

THE EPOCH TIMES

MIND &

BODY

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Processed foods, junk foods, and soft drinks are key culprits in the rise of chronic diseases, and therefore have a key role to play in COVID-19 deaths.



Junk Food Companies Worsen COVID-19 Susceptibility

Sugar, salt, and fat make junk food delicious but undermine our immune systems

JOSEPH MERCOLA

Underlying health conditions like obesity, heart disease, and diabetes have emerged as key factors in fatalities due to COVID-19. In one study, more than 99 percent of COVID-19 fatalities occurred among people who had underlying medical conditions.

Among the fatalities, 76.1 percent had high blood pressure, 35.5 percent had diabetes, and 33 percent had heart disease. What's more, another study revealed that among 18- to 49-year-olds hospitalized due to COVID-19, obesity was the most prevalent underlying condition, just ahead of hypertension. Chronic conditions like Type 2 diabetes, heart

Investigative reporter Michael Moss revealed that food execs avoid junk food for the sake of their own health.

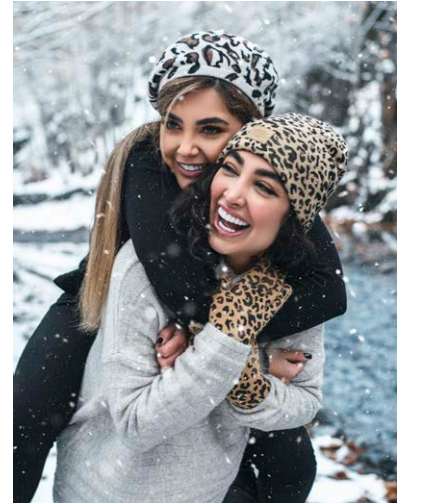
disease, and obesity have a lot in common, including the fact that they're often caused by poor diet.

Processed foods, junk foods, and soft drinks are key culprits in the rise of these and other chronic diseases, and therefore have a key role to play in COVID-19 deaths. Yet, even in the midst of the COVID-19 pandemic, multinational food and beverage corporations are interfering with public policy and influencing the development of dietary guidelines.

In order to protect public health, this conflicted influence must be curbed, according to a report published by the campaign group Corporate Accountability.

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HAMID TAJIK/UNSPLASH



The 2 Levels of Happiness

To find true happiness, first we have to know what it is

CONAN MILNER

Happiness seems like a simple idea until you consider that this single word covers concepts as diverse as quiet contentment and ecstatic joy.

How we define happiness will decide how we seek it, and not all happiness is created equal. In fact, some forms of happiness aren't even good for us. Some paths to happiness lead us to deep satisfaction, but others leave us with a fleeting feeling that is followed by a hunger for more.

For our ancestors, guidance for a happy life came from stories and sages that taught the right way to live. Now, modern science has also made a serious study of happiness, and it begins with an understanding of how we determine our sense of well-being.

A Happiness Heuristic

One very common way that psychologists believe we assess our reality is through something called the peak-end rule.

According to this theory, we judge any given experience by how we felt at its most intense point and how we felt at its end. We don't tend to care about the total sum of our feelings during the course of the experience, or how they may average out.

Instead, we just focus on the highlights: the best parts, the worst parts, and the last parts. The moments that made the strongest impression during our experience tell us whether it was good or bad, and how good or bad it was.

Nobel laureate Dr. Daniel Kahneman, a researcher and psychology professor at Princeton University, helped coin the peak-end rule in 1999 through studies demonstrating evidence for it.

But that's just part of the story.

Hidden Happiness

In a later observational study that Kahneman and his team conducted,

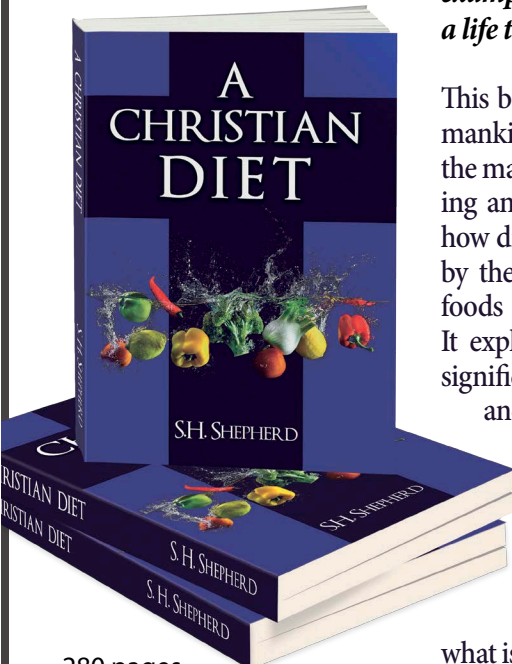
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Christians have a diet, one given to them by God

In the beginning God created the heavens and the earth. He also gave to mankind a simple diet. He then showed the human race the way to live and the path of salvation through Jesus Christ. Jesus' example and teachings lead us into a simpler life, a life that is better for us in numerous ways.

This book explains why the first diet ever given to mankind is the best possible diet for us. It describes the many health dangers of our current ways of eating and why they must be changed. It describes how diseases come about and how they are healed by the foods that have the powers that heal, the foods that are tailored to our biological makeup. It explores the supernatural design and spiritual significance of this diet. It provides the incentives and encouragement needed to change not only our diets, but the very way that we live. So strong are the effects that foods have on our lives.

God knows us far better than we know ourselves. He knows what we need and what is best for us. When we abide by His Word, we allow ourselves to live as He intended for us to live.



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CHINESE WISDOM FOR SEASONAL LIVING

The Coldest Time of Year Is Here, and Spring Isn't Far Away

Solar Terms: 'Minor Cold' (Jan. 6-19, 2021)

Avoid too much indoor heating, as the warm temperatures confuse our bodies and exacerbate the yin energy.

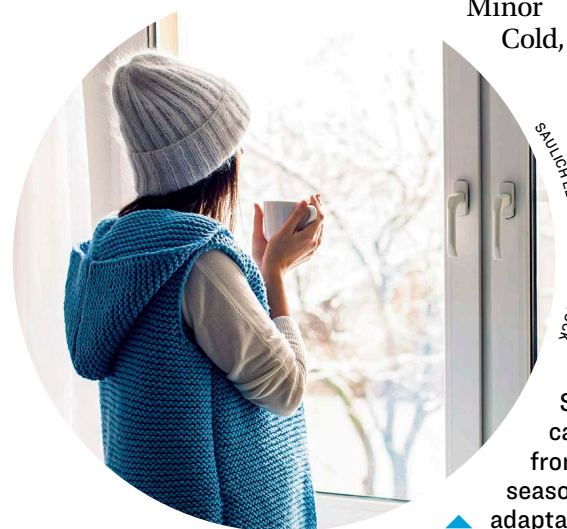
MOREEN LIAO

A solar term is a period of about two weeks and is based on the sun's position in the zodiac. Solar terms form the traditional Chinese calendar system. The calendar follows the ancient Chinese belief that living in accordance with nature will enable one to live a harmonious life. This article series explores each of the year's 24 solar terms, offering guidance on how to best navigate the season.

Solar Terms: 'Minor Cold'

2021 Dates: Jan. 6-19

You merrily celebrated the holiday season, only to learn that you now must endure the coldest two weeks of the year. In the Chinese calendar system, this solar term is known as Minor Cold,



Staying inside in the warm can disconnect your body from the natural cycle of the season at the expense of better adaptation to the climate.

and falls on Jan. 6 to 19.

But all isn't lost. While many loathe this cold, traditional Chinese medicine sees these days as a great opportunity for healing. By taking advantage of the extreme temperatures and embracing the weather, you can push out chronic illness symptoms and prepare for greater well-being in the spring.

Attune Your Lifestyle

While the earth's female yin elements are at their peak now, the male yang elements are the weakest. By leveraging either of these energies with some simple lifestyle changes, you can shift your body's inner state of health.

Discomfort in our bodies that results from coldness (too much yin), such as coughing, itchy skin, or sleeplessness, will be at its worst during this time, so this is the best time to treat those symptoms according to Chinese wisdom.

