

ercise physiologists, nutritionists, behavioral neuroscientists, and physicians, said researchers from many

MOHAN GARIKIPARITHI

It happens often, and to some

more than others. When an

energy lull hits, most people

will do something to power

ing a soda or energy drink

Eating a candy bar or drink-

might be easy and offer short-

term help, but generally cause

more trouble in the long run.

not to mention the potential

impact on sleep and the long-

term effects on metabolic and

The crash comes hard and fast,

through.

heart health



1. Mary Lyons (C) and Yolanda Esparza (R) lead the pack on a group trail ride originating from the Conley-**Guerrero Senior Activity** Center in Austin, Texas, on Dec. 3, 2019.

2. Ghisallo instructor Alexandria Russell (right) hugs Golden **Rollers rider Mary Lyons** after a group trail ride.

3. Kathy Lamb rides a recumbent bicycle during a Golden Rollers group trail ride originating from the Conley-Guerrero Senior Activity Center in Austin, Texas, on Dec. 3, 2019.

The new thinking about aging considers not just how long one lives, but how vibrant one stays later in life.

other disciplines are also studying healthspans, such as nurses, speech pathologists, and pharmacists.

Their work is inspired by an aging U.S. population with changing needs. According to the U.S. Census Bureau, 10,000 people a day turn 65, the nation's fastest-growing population segment.

"We have a lot of people who will need to be taken care of in the next 50 years," she said, "and fewer young City. Green said her brain health people to do the care."

Haley, with UT's Aging and Longevity Center, focuses her work on midlife, which she defines as ages 40–60, a time when health choices can have a big effect on older years. She's especially interested in brain health.

Human Laser Lab to pilot the use of Jim, both 76, are study participants low-level light therapy to increase at Indian River Estates, an Acts combrain energy and improve cognitive munity in Vero Beach, Florida. performance.

Because of this close brain-body connection, any degeneration in the brain affects not only cognitive keeping myself as alive and current function, but also areas that control weight, appetite, personality, mood, and blood pressure.

Online games and brain-training exercises have become popular as another way to keep the brain sharp. However, research on brain training reflects mixed results, including a study published last year in the journal Neuropsychologia, which "calls into question the benefit of cognitive training beyond practice effects."

Still, aging experts urge people as us certain techniques to remember



they age to work to keep mentally active, as well as physically active, to lengthen their healthspan.

One of the country's largest continuing-care companies, Acts Retirement Communities, offers residents weekly social-based classes for brain fitness and memory developed by Cynthia Green, an assistant clinical professor of psychiatry at Mount Sinai Health System in New York approach, available since 2015, is offered at 150 retirement communities around the country.

Some of the Acts communities are participating in a two-year study about memory improvement supervised by a researcher at The University of Alabama.

"I'm always interested in bettering my health, my brain, and my body," Helen Marner said. "I'm interested in and bright as I can."

Marner bikes, swims, and attends exercise classes. The former kindergarten teacher also sings in two choirs, designs and sews quilts, and is active around town, as well as at Indian River Estates.

Mary Beth Vallar, 74, and her husband, Bill, 88, joined the study at Vero Beach

"We figured it couldn't hurt," Mary Beth Vallar said. "They're teaching people's names and remember lists and remember sequences. Their techniques are very helpful."

To remember a list, techniques include taking a mental snapshot of it, organizing the items into categories or linking one word on the list to another. As for names, said Robin Leatherow, the Vero Beach community's fitness director, a creative strategy could be making up a story in your mind about the name or repeating it to yourself.

"There's a lot of different things you can do for brain health," said Theresa Perry, Acts' corporate director of wellness services. "One is to engage with other people. We thought it would be good for our residents and better than sitting in front of Her team is collaborating with UT's Helen Marner and her husband, a computer and playing games by vourself

Because research shows that people who stay active and exercise their brain "tend to be healthier and have better brain function and will be physically healthier because of the brain-body circuitry," the recent shift to improve healthspan makes sense, said Peterson, of Washington University.

"It's quality of life versus quantity of life," he said. "It's probably as simple as that."

Sharon Jayson is a content writer and versatile storyteller/media strategist. She is also a former USA TODAY reporter. This article was originally published on Kaiser Health News.

ALL PHOTOS BY SHUTTERSTOCK



6 Quick Fixes for Energy Lulls

Maintaining good energy levels throughout the day can require a multi-faceted approach. One way to keep fatigue at bay is preventing it in the first place. Good sleep, a healthy diet, and stress management all help keep you energized. But for quick relief, here are some things to try:

Eat breakfast: People who eat breakfast report higher energy levels than those that skip it. For breakfast to boost energy, however, you need to do it right. High-fiber and protein foods will work the best at keeping you satiated and energized throughout the day.

Drink water: Dehydration can create feelings of fatigue, so making sure you've got a steady intake of water can prevent energy lulls. Aim to fill your bottle or glass every two hours.

Eat a handful of nuts: Keeping a bag of nuts nearby can also help restore energy levels. Almonds and peanuts are both great options because they are high in magnesium and folate. Energy can drop when your body is in

a low supply of these nutrients energy and replenishing them can offer a quick pick-me-up.

Go for a quick walk: It may seem counterintuitive, but boosting your heart rate by getting out for a quick walk can increase energy. The fresh air can help, too. Ten to 15 minutes should do.

Take a whiff of a cinnamon stick: Some suggest that taking a quick sniff of a cinnamon stick can increase alertness and reduce fatigue.

Listen to or sing your favorite **song:** Music can help you get your energy back, too. Listening to or singing along with your favorite song can offer an emotional high that boosts energy and relieves stress.

If you get an afternoon lull, try one of these natural methods to pick yourself up.

Mohan Garikiparithi holds a degree in medicine from Osmania University (University of Health Sciences). This article was originally published on Bel Marra Health.



PROSTOCK-STUDIO/SHUTTERSTOCK

MINDSET MATTERS HOW TO OVERCOME YOUR **Brain's Fixation on Bad Things**

A new book reveals how the negativity bias operates in our lives and what we can do about it

JILL SUTTIE

hy can't we pull our attention away from a traffic accident or stop watching the news about the latest viral outbreak? Why are we waylaid by criticism or unable to get past a minor snub from our best friend? That's our negativity bias. We, humans, have a propensity to

give more weight in our minds to things that go wrong than to things that go right—so much so that just one negative event can hijack our minds in ways that can be detrimental to our work, relationships, health, and happiness.

Overcoming our negativity bias isn't easy to do. But a new book, "The Power of Bad: How the Negativity Effect Rules Us and How We Can Rule It," co-authored by social psychologist Roy Baumeister and New York Times writer John Tierney, inspires hope. The book not only covers the fascinating science behind this stubborn bias but also gives readers practical tips to work around it in effective—and sometimes counterintuitive—ways. If we know that "bad" is stronger than "good," the authors argue, we can use that knowledge to improve not only our own lives but society at large. Recently, I spoke with the two authors about their book and what we can learn from it. Below is an edited version of our interview.

JILL SUTTIE: Why did you want to write about the power of the negativity bias?

overreact to negative things relative to positive things; so people can use this to manipulate us, or we can use this to manipulate other people. If we understand this, we can prevent some of the negative effects and improve the quality of our social life.

We're very upset when someone doesn't fulfill a promise, but if they do extra, we're not

grateful enough for it. John Tierney, author and New

York Times writer

MS. SUTTIE: What was one of the most surprising findings from the research on negativity bias? JOHN TIERNEY: There are lots of little surprising things to me like the fact that you get almost no credit for doing more than you promised to do, for going beyond and doing extra, but you get penalized severely for what you don't do.

Researchers did experiments where students were given tickets by a ticket broker, and if the seats were better than expected, the students didn't express any gratitude; but they were very upset if the seats were worse. [...] We're very upset when someone doesn't fulfill a promise, but if they do extra, we're not grateful enough for it.

MR. BAUMEISTER: If I had to pick one finding, in particular, it would be that people learn more and faster from punishment and reward. I've heard educators say that we shouldn't criticize students or shouldn't give bad marks, but giving both reward and punish-

Relationships are far more strongly

affected by negative things than positive things.

Roy Baumeister, author and social psychologist

ment—both praise and criticism is best, for informational purposes. If you have to pick just one, the negative feedback stimulates learning faster than the positive. That was the biggest surprise for me. [...]

MS. SUTTIE: In your book, you refer to the "Negative Golden Rule." Can you explain what that is and why it's important in relationships? MR. BAUMEISTER: Well, the standard Golden Rule that we learned negative rather than cultivating tion of the news? the positive. Both are good, but eliminating the negative should get priority.

There's abundant evidence from multiple sources that relationships are far more strongly affected by negative things than positive things. I sometimes ask my students, "Why do you think someone should marry you? Why would you be a great husband or wife?" They list all the positive things that they do—being a good listener, provider, good in bed, or whatever—that they think will make the relationship a success. But what's more important is to not do the bad things—can

you hold your tongue when you're angry or refrain from saying that something is his or her fault; or, when the family budget is stretched, can I refrain from an impulsive splurge? Negative things matter way more than positive things; so rather than reciprocating when your partner is being difficult or unpleasant, it's especially important for you to ride it out and be positive and not fall into the trap of turning negative yourself.

MS. SUTTIE: Is there a good way to provide criticism, given how much we hate receiving it? **MR. TIERNEY:** One of the big mis-

takes people have learned is that, when giving criticism, you should start off saying a lot of good things about the other person, then throw in some criticism, and wrap it up with some nice words. But most people would rather just get the bad news out of the way. Also, once you give people the bad news, they respond so strongly to criticism that the brain basically forgets the first part—people will

walk out of the evaluation focusing on that criticism, with all the good stuff forgotten.

It's better to give the bad news early; then the good news can sink in after that. People have got to hear the criticism to know what the problem is, but then you can tell them what they're good at and let them know how they can improve

MS. SUTTIE: When it comes to MS. SUTTIE: You mentioned maas a child is "Do unto others as news and media, you write that nipulation earlier. Do you ever you want them to do unto you." we tend to focus more immedi-**ROY BAUMEISTER:** A mind is prone But given that bad is stronger ately on the negative news, but stand the power of the negativity than good, the priority should be we're more likely to share posi-"Do not do unto others what you tive news with others. What's in a way? do not want done unto you." It's the reason for this, and how MR. TIERNEY: I do think that about focusing on eliminating the should it guide our consump-

> **MR. TIERNEY:** This is something that interested me in my media career—just seeing how eagerly we journalists will turn anything into bad news. So many things are going right in the world, and yet journalists can take what's basically a good news trend and find one person doing badly and focus on that. The reason for this is probably that mass media aims at a mass audience, and the things that affect everyone tend to be negative—we're all afraid of dying; we're all afraid of being hurt. Focusing on those shared concerns is the easiest way to reach a mass audience.

> It means we all need to work on going on a "low-bad" diet—basically, not allowing yourself to constantly watch mass media news. When there's a terrible event—a school shooting or a terrorist attack-don't just wallow in the coverage. These are awful events, but they're also pretty isolated events.

> Social media often gets a bad rap, but, in fact, people on social media tend to share stories that are more positive than mass media. That's because the positive things we're interested in—our hobbies,

The mind evolved to overreact to negative things so, to compensate for that, it's good to take a moment to stop and consider the positive side.

Roy Baumeister, author and social psychologist

our cultural interests, the books we read—are more idiosyncratic. If you go on Facebook or you go on social media, you'll find all these wonderful groups that are just devoted to shared passions—for certain authors, certain branches of science, Civil War history. Curating your news feed so that you're not seeing so many negative stories can be good.

worry that helping people underbias could lead them to m

the negativity effect is used for bad purposes all the time. The "merchants of bad," as we call them—in the media and politics and advertising—are continually scaring us and they don't need our book to figure this out. Market research shows that it's the way to get people's attention. So, in that sense, I don't think we're going to be giving people a weapon they're not already using.

We're hoping that people who consume the news or hear politicians trying to scare them, though, will realize how they're being manipulated and start using their rational brain to overcome their negativity bias. Understanding how it works can help people see that what they hear or read is not necessarily an accurate view of the situation or even representative, and they're just overreacting to the bad.

MS. SUTTIE: Most people think that being a "Pollyanna" is a pejorative. But you actually make a case that there's something to be said for being a little bit more Pollyanna-ish. Why?

MR. BAUMEISTER: The original "Pollyanna" movie was not a critical success. But the idea of taking a positive attitude is very appealing, which is probably why it was a commercial success.

The mind evolved to overreact to negative things so, to compensate for that, it's good to take a moment to stop and consider the positive side. You don't have to be as extreme as the Pollyanna character. But, in general, the indicators of human well-being are all Jill Suttie, Psy.D., is Greater moving up—life is getting better and is really good in many ways, *a frequent contributor to the* despite the constant predictions *magazine*. This article was origiof doom. So just to be accurate in *nally published in the Greater* how you see the world, you need Good online magazine.

to put a bit of a correction on the negativity bias.

Most of the research shows that bad things have about two, three, or four times as much impact as good things. If you want to have a good relationship, go for at least a five-to-one ratio of good things to bad things. I've heard people say, "Oh, I did this to annoy my wife or husband; I'd better do something nice to make it up to him or her.' But one nice thing doesn't make up for one bad thing-you've got to do four things just to get back to even.

MS. SUTTIE: You make a case for using rational thought to overcome the negativity bias. What about the role of cultivating positive emotions? Is that useful, too? MR. TIERNEY: Yes! We recommended keeping a gratitude diary in the book, for example. But that's still a case of using your rational brain—you decide you're going to keep a diary because the research shows that this will help you, thinking about the good things in your life. And that does indeed produce a wonderful emotional response; it's one of the best ways to lift your spirits. So, in that sense, you're using your rational brain to bring out those good emotions.

MS. SUTTIE: What lesson do you hope most people will take away from your book?

MR. TIERNEY: The basic message of our book is that bad is stronger than good, but good can prevail. We end the book very optimistically because we think that life has gotten so much better for the average person in the world in the last three centuries. It's astonishing—we're the luckiest people in history to be alive now. And things just keep getting better.

We're hopeful that as we understand our inner nature, this negativity effect, we can use our rational brain to override that when it gets in our way and can use it for positive purposes. The more we can get our rational brain involved in overriding these gut reactions, the more things will keep getting better. And we think people can become happier, too.

Good's book review editor and

BECOMING MINIMALIST

How Many Towels Do You Need?

A simple question started a path toward space and freedom

ROSE LOUNSBURY

ow many towels do you need?" This was the surprisingly lifechanging question I faced on a Saturday afternoon in early 2012, as I scrutinized my linen cupboard.

I had just started on a minimalist journey, inspired by my 1,500 square foot house that could no longer comfortably contain the possessions of myself, my husband, and our three 2-year-olds (yes, you read that right—triplets).

A few weeks earlier, we'd returned from visiting out-ofstate relatives for Christmas with a van absolutely packed full of presents. As I walked into my house and assessed our already stuffed surroundings, a slow, frightening realization came upon me:

We didn't have room for the things we already owned. Where was I going to put this new stuff?

I felt defeated and overwhelmed. I knew the gifts had been given in love. I knew they were supposed to make us happy. But more than anything, they added stress to my already stressful full-timeworking-mom-of-triplets life.

Luckily, though, a change was coming.

About a week after Christmas, I had lunch with a good friend, and I explained my problem. I thought the solution was to either buy a bigger house or allow no one to buy my kids Christmas presents again, ever.

But my friend looked at me between bites of soup and casually suggested another idea, "Or ... you could just become a minimalist."

I immediately thought of monks living in a cave or college students traversing Europe with all their possessions on their backs or blackclad hipsters lounging on white couches in apartments that doubled as art galleries. None of that sounded like my real life in the Ohio suburbs with three kids, two cars, and a mortgage.

But my friend reassured me that minimalism was just a philosophy, a less-ismore approach to living, and that any modern American could adopt it. Skeptical but intrigued, I went home and

started reading. I was hooked. Which brought me, a few weeks later, to January 2012, when I went to put away some towels in my linen cupboard and asked myself the aforementioned life-changing question:

How many towels do you need? Now I want you to realize, this wasn't the first time I'd

asked myself questions about my stuff. Unbeknownst to me, I'd been asking myself questions about my stuff my entire life (and you probably have, too).

But those questions sounded different. They sounded more like this ... "Rose, how much stuff

could you afford to buy?"

I was a dedicated closeout, clearance, and coupon shopper, always scouring the racks for the best "deal" I could find.

Another favorite: "Rose, how much stuff could you fit in here?"

I used every spare inch in my snug home to cram in as much as possible, often resorting to space saver bags and bins stacked precariously high in my attic.

And, finally, the big daddy of them all, the question I continually asked every night as I spent hours putting away toys, shoes, sippy cups, and errant paper:

"Rose, how could you better organize this stuff?"

I thought organizing was the answer, the Holy Grail, the thing that—if I could just master it and buy the right bins with the right labels would solve my problem. I'd finally have the home in the magazines. I'd finally stop feeling like every day was a continual battle between me and the chaos.

But that Saturday afternoon, I wasn't asking myself any of those questions. That day, fresh in my nascent minimalist awakening, I was asking myself a very different question:

"Rose, how many towels do you need?"

That's the kind of question that just might change your life.