Avoid too much indoor heating, as the warm temperatures confuse our bodies and exacerbate the yin energy. We actually need exposure to the cold to contract our muscles and skin. This closes our pores, allowing us to retain our body heat and its yang energy.

If the indoor environment is too warm, we are telling our bodies that it isn't yet winter and that there is no need to save yang energy. Then, when spring comes, our bodies haven't stored enough yang energy for the necessary renewing cycle, and we are likely to feel tired and low-energy. This can also lead to premature aging, or a higher risk of getting sick in the spring.

The coldest time of the year is also the best time to treat symptoms that typically arise during the heat of summer—when yang is at the extreme—such as excess sweating, difficulty concentrating, and fatigue.

Since yang energy is weak during this time, we can easily bring in cold from outside to cool our bodies with little effort.

Try setting the thermostat to 68 degrees Fahrenheit and opening the windows every morning and evening to let in the outside air. While enduring the cold temperatures, keep your feet, stomach, neck, and back warm. With proper exercise and meditation, we can strengthen our bodies and become more resilient to the cold.

Hold your palms open and form a hollow

center, as if holding a pin pong ball in the middle of the palm; using your right palm to do the cupping motion firmly on your outer and inner right leg; and using your left palm to do the same to the left leg. This is to activate and help the energy channels. Those with stress or fatigue problems may find this exercise may help relieve the symptoms.

After yin reaches the extreme, it starts falling, and yang starts to rise. Birds are also sensitive to these changes. Wild geese start to head north, magpies start to build new nests, and male and female pheasants happily sing together in response to the awakening of the yang energy.

The earliest blooms of the year also start from this solar term. After a long hibernation, Chinese plum trees, camellias, and daffodils show their blossoms. On silver or gray landscapes, flowers bring refreshing color and joy to the world.

With proper exercise and meditation, we can strengthen our bodies and become more resilient to the cold.

Seasonal Eating

Avoid eating greasy or heavy foods to keep warm. While it may please the taste buds, it thickens blood vessels, causing the heart to work harder. A better choice is warm vegetable soup, made with root vegetables, beans, and lean meats. It's also a good idea to avoid cold or iced drinks and food.

Almonds, black sesame seeds, dates, lamb, oats, red beans, taro, walnuts, and yams are all good foods to eat during this time.

Cinnamon, cumin, garlic, hibiscus tea, and rose tea are good for improving blood and energy circulation.

Epoch Times contributor Moreen Liao is a descendant of four generations of traditional Chinese medicine doctors. She is also a certified aromatherapist, the former dean of the New Directions Institute of Natural Therapies in Sydney, and the founder of Ausganica, a certified organic cosmetic brand. Visit Ausganica.com



Getting out in the cold will help you adapt to the season and balance out your body.

The Push to Explore Vaccine Risk

Concerned parents and researchers are driving a forbidden discussion of vaccine safety

CONAN MILNER

Your health is a deeply personal affair. Your habits, health care access, and family history all play a significant role.

However, one place where health care is generally uniform is vaccines. For now, we have a choice as to whether to take the new COVID-19 vaccine. Meanwhile, all states have a list of vaccinations for several diseases that are mandatory once children enter public school. Although most states allow parents to waive this requirement for religious or medical reasons, opting out is strongly discouraged.

To some health experts, vaccination is the most important advance in public health—right up there with indoor plumbing, and modern surgical techniques. Vaccinations are promoted as a type of preventative measure designed to protect the population from a variety of devastating illnesses.

Yet, despite the benefits that vaccines promise, this common procedure has become controversial.

The core issue is safety. Informational inserts that accompany vaccines warn of a long list of possible health risks, including death. However, health officials say such scenarios are rare and insignificant compared to the massive public benefits provided by vaccination programs.

In a 2010 interview with PBS's "Frontline," Dr. Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases who has become a familiar expert in regard to the COVID-19 pandemic, stated that the risk of vaccines is "almost non-measurable."

"[Vaccines are] highly effective and

very safe, when you look at risk-benefit ratio of a disease versus the very, very, very small risk of any adverse event that you would have with a vaccine," Fauci said. "However, the motivation to get vaccinated is crystal clear and sharp when you look around you and you see people getting serious disease."

However, determining the numbers necessary for a true risk-benefit analysis isn't so clear. According to a study funded by the U.S. Department of Health and Human Services, fewer than 1 percent of vaccine injuries are reported. The Vaccine Adverse Event Reporting System (VAERS) is tasked with tracking problems with vaccines in the United States. In 2012, the Institute of Medicine (IOM) found VAERS to be unreliable.

IOM has also found that the research looking at vaccinations and adverse events doesn't show adequate evidence to either accept or reject a causal relationship. The problem, says an IOM report, is that "studies designed to examine the long-term effects of the cumulative number of vaccines or other aspects of the immunization schedule have not been conducted."

These are exactly the studies required to evaluate the true safety of the current vaccine schedule.

It's this missing science that makes parents worry about what impact a growing number of vaccines has on their children and their developing immune systems. Compared to just a generation or two ago, when children received immunizations for six or seven diseases, children today receive nearly 70 shots to guard against 18 diseases. Regulators try to quell concerns by

Concerned parents, doctors, and advocacy groups have called for research that directly compares vaccinated to unvaccinated children.



ALL PHOTOS BY SHUTTERSTOCK

But for the past seven years, CDC has yet to consider this data. A Freedom of Information Act request filed in June 2020 revealed that CDC had no such comparative study in its possession, nor had it conducted one. That means the CDC doesn't have the most basic form of research to confirm the long-term safety and efficacy of the only medical treatment that is all but forced upon children.

A recent peer-reviewed study published in the journal SAGE Open Medicine examines details that vaccine authorities like the CDC have so far ignored. Researchers looked at data of health outcomes of both vaccinated and unvaccinated children from three large pediatric practices in the United States. The subjects were born between November 2005 and June 2015, and were compared during the first year of life for later incidence of developmental delays, asthma, ear infections, and gastrointestinal disorders.

The study concluded that unvaccinated children were healthier than their vaccinated peers. The strongest relationships observed for vaccination status were for asthma (4.5 times more likely), developmental delays (twice as likely), and ear infections (twice as likely). No association was found for gastrointestinal disorders in the primary analysis, but a significant relationship was detected as vaccine doses accumulated.

"The results definitely indicate better health outcomes in children who did not receive vaccines within their first year of life," said the study's lead author, Dr. Brian Hooker, in a press release. "Such findings merit additional large-scale study of vaccinated and unvaccinated children in order to provide optimal health as well as protection against infectious diseases."

This isn't the first comparative study of its kind. Robert F. Kennedy of Children's Health Defense says this recent research makes for more than 65 vaccinated/unvaccinated studies on his site.

"All of them show dramatically better health in unvaccinated children," Kennedy writes. "We have found no studies that show superior health outcomes in vaccinated children."

The studies point to an alarming trend, but, by design, they merely show correlation, not causation. Furthermore, researchers from the most recent study note limitations with their data. For example, although their sample size was significant,

the population it pulled from may not accurately reflect the general population.

"Also, due to different coding practices among the three caseloads studied, we were unable to differentiate between the types of vaccinations given. This limited the analysis to counting the number of vaccinations received by one year of age," researchers wrote, adding that "further study is necessary to understand the full spectrum of health effects associated with childhood vaccination."

All states have a list of vaccinations for several diseases that are mandatory once children enter public school.

Identifying Risk

Vaccine campaigns of the past (particularly polio) are noted for their strong public support. But even the most dedicated vaccine advocates admit that public confidence is falling. Immunization experts at the World Health Organization's summit on vaccines in December 2019 highlighted the lack of "good science" and the inability of vaccine clinical trials to provide meaningful information about safety and risk.

However, there remain some investigations that regulators have long been unwilling to explore. In a 2008 interview with CBS News, Dr. Bernadine Healy, former head of National Institutes of Health, explained that regulators have been too quick to dismiss concerns without actually studying the population.