The answer was surprisingly clear: two per person. Which immediately felt

wrong. Because if you passed

third-grade math you know that's only 10 towels for a family of five, which certainly wasn't the number of towels I'd registered for on my Bed, Bath, and Beyond wedding gift registry. It wasn't the number of towels in my friend's homes. And it certainly wasn't the towel message I received from Better Homes and Gardens magazine. They were telling me I needed pink towels for spring and yellow towels for summer and towels with festive reindeer prancing across them for Christmas. Ten towels just didn't feel right.

So, I did something I rarely do. I entered the sanctum of my husband's man cave on a Saturday afternoon (aka prime sports-watching time) to ask him a very serious question, "Honey, is it OK if we have just 10 towels?"

Josh paused. He looked at me for a long time. I'm certain that during this time he was deeply pondering the critical issue of the towel supply. He eventually responded with a somewhat confused, "Yeah, I guess. I mean, that sounds about right.'

That settled it. Ten towels. Now, remember, that was eight years ago. In that time, I have not increased our number of towels and everyone in our family has been dry when they needed to be dry. This early venture into

minimalism taught me two very clear things:

1. I can live with a lot less than I think I can.

2.I can definitely live with a lot less than society tells me I should.

In my closet right now, you would see five bath towelsbecause the other five are in use. You would also find five pool towels on the bottom shelf. So yes, technically we have three towels per person: two bath towels plus one pool towel. The surprising thing about this is that my kids are on a swim team every summer and we've gotten by on this number of towels. The most interesting thing about minimalism is how it changes my mindset. Every June when I see the pool towels on sale at big box stores, I think, "Maybe

I used every spare inch in my snug home to cram in as much as possible, often resorting to space saver bags and bins stacked precariously high in my attic.

I should just buy a couple more." But then we get through the swim season just fine and I'm reminded again of lessons No. 1 and No. 2. My towels are just one example of minimalist thinking. After I decluttered my towel cupboard, I went through the rest of my house, asking myself different variations of that original question:

"Rose, how many coffee cups do you need?" "Rose, how many pairs of

shoes do you need?" "Rose, how many boxes of holiday decorations do you really need?"

And slowly, over a period of almost one year, my home physically transformed. My cluttered corners turned into open spaces. My formerly crammed cupboards had room to breathe. My now unstuffed drawers opened and closed easily.

So yes, my home looked neat and tidy, but that wasn't the point. That wasn't why I kept doing what I was doing. The reason I kept doing it was because of how I felt. At the risk of sounding melodramatic, I felt free. I felt at peace. I started to find myself, at the ends of my long working and parenting days, relaxing on my couch instead of frantically picking up my stuff.

So today I want to encourage you: Ask yourself a lifechanging question. Insert any word you like

(towels, sweaters, hammers, wine glasses, email subscriptions, volunteer commitments, etc.) into the blank space:

"How many do I need?"

My wish is that this simple question starts you on a journey toward a more peaceful life, full of the possibilities of open spaces. Cheers to less stuff and

more you!

Rose Lounsbury is a minimal ism and simplicity coach, speaker, and author of the Amazon bestselling "Less: Minimalism for Real." Rose spends her days speaking, writing, and coaching her clients and online students to stuff-free freedom. You can find her online at RoseLounsbury.com. This article was first published on BecomingMinimalist.com

Over a period of almost one year, my home physically transformed.





CONNECT TO LEAD The Generosity of Scars

Our past wounds are a story that can help others heal

SCOTT MANN

My transition to civilian life six years ago was a nightmare. The isolation got so dark for me that one afternoon, I went into my bedroom closet not intending to come out of it alive.

How did I get here? Two years earlier, I was at the top of my game as a strategic missions around the world. And then, after retirement, I didn't have enough purpose to leave my own house. Worse, my mood swings were so bad that my wife and boys got up and left any room I entered.

Heart pounding in the darkness, sweat dripping off the tip of my nose ... I heard it. My son's voice in the hallway outside the door. Ashamed, I shuffled out of that dark closet unwilling to live, and unable to die.

Six months later, I had coffee with an old friend named James, whom I served in Afghanistan with and was in that same dark place that I was trying to escape. Reluctantly, I shared my closet story with him. I watched the color return to his face and his distant stare come back into focus. I had reached him. He Special Forces Green Beret, running knew in that moment that he wasn't alone. And for just a moment, nei- your story. ther was I.

> It was then that I realized my most embarrassing scar from transition was becoming my greatest contribution in this new world.

The dictionary defines a scar as Scott Mann is a "a mark left on the skin or within former Green Beret body tissue where a wound, burn, or sore has not healed completely and fibrous connective tissue has developed."

I define a scar as an emotionallycharged mark, buried in the soul, earned through the struggle and trauma of living one's life fully, that has the potential to form fibrous connective tissue with the outside world to heal oneself and others. By my definition, there is generos-

ity in our scars, but to be generous with your scars, you have to own A big part of my story is survivor's

guilt. I'm still here, while so many of my friends from the war are not. Some died doing what I asked them to do. When I finally owned this

who specialized in unconventional, high impact missions and relationship building. He is the founder of Rooftop Leadership and appears frequently on TV and many syndicated radio programs. For more information, visit RooftopLeadership.com for it.

Life leaves its mark on us. Be generous with

the stories of your scars, you might just help

someone else facing a similar wound.

story, healing, far beyond my own, started to happen.

According to narrative expert Dr. Kendall Haven, humans are wired to listen autobiographically to story. What I mean by this is when we share the stories of our scars, we create a narrative bubble that others can step into and process their own emotional issues.

What a gift we can give as leaders in these uncertain times if we can overcome the mindset that scars are uncomfortable.

Within the generosity of scars, there are two powerful stories that are incredibly uncomfortable. A good story is a story about you that you don't want to tell others. A great story, well, that's one about you that you don't want to tell yourself.

But, what about you? How can you lead with your scars? How do you overcome the mindset that prevents you from removing the armor we are all trained to keep over our feelings?

For me, it started with a story to a struggling Army buddy about my own bout with suicide. For you, it might be sitting down with your employee after she makes a mistake, and instead of chewing her out, sharing a scar from when you made a bigger mistake ... and what you learned from it. It could even be a conversation with your teenager about your battle with addiction.

Start small. A little scar, maybe even a blemish that you have from your past. Write it down, talk it out, develop it. Whatever it is, take those first steps to remove the armor and tap into it. Own it. Share it as a way to earn the right to lead us even when we don't want to follow.

Your scars are the rocket fuel for how you lead people when storm clouds gather. People are hungry

Scars make you relatable. Scars have a story. Scars are uncomfortable. But, there is generosity in your scars ... if you are willing to approach them with a different mindset.

It's time that you are. Because the world needs what you've earned.



KHOSRO/SHUTTERSTOC

Anger starts with an internal decision to be angry.

MINDSET MATTERS

A Stoic Answer to America's RIST

Fury makes us feel powerful even as it destroys our self control

> 66 We're just wicked people living among wicked people. **Only one thing** can give us peace, and that's a pact of mutual leniency.

> > Seneca

BARRY BROWNSTEIN

ccording to the latest NPR-IBM Watson Health poll, "42 percent of those polled said they were angrier in the past year."

Most of us think we are better than average. We believe others are getting even angrier than we are: "Some 84 percent of people surveyed said Americans are angrier today compared with a generation ago."

No wonder some popular politicians speak like they are in a perpetual rage. For many, their success depends upon attracting angry voters.

And it's not just in the political arena that anger rules the day. Harvard University law professor Ronald Sullivan, forced to step down as a faculty dean, wrote of "angry demands" on college campuses:

"Unchecked emotion has replaced thoughtful reasoning on campus. Feelings are no longer subjected to evidence, analysis or empirical defense. Angry demands, rather than rigorous arguments, now appear to guide university policy."

In his "Meditations," Marcus Aurelius observed: "It's courtesy and kindness that define a human being. That's who possesses strength and nerves and guts, not the angry whiners."

Stop Feeding Your Anger

A few months ago, my wife and I missed our highway exit. When we exited to retrace our steps, we found ourselves backed up at a traffic light. Each time the light turned green, only five cars could make it through before it turned red again. My thinking riffed on getting to our destination on time. As I railed against reality and behaved boorishly, my wife sat, well, stoically.

At that moment, I was sure my anger was coming from the traffic light. I didn't sign up for a poorly controlled intersection and a delayed trip. Take the issue away, and I would be calm again. Wrong. Anger starts with an internal decision to be angry. If we want to be angry, we will find things to be angry about.

Continued on Page 11

66

You shouldn't give circumstances the power to rouse anger, for they don't care at all.

Marcus Aurelius



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How Many Emotions Can Music Make You Feel?

Researchers have mapped 13 key emotions triggered when we listen to music

YASMIN ANWAR

he "Star-Spangled Banner" stirs pride. Ed Sheeran's "The Shape of You" sparks joy. And "ooh là là!" best sums up the seductive power of George Michael's "Careless Whispers."

University of California-Berkeley researchers have surveyed more than 2,500 people in the United States and China about their emotional responses to these and thousands of other songs from genres including rock, folk, jazz, classical, marching band, experimental, and heavy metal.

The upshot? The subjective experience of music across cultures can be mapped within at least 13 overarching feelings: amusement, joy, eroticism, beauty, relaxation, sadness, dreaminess, triumph, anxiety, scariness, annovance, defiance, and feeling pumped up.

"Imagine organizing a massively eclectic music library by emotion and capturing the combination of feelings associated with each track. That's essentially what our study has done," said study lead author Alan Cowen, a University of California–Berkeley doctoral student in neuroscience.

The findings were published recently in the journal Proceedings of the National Academy of Sciences.

"We have rigorously documented the largest array of emotions that are universally felt through the language of music," said study senior author Dacher Keltner, a University of California-Berkeley professor of psychology and Greater Good Science Center founding director.

Cowen and fellow researchers have translated the data into an interactive audio map where visitors can move their cursors to listen to any of thousands of music snippets to find out, among other things, if their emotional reactions match how people from different cultures respond to the music.

Potential applications for these research findings range from informing psychological and psychiatric therapies designed to evoke certain feelings to helping music streaming services like Spotify adjust their algorithms to satisfy their customers' audio cravings or set the mood.

While both U.S. and Chinese study participants identified similar emotions—such as feeling fear when hearing the "Jaws" movie score-they differed on whether those emotions made them feel good or bad.

"People from different cultures can agree that a song is angry, but can differ on whether that feeling is positive or negative," said Cowen, noting that positive and negative values, known in psychology parlance as "valence," are more culture-specific.

Across cultures, study participants mostly agreed on general emotional characterizations of musical sounds, such as anger, joy, and annoyance. But

their opinions varied on the level of "arousal," which refers in the study to the degree of calmness or stimulation evoked by a piece of music.

How They Conducted the Study

For the study, more than 2,500 people in the United States and China were recruited online. First, these volunteers scanned thousands of videos on YouTube for music evoking a variety of emotions. From those, the researchers built a collection of audio clips to use in their experiments.

Next, nearly 2,000 study participants in the United States and China each rated some 40 music samples based on 28 different categories of emotion, as well as on a scale of positivity and negativity, and for levels of arousal.

Using statistical analyses, the researchers arrived at 13 overall categories of experience that were preserved across cultures and found to correspond to specific feelings, such as "depressing" or "dreamy."

To ensure the accuracy of these findings in a second experiment, nearly 1,000 people from the United States and China rated more than 300 additional Western and traditional Chinese music samples that were specifically intended to evoke variations in valence and arousal. Their responses validated the 13 categories.

Vivaldi's "Four Seasons" made people feel energized. The Clash's "Rock the Casbah" pumped them up. Al Green's "Let's Stay Together" evoked sensuality, and Israel (Iz) Kamakawiwo'ole's "Somewhere over the Rainbow" elicited joy.

Meanwhile, heavy metal was widely viewed as defiant and, just as its composer intended, the shower scene score from the movie "Psycho" triggered fear.

Researchers acknowledge that some of these associations may be based on the context in which the study participants had previously heard a certain piece of music, such as in a movie or YouTube video. But this is less likely the case with traditional Chinese music, with which the findings were validated.

Cowen and Keltner previously conducted a study in which they identified 27 different human emotions, in response to visually evocative YouTube video clips. For Cowen, who comes from a family of musicians, studying the emotional effects of music seemed like the next logical step.

"Music is a universal language, but we don't always pay enough attention to what it's saying and how it's being understood," Cowen said. "We wanted to take an important first step toward solving the mystery of how music can evoke so many nuanced emotions."

Yasmin Anwar is a media relations representative at the University of California-Berkeley. This article was originally published on Greater Good online magazine.

> If you are looking to change your mood, music can give you



Don't trust your

first angry thoughts

shrieking insane advice.

An illustration of Seneca

There is no reason to trust the words of angry people, which make loud and menacing noise despite the great timidity of the mind that lies beneath.

Seneca

MINDSET MATTERS

A Stoic Answer to

America's **Rising Anger**

Fury makes us feel powerful even as it destroys our self control

Continued from Page 9

My momentary agitation was made of the same stuff as fullblown road rage. I had given the world, in the form of a traffic light, power over my peace of mind. "You shouldn't give circumstances the power to rouse anger, for they don't care at all," Marcus Aurelius counseled.

The moment I stopped feeding my anger with more thinking, the anger was gone. In their book "The Daily Stoic," Ryan Holiday and Stephen Hanselman write:

adage, is that 'if you find your- tive, and irresistible of the pasself in a hole, stop digging.' This sions. It's like jumping off a cliff: might be the most violated piece once rage is allowed to get control, of common sense wisdom in the there's no hope of stopping the in and given jurisdiction." world. Because what most of us descent." do when something happens, goes wrong, or is inflicted on us Awareness cures anger. Look is make it worse—first, by getting at "all the vices anger gives rise angry or feeling aggrieved, and next, by flailing around before we them." Seneca was adamant: have much in the way of a plan."

Life often won't meet our expectations. The traffic light will only let five cars through when you have to get somewhere. But do you have to allow your thinking to make the situation even worse? If you keep pinching your arm, don't be surprised if you get bruised.

Seneca on Anger

James Romm is a professor of classics at Bard College. His book "How to Keep Your Cool: An Ancient Guide to Anger Management" is a new translation of the Stoic philosopher Seneca's work "On Anger."

In his introduction to his book, Romm asks us to recall "the last minor incident that sent you into a rage." He asks us to reflect on these questions: "You were injured—or were you? Were you notably worse off, a day or two later, than before the incident oc- **Don't Let Anger** curred? Did it really matter that someone disrespected you?" Then Romm offers this pointed

advice:

"By shifting our perspective or expanding our mental scale, Seneca challenges our sense of what, if anything, is worth our getting angry. Pride, dignity, selfimportance—the sources of our outrage when we feel injured end up seeming hollow when we zoom out and see our lives from a distance."

kind of madness, because you set a high price on worthless things." road rage, Romm explains the price of our madness:

"In your momentary road rage, in your desire to honk at, hurt, or kill the other driver, lie grave threats to the sovereignty of reason in your soul, and therefore to your capacity for right choice and virtuous action. The onset of emotion, for anger is, in Seneca's

to and take a good measure of He explains:

"If you truly want to examine its effects, the damages it causes, I say that no plague has done more harm to humankind. You'll see slaughters, poisons, mutual mudslinging of litigants, wreckage of cities, extinctions of whole races, lives of leading men sold at public auction, torches touched to buildings, flames not contained within gleaming over vast spans of territory."

Anger harms the angry host. Seneca taught:

"Deaf to reason and advice, stirred up by empty provocations, unsuited to distinguishing what's just and true; [anger] resembles nothing so much as a collapsing building that breaks apart upon that which it crushes."

in the Front Door

The Stoics advised that you can do your "duty" without anger. There is no such thing as healthy anger, taught Seneca.

"Some men think it valuable to moderate anger rather than set it aside, to force it to conform to a healthy measure and restrain its overflows, to hold on to that part without which action grows weak and the force and energy of the mind is dissipated. First, however, it's easier to shut out harmful things than to govern them,

In Seneca's words, "Your anger is a easier to deny them entry than to moderate them once they have the onset. It's easy to detect when entered. Once they've established Using the common example of residence, they become more powerful than their overseer and do not accept retrenchment or abatement."

> In short, "Once shaken and overthrown, the mind becomes a slave to that which drives it." Choose against anger as soon as you recognize it. Seneca instructs:

"It is best to repel instantly the anger endangers your moral con- first prickings of anger, to stamp trust others who are angry. "There dition more than that of any other out its very seedlings, to take is no reason to trust the words of pains not to be drawn in. For once angry people, which make loud "The first rule of holes, goes the eyes, the most intense, destruc- it has knocked us off course, the and menacing noise despite the return to health and safety is difficult; no space is left for reason once passion has been ushered

> Here is Seneca's timeless thumb rule: Don't trust your first angry thoughts shrieking insane advice.

> "Since we ought to fight against first causes, the cause of anger is the sense of having been wronged; but one ought not to trust this sense. Don't make your move right away, even against what seems overt and plain; sometimes false things give the appearance of truth. One must take one's time; a day reveals the truth."

walls but, held by an enemy host, Like other Stoics, Seneca advised mind training. Each of us must come to know our personal storm warnings. He instructs:

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Pride, dignity, self-importance the sources of our outrage when we feel injured-end up seeming hollow when we zoom out and see our lives from a distance.