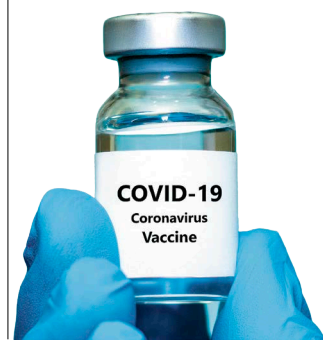
"The reason they don't want to look at those susceptibility groups is that if they found them, no matter how big or small they were, that would scare the public away," Healy said.

Healy, who died in 2011, remained a strong proponent of vaccines. She believed the public would too, especially if safer methods could be identified.

"If we identified a susceptibility group, identified a risk factor for vaccines, or if we found out that they should be spread out over a longer period of time, I do not think the public would lose faith in vaccines," Healy said. "I think the public would respect that."

The lack of studies designed to examine the long-term effects of the vaccine schedule worries many parents.

Systemic issues with vaccine safety research has created a lack of public trust that isn't going away.



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Junk Food Companies Worsen COVID-19 Susceptibility

Sugar, salt, and fat make junk food delicious but undermine our immune systems

Continued from Page 1

Meanwhile, health experts are calling out ultra-processed foods as key players in COVID-19 deaths and calling on public health guidelines to warn the public of their risks.

Junk Food Giants Stymie Public Nutrition Policies

According to Corporate Accountability's report, more than half of those appointed to the 2020 Dietary Guidelines Advisory Committee (DGAC) have ties to the International Life Sciences Institute (ILSI), a not-for-profit organization established by a Coca-Cola executive 40 years ago.

DGAC is supposed to be an independent committee, which reviews scientific evidence and provides a report to help develop the next set of dietary guidelines for Americans (2020 to 2025). However, its extensive ties to ILSI all but ensures the committee is influenced by the makers of unhealthy foods. Even the DGAC chairs and vice chairs of the Pregnancy and Lactation Subcommittee are affiliated with ILSI.

ILSI has been exposed as a shell for the junk food industry, and internal documents have revealed ILSI embedded itself in public health panels across Europe and the United Nations in an effort to promote its own industry-focused agenda to raise profits at the expense of public health worldwide.

The Corporate Accountability report examined ILSI's "revolving doors and conflicts of interest" with critical government policy processes, including not only formulating the Dietary Guidelines for Americans (DGA) but also updating national food composition databases. It explains:

"The report also chronicles the front group's deep connections with industry, its ties to research that has helped produce, and to individuals, it has relationships with. The picture it paints makes a compelling case for Big Food to abandon ILSI and similar front groups in the interest not only of public health but also a less deceitful relationship with its investors."

DGA is essentially the go-to source for nutrition advice in the United States, directing what more than 30 million U.S. schoolchildren eat at school and driving the nutritional advice given to new mothers, seniors, veterans, and other beneficiaries of nutritional education and meals offered by the federal government.

"But the DGA's mandate is even broader," Corporate Accountability noted in their report. "It aims to promote health, prevent chronic disease, and help all U.S. residents



Health experts warn that ultra-processed foods bring risks.

Food scientists formulate products with just the right combination of sugar, fat, and salt to override your brain's inclination to say 'enough.'

reach and maintain a healthy weight." Yet, by partnering with junk food corporations, it ends up doing the opposite:

"Seventy-five percent of the individuals involved in formulating the U.S. government's official dietary guidelines have food industry ties. Fifty-five percent have ties to ILSI, which was founded by a former Coca-Cola executive and is funded by Coca-Cola, PepsiCo, McDonald's, General Mills, Cargill, Monsanto, the National Dairy Council, the International Tree Nut Council, and a host of other global purveyors of junk food and drink."

Junk Food Corporations Control Academia, Nutrition Guidelines

The Corporate Accountability report presents several key findings that highlight ILSI's concerning ties with industry, and how its research, government interference, and other activities are negatively affecting public health policy.

For instance, ILSI's journal, *Nutrition Reviews*, does not always disclose ILSI affiliations and conflicts of interest. Further, nearly 40 percent of ILSI North America's publications from 2013 to 2017 received support or funding from ILSI but did not disclose it. Of the approximately 60 percent of publications that did contain a disclosure statement, "no conflict of interest" was still sometimes declared.

Also, ILSI claims that it doesn't lobby, but it gave direct guidance to the Argentine government regarding updates to its National Food Composition Database.

ILSI India even produced a study in partnership with government research institutions that disparaged and misrepresented

the health effects of traditional foods instead of focusing on the adverse health effects of soda and processed foods.

Further, ILSI North America's board of trustees violates Principle 1 of its conflict of interest policy, as more than 50 percent of its board holds an affiliation with the private sector.

Finally, there is the fact that rather than dismantling ILSI Mexico after it violated the group's code of ethics under a Coca-Cola executive's leadership, it was absorbed by ILSI Mesoamerica in 2019, which is also under the leadership of a Coca-Cola executive. Case Study of ILSI's Journal

One example given of lack of disclosures in *Nutrition Reviews* was a 2017 review titled "What is the Appropriate Upper Limit for Added Sugars Consumption?"

The researchers looked into the "significant restrictions on upper limits of sugars consumption" put forth by scientific organizations like the World Health Organization and American Heart Association, concluding that their findings "should inject a note of caution into restrictive guidelines" and noting that "the scientific basis for restrictive guidelines is far from settled."

One of the review's co-authors, however, failed to disclose an important conflict of interest. James Rippe was affiliated with ILSI Mexico, leading a forum titled "Current Evidence on Sweeteners and Health," which received \$10 million in funding from the U.S. Corn Refiners Association to establish that sugar consumption had no impact on heart health.

Another glaring example was published in the *Annals of Internal Medicine*. The study "The Scientific Basis of Guideline Recom-

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mendations on Sugar Intake" was funded by ILSI and concluded: "Guidelines on dietary sugar do not meet criteria for trustworthy recommendations and are based on low-quality evidence. Public health officials (when promulgating these recommendations) and their public audience (when considering dietary behavior) should be aware of these limitations."

Although the journal did reveal that ILSI was the primary funding source for the study, according to Corporate Accountability, "its findings were so self-serving, it prompted criticism from candy-maker Mars (then an ILSI member)" and one of the co-authors "did not disclose her financial ties with Big Food and Beverage, including Coca-Cola, PepsiCo, and Nestlé."

Report: Governments, Academics Should Part Ways With ILSI

ILSI has been a key tool for the junk food industry's global expansion, giving the industry an in with policymakers and prestigious universities under the guise of scientific advancement.

While funding scientific research designed to support its own agenda, ILSI regularly fails to disclose conflicts of interest. "This lack of transparency has allowed industry's ILSI a social license to produce and promote junk science the world over," the report notes. Meanwhile, while claiming to be a non-lobbying organization, they play a role in policy-making processes regarding nutrition in the U.S., India, Argentina, Mexico, and Taiwan.

Now that ILSI is being exposed, even junk food giants themselves, namely Mars and Nestlé, have cut ties with the organization. Corporate Accountability is calling on other corporations to do the same, and demands academic institutions sever all ties with ILSI, including ILSI Research Foundation and ILSI's journal, *Nutrition Reviews*.

For governments, the report recommends prohibiting those with ties to ILSI from participating in the DGAC and that any agencies such as the USDA, U.S. Department of Health and Human Services, U.S. Centers for Disease Control and Prevention, and the U.S. Food and Drug Administration publicly report any direct interactions with ILSI.

As it stands, however, junk food giants are thoroughly intertwined with public health recommendations pertaining to food and nutrition—to the detriment of public health.

"Even in times of crisis, such as today's COVID-19 pandemic, ILSI's backers feel no scruples lobbying for the bottom line," Corporate Accountability stated.

"In India, despite potential consequences to the health and well-being of workers and the community, corporations including Coca-

Processed food giants are major funders of food research.

While funding scientific research designed to support its own agenda, ILSI regularly fails to disclose conflicts of interest.



Our most popular foods are also the most dangerous.

Cola, PepsiCo and Nestlé, have submitted letters to the government requesting food and beverage manufacturing be exempt from the lockdown, and be considered an 'essential service.'