James Romm, author and professor of classics at Bard College

"It is best therefore to restrain oneself at the first sign of the evil, then to give as little rein as pos-

sible to one's words and to block one's emotions first arise, since the hallmarks of the ailments precede them."

Seneca asked, "Won't everyone want to call themselves back from anger's borders, once they understand that its first onset is to their detriment?"

Don't Trust the Angry

If you shouldn't trust yourself when you are angry, surely you shouldn't great timidity of the mind that lies beneath," advised Seneca.

Angry politicians believe they are wise. Enraged college students believe they are just. A driver overcome by road rage believes he is in the right. Seneca would say they are all insane.

"Everyone who's transported beyond mortal thinking by an insane mind believes he's breathing in something elevated and sublime. But there's nothing firm really benefit us?" underneath; things that grow without foundations are likely to slide into ruin. Anger has nothing on which it can lean; it arises from nothing steady or durable."

Some may believe that the ability to be angry with impunity is a perk of their power. Seneca would say getting angry is a booby prize. "Don't you want me to advise those people who wield anger from the height of power, who And when we forget our ignorance think it a testament to their strength, who reckon a ready revenge to be one of the great benis a prisoner of anger cannot be

called powerful, or even free?" Can we reduce our attraction to anger? Can we keep our cool while others lose theirs? If enough of us can, there will be less demand for angry politicians.

Forgiveness Is a Healing Balm Romm places "On Anger" in context: "By the time he came to write On Anger, or at least the greater part of it, he had witnessed, from the close vantage point of the Barry Brownstein is a profes-Roman Senate, the bloody fouryear reign of Caligula."

Most of us are not pure saints nor demented souls like Caligula. Seneca wrote, "Even in good characters there is something rather unsavory. Human nature contains treacherous thoughts, ungrateful ones, greedy and wicked ones."

Understanding human nature allows us to be "kinder to one another." Seneca advised us to forgive the foibles of others: "We're just wicked people living among wicked people. Only one thing can give us peace, and that's a pact of mutual leniency." Always see your common humanity with others, counseled Seneca.

There is no such thing as healthy anger, taught **Seneca**.

"The majority of humankind gets angry not at the wrongs but at the wrongdoers. A good look at ourselves will make us more temperate if we ask ourselves: 'Haven't we ourselves also done something like that? Haven't we gone astray in the same way? Does condemning these things

Seneca pointed to our hypocrisy:

"Each of us has the spirit of a king inside us: We want total freedom to be granted to us but not to those acting against us. It's either our ignorance or our arrogance that makes us prone to anger. For what is so surprising if wicked people do wicked things?"

and arrogance, Seneca suggests we recall "every time we find it hard to forgive, whether it's to our benefits of great wealth, that he who efit that everyone be implacable. How often has the one who refused mercy later sought it?"

> Today, like every day, the world will provide ample opportunity to practice Seneca's wisdom. How we spend our days becomes how we spend our life. Are we willing to learn, as Marcus Aurelius puts it, that we "have something in [us] more powerful and divine than what causes the bodily passions and pulls [us] like a mere puppet"?

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Our brains run a background program of regrets, worries, and dreams, but we can turn it off

JAMES CARMODY

new year brings both hopes and anxieties. We want things to be better for ourselves and the people we love, but worry that they won't be, and imagine some of the things that might stand in the way.

Humans are wired to worry. Our brains are continually imagining futures that will meet our needs and things that could stand in the way of them.

Worry is when this planning and imagining occupies our attention to no good effect. Tension, sleepless nights, and distraction are the result. Worry's effects are endless, but there are ways to tame it.

As a professor of medicine and population and quantitative health sciences, I've researched and taught mind-body principles to both physicians and patients. I've found that there are many methods of quieting the mind and that most of them draw on just a few straightforward principles.

Sabotaging the Happier Present

We've all experienced moments of flow, times when our attention is effortlessly absorbed in what we are doing. Studies confirm an increase in happiness when people can focus attention on what they are doing, rather than when their minds are wandering. It may seem odd then that we leave our minds to wander for something like half the day, despite the happiness cost.

The reason can be found in systems of the brain that function in the background of consciousness, envisaging futures compatible with our needs and desires—and planning how those might be brought about.

But there's a downside to this process: anxiety. Sometimes envisaging the future becomes an endless stream of worrying thoughts about what could go wrong. Studies have shown that some people prefer electric shocks to being left alone with their thoughts. Perhaps this is why.

Our background thinking is essential to operating in the world, but we suffer from unease when, unnoticed, it takes up too much mental space.

Mindfulness, the practice of observing our mind's activity, offers real-time insight into this feature of our mental operating system and a grants us a capacity to selfregulate it.

How we use our attention is central to our emotional well-being, and many mindbody programs are based on training our minds to be more able to focus and dial down that background thinking. Mindfulness training, for example, asks students to direct their attention to the sensations of breathing. That may seem easy, but the mind resists, tenaciously. So, despite repeated resolve, a person finds that, within seconds, their attention has returned to planning daydreams.

Just recognizing this feature is progress. When you do manage to notice these thoughts with some detachment, you will also notice their dogged concern with past and future.

We begin to notice that this hoping, comparing, and regretting is often concerned with family and friends, job and money themes of relationship, status, and power



that are central to our survival and success.

Our Bodies Take Notice

Traditional meditation teachings attribute our everyday unease to the bodily tightening that naturally accompanies fearful thoughts surrounding the possibility of loss, failure, and unfulfilled dreams. It's a tension that is often unnoticed in the midst of managing everyday demands, but this background discomfort sends us seeking relief in something more pleasant like a snack, screen, drink, or drug.

Mindfulness makes us more aware of these preoccupations and reorients our attention to the senses. Senses, by their nature, are rooted in the present—hence the almost clichéd "being in the moment" idiom.

So, when you notice yourself tense and preoccupied with anxious thoughts, try shifting your attention to the sensations of your breathing, wherever you notice it in your body. Bodily tension naturally dissipates with this shift in focus, and a feeling of greater calm follows. Don't expect attention to stay there; it won't. Just notice that attention goes back to worries, and gently return it to breathing. Try it for just a couple of minutes.

if y it for just a couple of initiates

Other Methods, Similar Principles

It would be nearly impossible to design studies comparing all the techniques that cultivate mindfulness. Humans around the world have sought elevated mental states for millennia. But my more than four decades of experience as a practitioner, clinician, and researcher of several popular mind-body programs suggests that most techniques use similar principles to recover the present moment.

Yoga and tai chi, for example, direct attention to the flow of sensations accompanying the sequence of movements. In contrast, systems such as cognitive therapy, self-compassion, prayer, and visualization counter the background thinking's unsettling tone with more reassuring thoughts and images.

Just a little practice will improve your ability to shift your mind you become happier as the here and now becomes woven into the fabric of everyday life.

James Carmody is a professor of medicine and population health sciences at the University of Massachusetts Medical School. This article was originally published on The Conversation.

Children Learn Gratitude but Revenge Comes Naturally

Research reveals the importance and impact of teaching children to return acts of kindness

PAT HARRIMAN

Kids have to learn reciprocity the "you scratch my back, I'll scratch yours" response—but not revenge, research finds.

"In our series of experiments, we thought we'd see that children would display positive direct reciprocity-the tendency to pay back those who have helped-from an early age. That wasn't the case," said lead author Nadia Chernyak, assistant professor of cognitive sciences at the University of California-Irvine. "Preschool-aged children showed almost no awareness that they should repay favors." Researchers were interested in how reciprocity develops. They conducted five experiments with 330 4- to 8-year-olds and discovered that the youngsters were more likely to reciprocate nega-

tive actions than positive ones. The children played "giving" and "stealing" computer games, interacting with four avatars that they thought were other kids playing. In the giving version, everyone else got a sticker, leaving the subject without one until another player gave theirs to the child. In the stealing version, the subject started with a sticker that one of the other players then stole.

In the next phase of the giving game, the child received a second sticker that they could give to any one of the four avatars. In the stealing game, the other players had stickers and the child had the opportunity to take a sticker from one of them. Would the kids give their second sticker to the player who had given one to them? Would they steal from the player who had stolen from them? The latter was mostly the case:

Children were eager to retaliate



stefanel/Shutterstock but unconcerned with returning a favor until the age of 7 or older.

What can explain this puzzling behavior? "Young children may not be naturally stingy; they simply

naturally stingy; they simply don't know the rule. Their principles look a little different than those of adults. It takes some cognitive building blocks, as well as exposure to social norms relevant to their culture, to learn how to navigate the world," Chernyak said.

"If the goal is to have children display gratitude, we should take opportunities to point out and discuss with them instances when other people are exhibiting this desired behavior."

The last experiment was to find out if children would demonstrate positive direct reciprocity after an implication that they should.

One group of children was told a story about two kids who returned favors to each other. Another group heard a story about two youngsters who engaged in positive actions but not in any kind of reciprocal way. Both groups then played the giving game. Those who had heard the reciprocity story were now much more likely to pay back the person who gave them a sticker compared to the children who had heard the second story.

"And so the upshot isn't so grim after all," Chernyak said. "Grudges may come more naturally, but gratitude can readily be learned. Hearing a simple story was sufficient for young children to start following the norm of paying back favors."

The study appears in Psychological Science. Additional researchers from Franklin & Marshall College, Yale University, and Boston University contributed to the work.

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Birth Control Pills May Shrink Brain, Increase Anger and Depression

The impacts of hormonal birth control have raised concerns, though many women are unaware

ontraceptive pills and shots, prescribed with casual frequency, have known side effects that are littlediscussed. Research has uncovered other potential consequences that aren't yet official, but do raise serious concerns.

Women who fill a prescription for Ortho Tri-Cyclen, a popular form of oral birth control, will note the inclusion in the pill pack of a lengthy insert detailing grave risks, along with side effects that are considered "not serious" such as nausea, vomiting, bleeding between menstrual cycles, weight gain, breast tenderness, and dif-

ficulty wearing contact lenses. A study of birth control pills has found risks that aren't yet detailed in these inserts but do raise concern. Presented in December 2019 at the annual meeting of the Radiological Society of North America, the as-yet-unpublished study found that women taking birth control pills had significantly smaller hypothalamus volume, compared to women not taking the pill.

Located at the base of the brain above the pituitary gland, the hypothalamus is responsible for critical bodily functions, including hormone production, mood, appetite, and body temperature regulation, quality of sleep, and heart rate. This small but important brain region is also responsible for the regulation of emotional responses or mood, as well as sexual drive.

Birth Control Pills Linked to Brain Shrinkage

In this eye-opening study, a team of researchers headed by Dr. Michael L. Lipton, professor of radiology at the Gruss Magnetic Resonance Research Center at the Albert Einstein College of Medicine and medical director of MRI Services at Montefiore Medical Center in New York City, assembled 50 healthy women, 21 of whom were taking oral contraceptives.

Participants were given functional MRI scans, allowing researchers to analyze the structural effects of extrinsic sex hormones like birth control pills on the brain's gray matter. According to Lipton in a news release, "We validated methods for assessing the volume of the hypothalamus and confirm, for the first time, that current oral contraceptive pill usage is associated with smaller hypothalamic volume."

In his presentation, Lipton announced that "a dramatic difference" was found in the size of the hypothalamic brain structures between women who were taking oral contraceptives and those who were not.

He further explained that there is a lack of research on the effects of contraceptives on this "small but essential part of the living human brain," but his study shows "a strong association and should motivate further investigation into the effects of oral contraceptives on brain structure and their potential impact on brain function."

The Pill's 'Dangerously Unsexy' History

Commercial contraceptives have a brief and disturbing history in the United States. Initial versions of intrauterine devices (IUDs) and birth control pills were introduced in the 1960s and subsequently pulled from the market due to safety concerns and legal challenges from women using and being harmed by them. Complications such as blood clots, infections, and even documented deaths led to lawsuits and sub-



The emotional and cognitive impacts of hormonal birth control are becoming known—at least to researchers.

sequent reformulations of these original methods of mass-market birth control.

Original formulations of oral contraceptives had women receiving hormones in doses as high as 150 micrograms (µg) of estrogen and 10 milligrams (mg) of progestin. In 1989, following a recommendation by its Fertility and Maternal Health Drugs Advisory Committee, the U.S. Food and Drug Administration ordered the removal from the market of all oral contraceptives with estrogen contents greater than 50 µg. Current formulations use 20 to 35 µg of estrogen and 1.5 mg or less of progestin.

While the effectiveness of these "low-dose" contraceptives is high (generally less than one pregnancy per 100 womanyears), there remains serious risk potential when taking hormonal birth control. Potential complications from the pill include breast cancer, blood clots, heart attack, stroke, migraines, high blood pressure, diabetes and liver disease.

According to the U.S. Centers for Disease Control and Prevention, 12.6 percent of women aged 15 to 49 years, or approximately 6 million women in the United States, currently use the pill as their preferred method of birth control. Oral contraceptives can be prescribed for a variety of offlabel uses such as acne, irregular periods, menstrual cramps, and endometriosis-associated pain, indicating that the overall number of women potentially affected by negative side effects is even greater.

Hormonal Birth Control Alters Mood

There were other findings in the focus study, which Lipton described as "preliminary," linking smaller hypothalamic volume to negative emotional states, specifically increased anger and depression. While rigorous science mandates that correlation is not causation, prior medical studies have amassed evidence supporting negative mood-altering effects of hormonal birth control.

Published in May 2016 in the peer-reviewed journal Social Cognitive and Affective Neuroscience, researchers concluded that hormonal contraceptives suppress oxytocin-induced "brain reward responses" to a woman's romantic partner's face.

Previous research by the authors of this study showed that oxytocin release in men's brains biased them toward perceiving their female partners as more attractive and elicited increased activity in neural reward regions, the inverse of what their subsequent study showed was happening in the brains of women taking hormonal birth control.

Further confirmation of the negative mood effects of hormonal birth control comes via a 2019 study published in the journal Current Psychiatry Reports, titled, "Effects of Hormonal Contraceptives on Mood: A Focus on Emotion Recognition and Reactivity, Reward Processing, and Stress Response."

The peer-reviewed paper supports these disturbing findings, summarizing, "Current evidence supports a negativity bias in emotion recognition and reactivity in HC [hormonal contraception]-users."

Their report further states that some data indicates "a trend towards a blunted reward response and a potential dysregulation of the stress response in some HC-users."

Finally, a 2018 study published in Frontiers in Neuroscience summarizes their bleak findings in the name of their report, titled, "Oral Contraceptives Impair Complex Emotion Recognition in Healthy Women." The study authors caution that the growing body of evidence supporting the negative-mood effects of hormonal contraception "should be taken into account when informing women about the side-effects of [oral contraception] use."

Until natural, hormone-free methods of birth control are taught to every person of reproductive age, it is imperative to be aware of the risks associated with hormonal contraception. Stay abreast of the dangers of pharmaceutical drugs and the benefits of natural health by following GreenMedInfo.com, the world's largest natural health database.

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[Study shows] a strong association and should motivate further investigation into the effects of oral contraceptives on brain structure and their potential impact on brain function.

Dr. Michael L. Lipton, professor of radiology at the Gruss Magnetic Resonance Research Center at the Albert Einstein College of Medicine and medical director of MRI Services at Montefiore Medical Center in New York City

Women taking birth control pills had significantly smaller hypothalamus volume, compared to women not taking the pill.

The GMI Research Group is dedicated to investigating the most important health and environmental issues of the day. Special emphasis will be placed on environmental health. Our focused and deep research will explore the many ways in which the present condition of the human body directly reflects the true state of the ambient environment. This article was originally published on GreenMedinfo.com. Join the free newsletter at www.GreenmedInfo.health

Why Drinking Diet Soda Makes You Crave Sugar

Your tongue might be fooled, but your body and brain pay a price for sweet cravings

MICHAEL GREGER

ecommendations on limiting sugar consumption vary around the world, with guidelines ranging from one sweet dessert every other day to keeping sugar consumption to four or less occasions per day. In the United States, the American Heart Association calls for "dramatic reductions in the consumption of soft drinks and other sweetened products" and recommends fewer than 5 percent of our daily calories come from added sugars, which can be less than a single can of soda. Why is the American Heart Association

so concerned about sugar? "Overconsumption of added sugars has

long been associated with an increased risk of cardiovascular disease," warns researcher Laura A. Schmidt in a study published in JAMA Internal Medicine.

We used to think added sugars were just a marker for an unhealthy diet. At fastfood restaurants, for example, people may be more likely to order a cheeseburger with their super-sized soda than a salad. However, the new thinking is that the added sugars in processed foods and drinks may be independent risk factors in and of themselves. Indeed, worse than just empty calories, they may be diseasepromoting calories.

The data show that only about 1 percent of Americans meet the American Heart Association recommendation to keep added sugar intake down to 5 or 6 percent of daily caloric intake. Most people are up around 15 percent, which is where cardiovascular disease risk starts to take off. There is a doubling of risk at about 25 percent of calories and a quadrupling of risk for those getting one-third of their daily caloric intake from added sugar.

Two hundred years ago, we ate an estimated seven pounds of sugar annually. According to the Diabetes Council, that figure rose to 17.5 pounds by 1915. As of today, Americans consume around 66 pounds of added sugar, which doesn't include naturally occurring sugars in fruit and milk.