"Not providing immune-suppressing sugar-sweetened beverages during this time may also prove the more essential service these corporations can provide in this time and beyond."

How Americans Got Hooked on Processed Foods

According to investigative reporter Michael Moss, much of the responsibility for Americans' increased consumption of junk food lies with the processed food industry. In addition to targeting kids who are "especially hardwired for sweet taste," sugar, salt, and unhealthy fats are the top three substances making processed foods so addictive.

Moss's four-year investigation culminated in the book "Salt Sugar Fat," which details how food scientists formulate products with just the right combination of sugar, fat, and salt to pique your taste buds just enough, without overwhelming them, thereby overriding your brain's inclination to say "enough." He uses the example of potato chips, which combine salt and fat for instantaneous pleasure, along with the sugar in the starch of the potato itself, as the perfect addictive food.

Beyond the addictive potential of the foods is marketing, which further entices Americans to buy and consume more processed foods. This includes things like positioning junk foods at eye level on grocery store displays. In an interview with

U.S. News & World Report, Moss revealed that food excess

avoid junk food for the sake of their own health: "One, on a personal level, many food company executives don't eat their own products for health reasons. And two, the companies themselves are more hooked on salt, sugar, and fat than we are because they're miracle ingredients that enable them to preserve and keep the products low cost along with being utterly tasty. The depth of the industry's own dependence was really surprising to me."

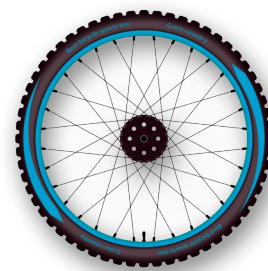
Dr. Robert Lustig, emeritus professor of pediatrics in the division of endocrinology at the University of California-San Francisco, further stated:

"I've heard COVID-19 referred to a beast because it doesn't distinguish. In point of fact, it doesn't distinguish who it infects. But it does distinguish who it kills. Other than the elderly, it's those who are Black, obese, and/or have pre-existing conditions. What distinguished these three demographics? "Ultra-processed food. Because ultra-processed food sets you up for inflammation, which COVID-19 is happy to exploit. Just another way processed food kills. Time to rethink your menu."

Dr. Joseph Mercola is the founder of Mercola.com. An osteopathic physician, best-selling author, and recipient of multiple awards in the field of natural health, his primary vision is to change the modern health paradigm by providing people with a valuable resource to help them take control of their health. This article was originally published on Mercola.com

How COVID-19 Made 2020 the Year of the E-Bike

When even walking seems strenuous, an e-bike can offer an attractive exercise option



Electric bikes open new avenues for physical activity.

ASHLEY COOPER, ANGIE PAGE & JESSICA E BOURNE

Walking and cycling gained a higher profile than ever in 2020 as a result of the pandemic. Governments around the world encouraged individuals to go on foot or take their bikes where possible instead of using crowded public transport and invest in widespread cycling infrastructure to help them do so.

In the United Kingdom, the link between obesity and poorer COVID-19 outcomes and the country's new strategy related to the disorder led to doctors prescribing cycling to improve patients' health.

While manufacturers and retailers reported a rise in bicycle sales and cycling in general during the pandemic, there remain

many people who may not feel fit enough to cycle very far (or at all), or have a long commute, or live in hilly places.

For these people, bicycles that provide electrical assistance, known as electric bikes or e-bikes, have proved an attractive option because they make cycling easier. As a result, sales of e-bikes also boomed in 2020, with manufacturers struggling to keep up with the demand.

The Advantages of E-Bikes

Requiring less effort to ride, e-bikes allow the user to carry more cargo than conventional cycles, and are often used for utilitarian purposes, such as shopping or commuting, as well as for recreation. E-bike owners have been found to cycle more frequently and for longer distances than conventional cyclists.

In Europe, e-bikes represent one of the fastest-growing segments of the transport market, with sales in Germany in 2018 accounting for 23.5 percent of all bikes sold, while more than half of the adult bikes sold in the Netherlands in 2018 were electric.

That was before the pandemic sent numbers through the roof. Now, industry groups say sales of e-bikes in Europe could double in

the next five years. In the United States, electric bike sales jumped 84 percent in March, 92 percent in April, and then 137 percent in May, according to market research firm The NPQ Group.

A Replacement for Cars

Car travel is an essential part of everyday life for many people, but has a major impact on the environment through air pollution, particularly from congested traffic. As half of all car journeys in the United Kingdom are between 1 and 5 miles in length, substituting many of them with e-cycling is an achievable aim.

To explore the influence of e-cycling on travel, we conducted a scoping review of previous research. In 42 studies examining the impact of e-bike use on other travel modes, the proportion of car journeys substituted after people bought e-bikes ranged from 20 percent to as high as 86 percent. Adoption of e-cycling can therefore contribute at some level to reducing congestion, greenhouse gas emissions, and air pollution.

Who Benefits From E-Bikes?

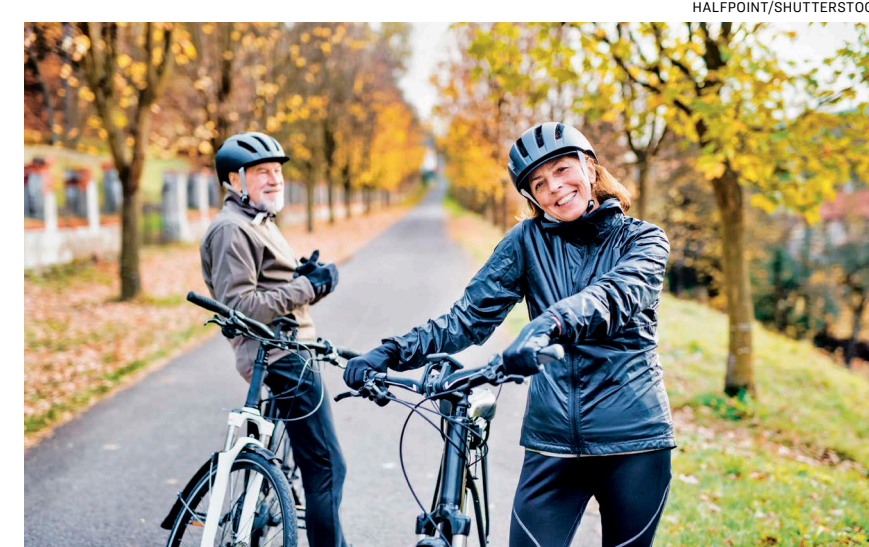
We have also researched the health benefits

of e-bikes in a 2018 systematic review of studies. In 17 studies involving a range of groups, we found that e-cycling provided physical activity of at least moderate intensity, which was lower than the intensity elicited during conventional cycling, but higher than that during walking. E-cycling can therefore contribute to meeting physical activity recommendations and increasing physical fitness.

Most people who aren't regularly active could benefit from e-cycling. However, for those with health conditions such as obesity or Type 2 diabetes, who may particularly benefit from physical activity but often find it difficult, e-cycling may be an important way to become more regularly active.

Our research shows that rates of active commuting in these groups is low—just 5.5 percent for those with Type 2 diabetes. In response to this statistic, we conducted the first feasibility study to explore whether e-cycling was acceptable to, and could potentially improve the health of, people with this condition.

We recruited 20 people with Type 2 diabetes to use an e-bike for 20 weeks. We found that participants enjoyed using the e-bikes, cycling on average 21 kilometers (13 miles) per week. Participants' heart rate during e-bike cycle journeys was 74.7 percent of maximum, compared with 64.3 percent of maximum when walking, a level sufficient to generate improvements in fitness. This is comparable



The pandemic has driven a change in physical activity.

to the changes seen when healthy inactive individuals take up conventional cycling.

The Future of E-Bikes

There is now increasing interest in the potential of e-bikes for other people who are recommended more physical activity but find this hard to achieve, such as those recovering from cancer. We can see a future in which doctors could prescribe e-cycling to patients, with a provision to buy bikes at reduced cost or spreading out the payments.