We're hardwired to like sweet foods because we have always been surrounded by fruit, not Froot

Loops, but this adaptaion has been hijacked by the food industry for our pleasure and their profits.

"Why are we consuming so much sugar despite knowing too much can harm us?" asks a 2015 study published in JAMA Internal Medicine. Yes, it may have an addictive quality and there's the hardwiring, but the processed food industry isn't helping. Seventy-five percent of packaged foods and beverages in the United States contain added sweeteners, mostly coming from sugar-sweetened beverages like soda, which are thought responsible for more than a 100,000 deaths worldwide and millions of years of healthy life lost. Can we switch to diet sodas? Unfortunately, no.

Artificial Sweeteners Versus the Brain

It seems switching to diet soda makes little difference.

"Routine consumption of diet soft drinks is linked to increases in the same risks that many seek to avoid by using artificial sweeteners—namely type 2 diabetes, metabolic syndrome heart disease, and stroke," warns Susan E. Swithers in her 2015 study, "Not so Sweet Revenge: Unanticipated Consequences of High-Intensity Sweeteners."

"In other words, the belief that artificially sweetened diet beverages reduce long-term health risks is not supported by scientific evidence, and instead, scientific data indicate that diet soft drink consumption may contribute to the very health risks people have been seeking to avoid," writes Swithers.

But, why? It makes sense that drinking all that sugar in a regular soft



Only about 1 percent of Americans meet the American **Heart Association** recommendation to keep added sugar intake down to 5 or 6 percent of daily caloric intake.



beverages like soda, are thought to be responsible for more than a 100.000 deaths worldwide and millions of years of healthy life lost.



crease stroke risk the same amount? It's possible that the caramel coloring in brown sodas like colas plays a role, but another possibility is that "artificial sweeteners may increase the desire for sugar-sweetened, energy-dense beverages/foods," finds a 2014 study published in the Journal of General Internal Medicine.

The problem with artificial sweeteners "is that a disconnect ultimately develops between the amount of sweetness the brain tastes and how much glucose [blood sugar] ends up coming to the brain," writes influential cell biologist Lewis Cantley in a 2013 study. The brain feels cheated and "figures you have to eat more and more and more sweetness in order to get any calories out of it."

"As a consequence, at the end of the day, your brain says, 'OK, at some point I need some glucose [blood sugar] here.' And then you eat an entire cake, because nobody can hold out in the end," he writes.

How strangely fake sweeteners affected eating habits was explored in a 2014 study by the Department of Psychology at Texas Christian University.

If people are given Sprite, Sprite Zero (a zero-calorie soda), or unsweetened, carbonated, lemon-lime water, but aren't told which drink they're getting or what the study is about, when they're later offered a choice of M&M's, spring water, or sugar-free gum, who do you think picks the M&M's? Those who drank the artificially sweetened soda were nearly three times more likely to take the candy than those who consumed either the sugarsweetened or unsweetened drinks.

So, it wasn't a matter of sweet versus nonsweet or calories versus no-calories. There's something about non-caloric sweeteners that somehow tricks the brain.

Researchers did another study in which everyone was given Oreos and were then asked how satisfied the cookies made them feel. Once again, those who drank the artificially sweetened Sprite Zero reported feeling less satisfied than those

> who drank the regular Sprite or the sparkling water.

Ending Sugar Addiction lust like addictive drugs, sugar isn't something you can dabble in.

"The only way really to prevent this problem—to break the addiction—is to go completely cold turkey and go off all sweeteners—artificial as well as fructose. Eventually, the brain resets itself and you don't crave it as much," advises Cantley.

We've always assumed consuming sweetened foods, whether that be artificially sweetened or not, changes our palates, and research appears to back that up.

Carole Bartolotto, formerly with a major health care consortium in Southern California, did a study that had 20 people agree to cut out all added sugars and artificial sweeteners for two weeks. Afterward, 95 percent said sweet foods and drinks tasted "sweeter or too sweet." They also said they would use less sugar or no sugar in the future.

What's more, most stopped craving sugar within the first week—after only six days. This suggests a twoweek sugar challenge, or even a oneweek challenge, may "help to reset taste preferences and make consuming less or no sugar easier," she writes. Perhaps, concludes Bartolotto, we should recommend it to our patients.

"Eating fewer processed foods and choosing more real, whole, and plantbased foods make it easy to consume less sugar," she advises.

Dr. Michael Greger is a physician, New York Times bestselling author, and *internationally recognized speaker* on nutrition, food safety, and public *health issues. A founding member* and Fellow of the American College of Lifestyle Medicine, Dr. Greger is licensed as a general practitioner specializing in clinical nutrition. This article was republished from NutritionFacts.org



Staying mentally active, by doing things like reading books to grandchildren, can help some older adults ward off dementia.

People Who Can't Read May Be 3 Times More Likely to Develop Dementia

KRISTINA MARTIN

Keeping your mind engaged is often suggested as a way to stave off dementia, and something as simple as reading and writing can make a huge difference. Dr. Jennifer J. Manly of Columbia University Vagelos College of Physicians and Surgeons in New York says:

"Being able to read and write allows people to engage in more activities that use the brain, like reading newspapers and helping children and grandchildren with homework. ... Previous research has shown such activities may reduce the risk of dementia. Our new study provides more evidence that reading and writing may be important factors in helping maintain a healthy brain."

The Study

Manly is the author of a new study examining dementia that's been published in Neurology, the journal published by the American Academy of Neurology. The study administered memory and thinking tests to 983 people in northern Manhattan with low levels of education and an average age of 77 to determine if literacy affects dementia risk levels. Of those evaluated, 237 people were illiterate.

The test subjects who hadn't learned to read or write began at a disadvantage. Thirty-five percent of test subjects who couldn't read began the study with dementia as opposed to only 18 percent of the literate subjects. The gap between literate and illiterate continued throughout the study. After follow-up evaluations that occurred an average of four years later, 48 percent of the illiterate group had developed dementia while 27 percent of the literature group registered dementia.

Maintaining an active brain is a crucial strategy for lowering the risk of dementia.

Healthy Brain While Aging

Maintaining an active brain is a crucial strategy for lowering the risk of dementia. Crossword puzzles or learning new skills are frequently mentioned as viable options. Researchers at the University of Michigan published a 2017 study that attributed America's decline in dementia to an increase in levels of higher education. While getting a college degree might not be an option or even something you want, Manly's study suggests that even mental activities we take for granted can provide surprising benefits.

Kristina Martin works at Green Lifestyle Market and is a natural health wellness reporter for Organic Lifestyle Magazine, which first published this article.



The Biology of Coffee, America's Top Drink

Coffee linked to reduced rates of Parkinson's and dementia and may fight cancer

THOMAS MERRITT

There is a reasonable chance you may be reading this with a cup of coffee in your hand. Though tea is the most popular drink in the world, Americans drink more coffee than soda, juice, and tea combined.

Given coffee's popularity, it's surprising how much confusion surrounds how this hot, dark nectar affects our biology.

Coffee's Ingredients

The main biologically active ingredients in coffee are caffeine (a stimulant) and a suite of antioxidants. What do we know about how caffeine and antioxidants affect our bodies? The fundamentals are pretty simple, but the devil is in the details and the speculation around how coffee could either help or harm us runs a bit wild.

The stimulant properties of caffeine mean that you can count on a cup of coffee to wake you up. In fact, coffee, or at least the part, by blocking adenosine, which promotes sleep, from binding to its receptor. Caffeine and adenosine have similar ring

structures. Caffeine acts as a molecular mimic, filling and blocking the adenosine receptor, preventing the body's natural ability to be able a rest when it's tired.

Caffeine adenosine effect can also cause the brain's neurons to fire more rapidly, which the pituitary gland interprets as a signal that an emergency must be occurring. This causes the gland to release hormones that tell the adrenal glands to produce adrenaline, the "fight-or-flight" hormone

This combination is why too much coffee can leave you feeling jittery or sleepless. You can only postpone fatigue for so long, or be pumped up on adrenaline for so long before the body's regulatory systems begin to fail, leading to simple things like the jitters, but also more serious effects like anxiety or insomnia. A possible link between coffee drinking and insomnia was identified more than 100 years ago.

Unique Responses

Different people respond to caffeine differently. At least some of this variation is from having different forms of that adenosine receptor, the molecule that caffeine binds to and blocks. There are likely other sites of genetic variation as well.

There are individuals who don't procaffeine it contains, is the most common- cess caffeine for whom coffee could pose Coffee and Cancer ly used psychoactive drug in the world. It a medical danger. Even away from those seems to work as a stimulant, at least in extremes, however, there is variation in to prevent it and possibly other diseases theme across all the diseases. how we respond to that cup of coffee. And, like much of biology, that variation is a function of environment, our past coffee consumption, genetics and, honestly, just random chance.

> We may be interested in coffee because of the oh-so-joyous caffeine buzz, but that doesn't mean that caffeine is the most biologically interesting aspect of a good cup of coffee.

In one study using rats, caffeine triggered

smooth muscle contraction, so it is possible that caffeine directly promotes bowel activity. Other studies, though, have shown that decaffeinated coffee can have as strong an effect on bowel activity as regular coffee, suggesting a more complex mechanism involving some of the other molecules in coffee.

Antioxidant Benefits

What about the antioxidants in coffee and the buzz that surrounds them? Things actually start out pretty straightforward. Metabolic processes produce the energy necessary for life, but they also create waste, often in the form of oxidized molecules that can be harmful in themselves or damaging to other molecules.

Antioxidants are a broad group of molecules that can scrub up dangerous waste. All organisms produce antioxidants as part of their metabolic balance.

Coffee won't cure cancer, but it may help as well. Part of answering the question of another: What is cancer? At its simplest, is fundamentally about regulating when genes are, or are not, actively expressed.

My research group studies gene regulation and I can tell you that even a good cup of coffee, or boost of caffeine, won't cause biochemistry at Laurentian University in genes that are turned off or on at the wrong Canada. This article was originally pubtime to suddenly start playing by the rules. *lished on The Conversation.*

The antioxidants in coffee may actually have a cancer-fighting effect. Remember that antioxidants fight cellular damage. One type of damage that they may help reduce is mutations to DNA, and cancer is caused by mutations that lead to the misregulation of genes.

Studies have shown that consuming coffee fights cancer in rats. Other studies in humans have shown that coffee consumption is associated with lower rates of some cancers.

Interestingly, coffee consumption has also been linked to reduced rates of other diseases as well. Higher coffee consumption is linked to lower rates of Parkinson's disease and some other forms of dementia. Strikingly, at least one experimental study in mice and cell culture shows that protection is a function of a combination of caffeine and antioxidants in coffee.

Higher coffee consumption has also been linked to lower rates of Type 2 diabetes. Complexity, combined effects, and variation between individuals seems to be th

At the end of the day, where does all this coffee's connection to cancer lies in asking leave us on the biology of coffee? Well, as I tell my students, it's complicated. But as cancer is uncontrolled cell growth, which most reading this already know, coffee will definitely wake you up in the morning.

Thomas Merritt is a professor and

Canada research chair of chemistry and

Grapefruits: For Good Health and Weight Loss

LINDA MINER

If you are serious about wanting to improve your health, grapefruits are a great addition to your diet.

Grapefruits supply the body with plenty of essential nutrients including vitamin A, B1, B3, B5, B6, and C, biotin, copper, folate, iron, magnesium, phosphorus, potassium, sodium, zinc, bioflavonoids, and more. Because of the abundance of nutrients present, grapefruits have some incredible healing properties.

Lowering Cholesterol

Grapefruit aids in the breakdown of fats in the body. The pith, which is the white part on the inside of the skin, and the membranes surrounding the individual sections help lower cholesterol in the blood. Grapefruit is an excellent source of dietary fiber and contains pectin, which helps trap fats like cholesterol and allows them to be excreted. Because of this, grapefruit has also been linked to a reduced risk of cardiovascular disease.

Weight Loss

One whole grapefruit contains only about 100 calories and about four grams of fiber. This makes it naturally filling. It also contains compounds that help reduce appetite. It has a glycemic index rating of 35 amazing health benefits, you can see why

(under 55 is good) so it doesn't spike blood

Detoxification

sugar levels.

Grapefruits may help cleanse the kidneys, digestive and urinary systems, detoxify the liver, ease chronic liver conditions, and help to eliminate toxins from the body. They may also help dissolve gallstones.

Anti-Cancer

Red and pink grapefruits contain lycopene, which is a very powerful antioxidant and may help greatly in reducing the risk of prostate cancer. A six-ounce glass of grapefruit juice daily has been shown to reduce the activity of an enzyme that activates cancer-causing chemicals in tobacco smoke. It may also be helpful in the treatment of esophageal cancer.

Anti-Inflammatory

Grapefruit works as an anti-inflammatory and is therefore helpful with chest congestion, rheumatoid arthritis, lupus, and other inflammatory disorders. It may also be helpful in the treatment of osteoarthritis.

Immune Booster

Grapefruits can help to strengthen the respiratory and immune system and relieve cold and flu symptoms. With all these



While we may be tempted to skin our grapefruit wedges to improve the flavor, the white part of the rind and the skin of the individual wedges contain health-promoting properties.

grapefruits are a perfect example of how cist before adding grapefruit to your diet. eating fresh, whole foods can strengthen the body and help create wellness.

CAUTION: Grapefruit can interact with common medications, including those that lower cholesterol, treat high blood pressure, and more. If you take medication, you may want to consult your physician or pharma- lished on NaturallySavvy.com

Linda Miner is a registered nutritionist specializing in metabolic typing. Miner works with clients to help them restore their health by re-establishing balance in the body. This article was originally pub**TRADITIONAL CHINESE MEDICINE**

What Chinese Medicine Says About SUPPERS

LYNN JAFFEE

hen I think about the amount of sugar I ate as a child, I am appalled. Every holiday was a love-fest of jelly beans, chocolate kisses, candy canes, and frosted cookies. At the time, we didn't know any better, other than the fact that we were making our local dentist wealthy.

Now we know better, but unfortunately we eat far more sugar today than we did back then, both in the form of sweets and sugars hidden in foods that have no business sporting sugar at all. We now know that sugar is not our friend and should be avoided.

However, according to Chinese food therapy, the nature of sweets is far more nuanced than being labeled as good or bad. Here are nine things to know about sweets according to Chinese medicine:

Each organ system has a flavor associated with it, in which a little bit of that flavor strengthens the system, but too much overwhelms it. In Chinese medicine, the flavor of sweetness affects your stomach and spleen; your body's system of digestion. It's natural to crave some-6 thing a little sweet after a meal, because the sweet flavor acts as a digestive aid. So a piece of fruit or a small square of chocolate helps you relax and digest your food. A problem arises when you try to satisfy that mildly sweet craving with a piece of triple chocolate peanut butter cheesecake topped with ice cream. It completely overwhelms your digestive process.

When your digestion is overwhelmed with sweets, the most common result is something called dampness, which is the digestive process getting bogged down and not metabolizing fluids very well. This is another case of a little is good, but too much is not good.

Your body needs to be moist, but when your digestive process gets boggy, it becomes too damp and the resulting moisture settles in puddles. Problems like yeast infections, athlete's foot, bladder infections, water retention, oral thrush, and even excess body fat are considered your body's damp puddles.

There's more bad news. If that dampness sticks • around over time, it also becomes hot. In Western medicine, that translates into inflammation. Conditions such as gout, arthritis, infections, shingles, irritable bowel syndrome, and sinus problems are in most cases considered to be damp plus heat in Chinese medicine.

When you have crazy, out-ofcontrol cravings for sweets, it is a sign that your digestion is struggling. Unfortunately, giving in to those kinds of cravings only makes the problem worse.

In addition, the sweeter the food, the more dampening it is to your body. Now the good news. Foods that are slightly sweet are actually nourishing because eating those foods and digesting them well replenishes your body's energy, blood, and nutrients. But you only need a little sweet, and the right kind.

The right kind of sweetflavored foods are those considered to be full sweet. They are warming and nourishing, and include complex carbohydrates, proteins, rice, sweet potatoes, and root vegetables. (Think of yams or carrots: sweet, but not overwhelming.)

Empty sweets are the ones to avoid or eat only in small amounts. They tend to be cooling and dispersing (moving), and include simple sugars, refined carbohydrates, honey, raw sugar, and artificial sweeteners. They tend to offer up empty calories, are not very

In Chinese medicine, the flavor of sweetness affects your stomach and spleen; your body's system of digestion.

nourishing, and engender dampness.

Unfortunately, the kinds of things that you crave when your digestion is funky or your energy is low are the empty sweetscake, cookies, candy, doughnuts, and the like. However, it's the fullsweet foods that your body needs to satisfy those cravings, and make them go away for good.

While I don't eat the kinds of sweets that I did as a child, every once in a while, I will have something that is very empty sweet. It reminds me of the doughnuts, chocolate chip cookies, and thickly frosted cakes that I ate growing up. The bloated, tired feeling I get afterward also reminds me why I don't eat them more often.

Lynn Jaffee is a licensed acupuncturist and the author of "Simple Steps: The Chinese Way to Better Health." This article was originally published on AcupunctureTwinCities.com

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