Although it has been a difficult year, there may be a small silver lining to the pandemic. With fewer of us commuting, and less motor-

ized travel overall, the pandemic has driven a change in physical activity behavior and raised awareness of traffic congestion and air pollution.

With many of us exploring or re-discovering ways to be active outdoors and cut down on motorized transport, the future is bright for e-cycling. With the development of smaller and more efficient batteries, e-bikes will become lighter and have a longer range of travel, and will become a common sight on our streets.

Providers of e-bikes often refer to the e-bike smile—the look of joy on people's faces when they try one for the first time. Try to remember how it felt when a parent held the back of your bike saddle and whizzed you along—the feeling is very similar.

If you haven't yet tried an e-bike, we would encourage you to do so. They are great fun, will make becoming healthy a lot easier, and you may have a reason to look back on something positive from 2020.

Ashley Cooper is a professor of physical activity and public health at the University of Bristol in the UK, Angie Page is a professor of physical activity and public health at the University of Bristol, and Jessica E Bourne is a doctoral candidate at the school for policy studies at the University of Bristol. This article was first published on The Conversation.

The 2 Levels of Happiness

To find true happiness, first we have to know what it is



Continued from Page 1

a group of 800 women was asked about their happiness with daily activities as well as a specific aspect of happiness: their satisfaction with life.

Time spent with their children was reported among the least enjoyable activities. But a contradiction emerged. When Kahneman analyzed the data he found that, despite the frustration associated with raising kids, mothers reported a higher level of life satisfaction than women without children.

Why didn't the peak-end rule hold up? According to Dr. Talya Miron-Shatz, a psychologist who worked alongside Kahneman, there are limits to this rule. One is that the end only has an effect on experiences that have a distinct end. The other is that the rule only applies to a single level of happiness.

"Satisfaction with life is a higher concept than happiness that is experienced on a day-to-day level," Miron-Shatz said. "When it comes to evaluating life satisfaction, you think of the big picture: your career, home, marriage, family, etc. It's more of a check-the-boxes activity."

Life on 2 Levels

In labeling these two tiers of happiness, psychologists draw inspiration from ancient Greece. The day-to-day level is called hedonic happiness and the big picture level is called eudaimonic happiness.

Hedonic happiness (derived from the Greek word "hedone," meaning "pleasure") refers to the feelings we get from creature comforts. It's the thrill that comes with buying new shoes or eating a decadent dessert. Hedonic is whatever feels good in the moment.

Eudaimonic happiness, on the other hand, fulfills our need for meaning and purpose. Aristotle was the first to describe the virtuous pursuits of Eudaimonia—a word that translates to being in line with good divine beings. Later philosophers promoted this idea as the ultimate goal of life.

There are several paths to Eudaimonia, and there's also nothing wrong with enjoying some hedonic moments (provided they're not immoral or excessive). Both levels can give us joy, but a key point is that we can never replace one level with another.

"If I look to hot chocolate for happiness, it's not going to give me the gratification I need on a eudaimonic level," Miron-Shatz said. But that doesn't stop us from trying.

Parents may sacrifice hedonic happiness in raising children, but they also gain meaningful life satisfaction.

The hedonic feels good in the moment; the eudaimonic bestows fulfillment.

When researchers analyzed all the peaks people had in common, religious activity, prayer, and hobbies came out on top.

Hedonic pursuits offer diminishing feelings of happiness and can easily become habit forming and self-destructive.

In fact, we live in a world in which we're constantly encouraged toward such futility. Advertising woos us to buy, not just a product, but a sense of transcendence and self-empowerment that no trinket could possibly deliver.

Hedonic Treadmill

In terms of the amount and intensity of hedonic experiences at our disposal, life has never been better. We have easy access to a variety of pleasures that were unattainable to even the greatest kings of the past. So why aren't we the happiest culture in history? Modern malaise, anxiety, and depression aren't just linked to a lack of eudaimonia. It's also because we have worn out the hedonic.

Psychologists call it the hedonic treadmill. It describes the pleasure you initially get from a thing or activity that wanes with time. Eventually, we adapt, so that once-reliable happy trigger no longer gives us a thrill. As if on a treadmill, you're running after a feeling you'll never reach. Heroin addicts refer to this dynamic as chasing the dragon. But whether it's drugs, sweet treats, or some other compulsive thing we rely on for our sense of well-being, the principle is the same.

And it doesn't just apply to vices. Say you get a better paying job, a bigger house, or a fancier car. These upgrades make you happy for a while, but then, it becomes the new normal. You no longer get a gratifying feeling from them because our perception is geared toward grasping changes. Remember—we recall the peak moments—so the positives that once punctuated our lives eventually become the things we take for granted.

Transcendent Pursuits

Yet there are peaks we can seek that have shown to be reliably sustainable in the pleasure we get from them. In a study of her own design, Miron-Shatz asked a cohort of women from Ohio to report the remarkably high points of their day. When her team analyzed all the peaks people had in common, religious activity, prayer, and hobbies came out on top.

"I think it's because these things transcend you. They take you beyond the everyday," she said. "Another thing they have in common is that they're voluntary."

Having a sense of freedom ranks high in happiness research. Perhaps that's why something so confining—commuting—ranks so low. In one of Kahneman's studies, the daily back-and-forth to work was an activity that people reported hating most.

Nagging Negativity

Another thing that researchers have found when figuring out the happiness equation is that bad experiences have an even greater bearing on how we assess our experience than the good. A 2001 article in the Review of General Psychology, titled "Bad is Stronger than Good," by psychology professors from Case Western Reserve University, explores this pattern.

"This is not to say that bad will always triumph over good, spelling doom and misery for the human race. Rather, good may prevail over bad by the superior force of numbers: Many good events can overcome the psychological effects of a single bad one. When equal measures of good

and bad are present, however, the psychological effects of bad ones outweigh those of the good ones," they wrote.

Some psychologists explain this phenomenon as a survival mechanism. It's nice to feel good, but our feelings are more influenced by the bad moments, so that we pay attention, and avoid this pain in the future.

This phenomenon could also be linked to a disposition toward negative thinking rather than positive. That disposition may be stronger in times of high anxiety, depression, and conflict.

Whatever the reason, there are things we can do to tip the happiness equation in our favor.

Turning Toward Happiness

A big one is gratitude. Miron-Shatz, who now heads Buddy&Soul, an online platform for personal development, says learning to count your blessings can really help with seeing a brighter day. So even when you're hit with something bad, seeing all the good in your life can soothe the sting.

But don't just turn to gratitude when times are tough. With practice, we can learn to perpetually empower our perception.

"With a gratitude journal, we condition ourselves to look for things that we're grateful for, rather than looking for things we're going to complain about," she said. Another way that research has shown we can lessen the burdens that lead to unhappiness is financial security.

This may at first seem to contradict the old saying that money can't buy happiness. But consider that this trope is really about the unfulfilling nature of hedonic purchases. The real power of wealth is that it can help you avoid the stress and hard times that can grind down your mood.

It's nice to buy yourself a little something when you're feeling low. But if you have less money, you need to limit luxuries and impulse buys in favor of more practical pursuits. Being able to pay your bills without going deeper into debt will leave you happier in the long run, or at least less unhappy.

A third powerful tool for making a happier life is learning how to better interpret events as they unfold. For example, if you feel your day is ruined simply because a restaurant got your order wrong, examine how you came to this conclusion. It's likely that the mixup was an honest mistake and not the personal attack that you may at first perceive.

It can also help to put negative events into a wider context. For example, something that seems terrible now, like a challenging project at work, may become a source of pride in the future. Or an embarrassing incident may seem trivial if we consider how we will think of it in a year's time.

This tool isn't about changing reality, merely reframing it, and considering your problem from another angle.

"Ask yourself, 'Could I be looking at it any differently?' It's going to help if you do," Miron-Shatz said. "You don't have to sugarcoat it, but how you perceive the events around you—and if you can brush it off—can make a big difference."

Finally and above all, don't neglect eudaimonia. Our pursuit for meaning, belonging, and doing the right thing may not provide the quick fix and cheap thrills of our hedonic pursuits, but it's the higher-level fulfillment that really makes our spirit soar.

Set Sustainable Wellness Goals for the New Year

Find a focus and set reasonable goals so next year can be a new set of challenges

SACIA ASHE

With the new year on the horizon, many people are rushing to try to shed the holiday fluff. Unfortunately, these well-intentioned behavior changes tend not to last long.

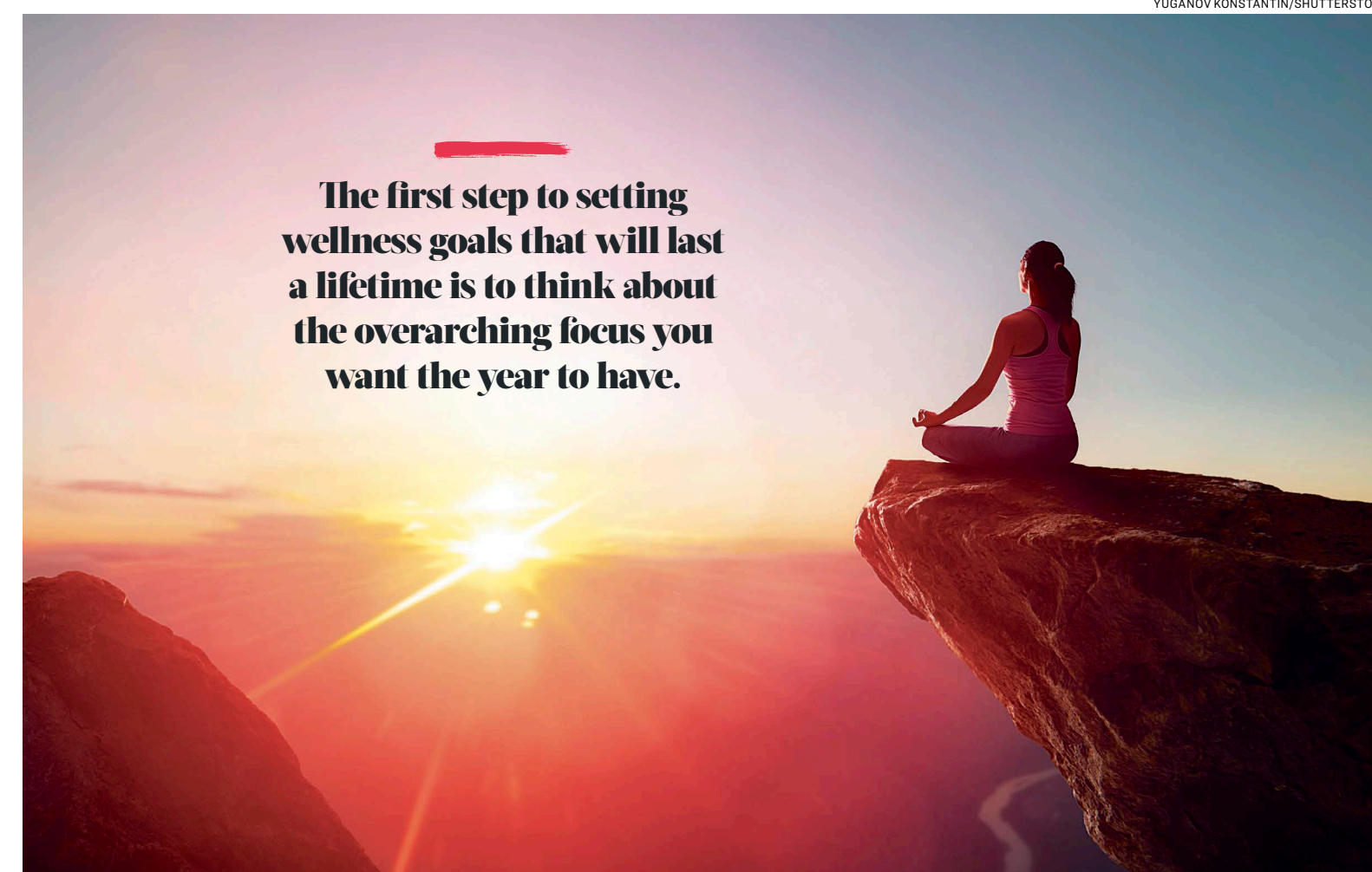
On average, 80 percent of New Year's resolutions fail by the second week of February. Is this because of a lack of willpower? Do old habits die hard?

The more likely cause for a failed New Year's resolution stems from the moment your pen hits paper to write down your goals. If you set unrealistic health goals, they aren't likely able to be achieved through building sustainable habits. The key to finally maintaining your healthy new habits is to create a realistic plan of action that will propel you forward. Imagine: next year, you won't be writing the same goals you wrote today, because you've actually achieved them!

The first step to setting wellness goals that will last a lifetime is to think about the overarching focus you want the year to have. This will keep your goals concise and pinpointed to becoming a new person by 2022. Choose an intention word, such as "presence," "joy," or "vibrant." This word should encompass the feeling you want the year to be centered around. If you have different aspects of health you want to tackle this year, choosing an all-encompassing word will keep you on track.

Next, choose 3 to 5 goals that align with the focus of your upcoming year. Aim to keep these goals realistic enough to accomplish with enough dedication. When you look at your goals, you should feel a bit nervous and excited, but confident that you can tackle them.

If your focus of the year is vibrant



The first step to setting wellness goals that will last a lifetime is to think about the overarching focus you want the year to have.

Create a plan that will allow you to crush your 2021 goals.

health, an example of an aligned goal would be to aim to eat at least three different colors of plants at every meal. If your focus of the year is presence, a goal you could set would be to meditate for 20 minutes every day. Each goal you choose will feed into the feeling you want this year to have. What are the things that will make you feel different? If you want to feel more joyful, trying to take up running when you hate it might not be the best choice.

Finally, it's time to create a plan that will allow you to crush your 2021 goals. A goal without a plan is just a dream. Write out the action steps that you need to get your goal done. If you have the goal of eating three different colored plants at each meal, what do you need to do to succeed? You would need to have a variety of vegetables in the fridge, set aside time to make your meal, choose meal options if you're eating out, and

decide on why you want to do this. After you have a plan, all you need to do is commit to following through.

You don't have to be a statistic. You can be in the 20 percent of people who actually achieve their New Year's wellness goals. Imagine approaching next year knowing that you did everything in your power to achieve your goals. Imagine that the goals you set now actually stick for the rest of your life! By setting realistic, actionable wellness goals that mean something to you, you will achieve them.

Sacia Ashe is a dancer, health food lover, and blogger who has a passion for wellness and living a healthy lifestyle. Through sharing recipes, glimpses into her own life, and wellness tips and products, she strives to help others find a life that aligns with their values and health vision.

Your intention word for the year should encompass the feeling you want the year to be centered around.

How to Improve Any Moment

Changing your story can change everything you experience



PRESSMASTER/SHUTTERSTOCK

1. We can drop the story and just experience the moment, exactly as it is; and
2. We can create a more powerful story.

Let's take each of those in turn.

Experiencing the Moment As Is

Right now, take a look around—you are surrounded by air, light, sound, objects, life. This is the moment, just as it is.

Now, you'll immediately begin to interpret all of that and create a narrative about it: It's messy, that person is irritating, you haven't done certain things, and so forth.

But what would it be like to just drop that story and see the moment just as it is, without interpretation?

See it with a beginner's mind. With the eyes of a child seeing a cloud or tasting orange for the first time. As if it were a completely new experience.

You can practice this by going for a walk. On the walk, see if you can experience it afresh, without a narrative or evaluations. Just see the moment. Just experience the world directly, without a layer of interpretation. Bring curiosity to all of it.

The effect of this is to drop the story that creates struggle and suffering. It gives a directness to your experience.

Create a New, Powerful Story

It's hard to go through life with no story—but there are ones we can bring into our experience that are helpful, even powerful.

Once we've dropped our old story, and just experienced life directly, here are some interpretations that I've found to be powerful:

Wonder and awe:

We can see everything around us as a miracle—wondrous and awe-inspiring. This is an appreciation for the incredible nature of life. It's a practice of loving what is.

Gratitude: Similar to finding awe in everything, can we be grateful for what's here in this moment? For ourselves and others? This is not just appreciating what is there, but feeling grateful that you have it.

Compassion: When you notice suffering in others or yourself, you can generate a wish for that suffering to come to an end, for the person to find peace and even happiness. Send this compassion outward to others. This generates a loving feeling in the heart that adds something wonderful to the experience of this moment.

We are all interconnected: This is an appreciation that we are not isolated, but instead, we are all supporting each other. Everything we have is supported by many others. Everything we do affects others and can be a positive influence on others. Appreciating this interconnection keeps us from taking it for granted and inspires us to positively influence other people.

You might have other stories that help you—stories of empowerment, of love, of generosity. After dropping old stories and experiencing the moment directly, try these stories on and see how they affect your experience.

With this kind of practice, you can create a beautiful experience of any moment.

Leo Babauta is the author of six books, the writer of Zen Habits, a blog with over 2 million subscribers, and the creator of several online programs to help you master your habits. Visit ZenHabits.net

We can see everything around us as a miracle—wondrous and awe-inspiring.



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Researchers found people's sense of time was affected by age, social life satisfaction, stress, and level of busyness.

alone in its loss of time during lockdown. Studies conducted in France, Italy, and Argentina also show widespread distortion to the passage of time during periods of strict COVID-19 restrictions.

Unlike in the UK, lockdowns in France and Italy passed more slowly than normal for most people, rather than being split 40/40, as in my April study. As in the UK, however, boredom was an important predictor of time slowing down in Italy and in France. In France, time also passed more slowly with increasing sadness.

More than 80 percent of people reported that time felt like it was passing differently.

Emotions and time

Why does being older, bored, stressed, and socially dissatisfied make time pass more slowly? This question is difficult to answer.

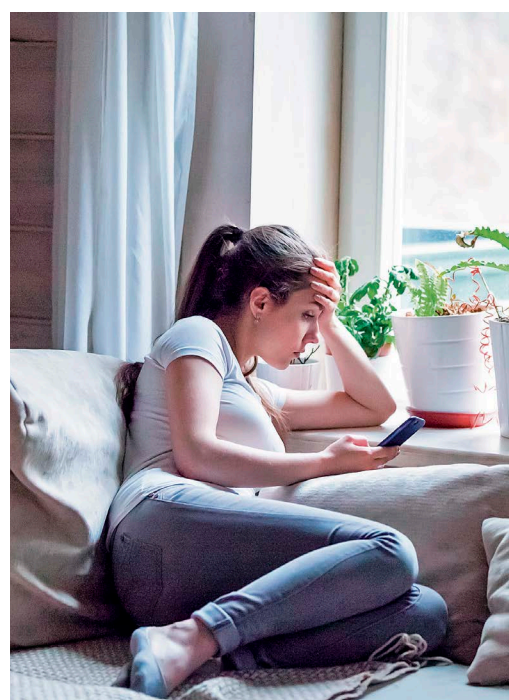
Unlike other senses, we don't have an obvious organ for time. Instead, time is experienced as part of other sensory inputs, such as sight and hearing, and that's made it difficult to identify precisely how the brain processes it.

One possibility is that when we are bored and socially dissatisfied, we have lots of spare cognitive capacity, of which we use some, to increase our monitoring of time. This increased monitoring then results in time passing more slowly than normal, simply because we are more aware of time. Another possibility is that the emotional consequence of lockdown alters the way the brain processes time.

In particular, the negative emotions associated with isolation, boredom, sadness, and stress may have contributed to a slowing of time. However, inconsistent effects of depression and anxiety across studies suggest that the effect of emotion on time is complex.

So what of 2021? Will time regain its regular rhythm? That's difficult to say. Normality may be many months away. But by keeping busy, minimizing stress, and engaging in as much face-to-face or online social interaction as we can, we can help the journey back to normality pass more quickly than normal.

Ruth Ogden is a senior lecturer in psychology at Liverpool John Moores University in the UK. This article was originally published on The Conversation.



The upheaval of the pandemic has uprooted our sense of time.



“It is the interplay between us as individuals and the environment in which we live that dictates our clinical destiny.”

Alessio Fasano, director, Center for Celiac Research at Massachusetts General Hospital

A Year of Blursdays

How COVID-19 distorted our sense of time in 2020

RUTH OGDEN

Does it feel like 2020 went on forever? Did lockdown drag, and can you even remember how you spent your time when you weren't living under coronavirus restrictions?

You aren't alone. For many, 2020 has been the year in which the constancy of time was lost to the upheaval of COVID-19.

Objectively, time passes at a constant, linear rate. Subjectively, however, time waxes and wanes with our activities and emotions. Sometimes, it flies by, while other times, it drags so slowly that it almost stands still.

That's supported by research I conducted in April, which explored how the early months of the pandemic had affected people's experiences of the passage of time. Of particular interest was how quickly time felt like it was passing during the lockdown, in comparison to "normal" (that long-ago time before lockdown).

I surveyed 604 people about how quickly time felt it was passing that day and that week in comparison to before the lockdown. Participants also answered questions about their mood, family life, and how busy they were to give context on the factors, which made time more likely to speed up or slow down for different people.

Tempus Fugit?

My results showed that there was wide-

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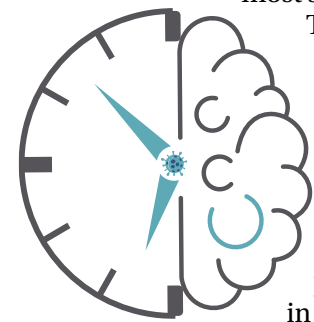
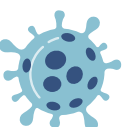
spread distortion time during lockdown, with more than 80 percent of people reporting that time felt like it was passing differently. But lockdown didn't distort time in the same way for everyone. Instead, time sped up during lockdown for 40 percent of people and slowed for the remaining 40 percent.

Why was that? My analysis suggests that the perceived speed of time during the day was affected by a person's age, how satisfied they were with their level of social interaction, how stressed they were, and how busy they were. In general, the days passed more quickly for younger people who were socially satisfied, busy, and experiencing low levels of stress. Conversely, the day passed more slowly for older people, particularly those over the age of 60, who were socially dissatisfied, stressed, and lacking tasks to occupy them.

Similar patterns were observed for the subjective speed of the week. A fast week was associated with being younger and more socially satisfied, whereas a slow week was associated with being older and less socially satisfied.

A second unpublished study I conducted during the November lockdown revealed that, of the 851 people surveyed, more than 75 percent experienced distortion to time and 55 percent reported that the start of the first lockdown felt longer than eight months ago. A slower second lockdown was associated with shielding, dissatisfaction with social interaction, and greater depression and boredom.

The United Kingdom, where I am, isn't



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How Your Gut Health Affects Your Disease Risk

A chain reaction in your gut can leave you vulnerable to chronic inflammatory disease

JOSEPH MERCOLA

The critical importance of gut health is getting more attention. A significant proportion of your immune system resides in your gastrointestinal tract, which means optimizing your gut microbiome will have far-reaching effects on your physical health and emotional well-being.

Research across several fields—including human genetics, the gut microbiome, and proteomics (the study of proteins)—suggests gut permeability plays a key pathogenic role in the development of chronic inflammatory diseases (CIDs). Zonulin, meanwhile, plays a key role in gut permeability.

Disease Begins in Your Gut

Research has linked ADHD, autism, learning disabilities, obesity, diabetes, Parkinson's disease, and other conditions to the health of the gut microbiome. A 2020 scientific review by Alessio Fasano, director of the Center for Celiac Research at Massachusetts General Hospital, goes so far as to say that all inflammatory disease begins in the gut.

Part of the blame is laid on excessive hygiene. In other words, we're "too clean" for our own good. This "cleanliness" strips away a healthy microbiome and leaves room for unwelcome bacteria to grow.

Your diet also plays a crucial role in your microbiome and can affect several factors, including the release of zonulin, a group

of proteins that affect the lining of your intestinal tract. Fasano's paper specifically addresses the role of zonulin-mediated gut permeability in the pathogenesis of chronic inflammatory diseases. Gut permeability refers to how easily substances moving through the digestive tract can leak through the intestinal wall. If the intestinal wall is "leaky," these substances seep into the body and can trigger inflammation.

Research across several fields—including human genetics, the gut microbiome, and proteomics (the study of proteins)—suggests gut permeability plays a key pathogenic role in the development of chronic inflammatory diseases (CIDs). Zonulin, meanwhile, plays a key role in gut permeability.

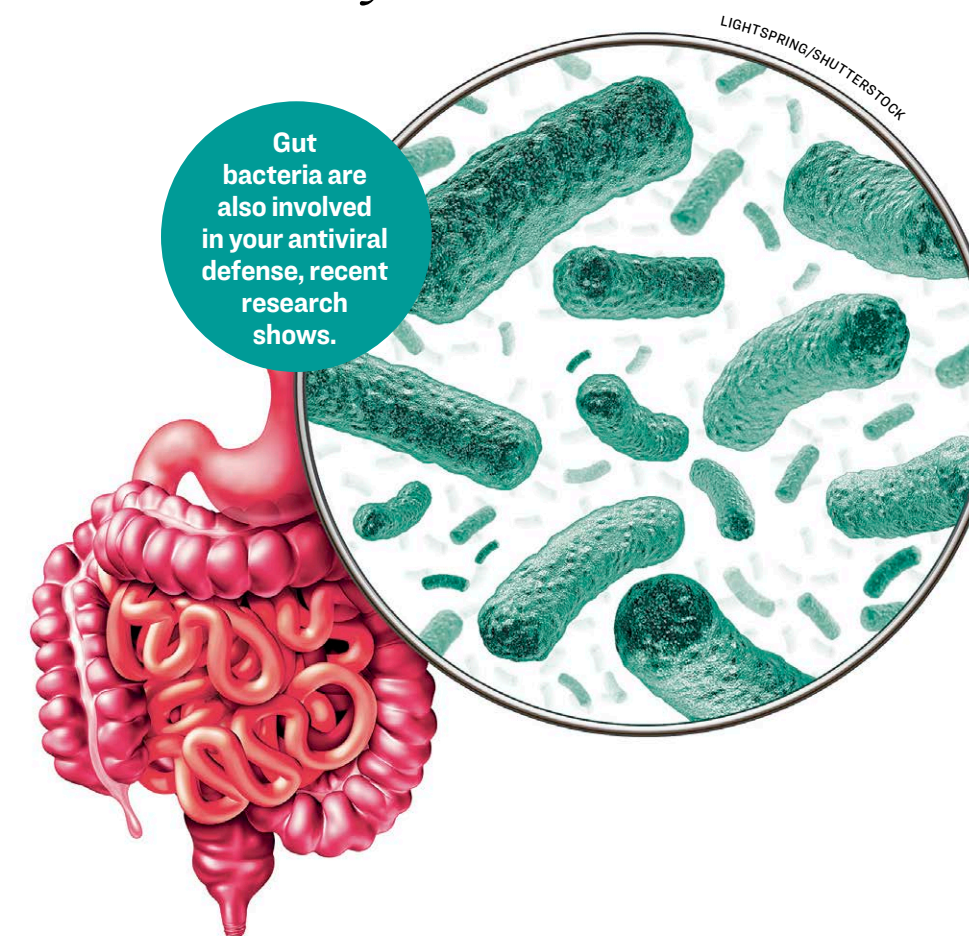
Bacteria, Not Genes, Rule Your Health Destiny

Aside from the microbes themselves, Fasano writes that the condition of your intestinal mucosa—the inner lining of the intestinal wall where much of the gut microbiome resides—is of critical importance.

"It plays a pivotal role through its dynamic interactions with a variety of factors coming from our surrounding environment, including microorganisms, nutrients, pollutants, and other materials," Fasano explains.

Fasano points out that we simply don't have enough genes to account for the myriad chronic diseases that can beset us.

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TRUTH AND TRADITION

How Your Gut Health Affects Your Disease Risk

A chain reaction in your gut can leave you vulnerable to chronic inflammatory disease

Continued from Page 9

Genes also cannot explain the timing of disease onset. To solve these mysteries, we must look to the microbiome, he says.

"It is the interplay between us as individuals and the environment in which we live that dictates our clinical destiny," writes Fasano.

As the innermost layer of the intestinal wall, your mucosal mucosa comes in direct contact with the food you eat and contaminating substances you ingest. Zonulin can cause the intestinal mucosa to become too permeable, leading to leaky gut.

"Pre-clinical and clinical studies have shown that the zonulin family, a group of proteins modulating gut permeability, is implicated in a variety of CIDs, including autoimmune, infective, metabolic, and tumoral diseases. These data offer novel therapeutic targets for a variety of CIDs in which the zonulin pathway is implicated in their pathogenesis," Fasano writes.

However, while zonulin is a biomarker of gut permeability and plays a pathogenic role in many chronic inflammatory diseases, it should be noted that not all CIDs are caused by leaky gut.

Proposed Chain of Events Leading to CID

The graphic below was included in Fasano's review but originated from an earlier paper, titled "Zonulin, a Regulator of Epithelial and Endothelial Barrier Functions, and Its Involvement in Chronic Inflammatory Diseases." It was co-written by Fasano and Craig Sturgeon and details the "proposed chain of events leading to chronic inflammatory disease."

Under normal circumstances, a healthy homeostasis is maintained in your gut lining such that when an antigen is encountered, no excess immune reaction occurs. Antigens are molecules or molecular structures that alert your body to an outside pathogen and trigger an immune response.

Under No. 2 in the graph, gut dysbiosis is setting in (i.e., an imbalance in the number and diversity of your gut microflora), causing excess production of zonulin, which, in turn, makes the gut lining more permeable.

According to Fasano, the two most powerful triggers of zonulin release are bacteria overgrowth and gluten. Zonulin is produced in response to bad bacteria—it helps flush the bacteria out by opening up the tight junctions—so bacteria overgrowth makes sense. But why does it respond to gluten?

Interestingly enough, the zonulin pathway misinterprets gluten as a potential harmful component of a microorganism. That's why gluten triggers zonulin release. While not mentioned by Fasano, the herbicide glyphosate also triggers zonulin, and is 10 times more potent than gluten.

The subsequent permeability allows microbiota-derived antigen and endotoxin to migrate from the lumen (the hollow tube at the center of the intestinal tract that food and waste pass through) to the lamina propria (the connective tissue that is part of the mucous membrane lining your intestine), thereby triggering inflammation.

As the process continues to worsen (No. 3 in the graph), your adaptive immune response kicks in, triggering the production of proinflammatory cytokines, including interferon gamma and tumor necrosis factor alpha. These cytokines further worsen gut permeability, thus creating a vicious cycle. Eventually (No. 4), mucosal tolerance is completely broken, resulting in the onset of a chronic inflammatory disease.

By reseeding your gut with beneficial bacteria, you can keep pathogenic microbes and fungi in check and prevent them from taking over, and optimizing your vitamin D will help avoid leaky gut.

Chronic Inflammatory Diseases Linked to Leaky Gut

The specific chronic inflammatory disease that ultimately emerges at the end of all this depends in part on your genetic makeup, in part on the types of exposures you've had, and in part on the composition of your gut microbiome.

"The pathogenesis of a variety of CIDs seems to involve mutually influenced changes in gut permeability/Ag trafficking, immune activation, and changes in composition/function of the gut microbiome," Fasano writes.

A chain reaction starting from an imbalance in the number and diversity of your gut microflora (aka gut dysbio-

sis) spurs the release of zonulin, which leads to leaky gut, which causes the release of pro-inflammatory cytokines. These cytokines then cause increased gut permeability and spur a vicious loop that leads to a massive influx of dietary and microbial antigens triggering the activation of T cells, warns Fasano.

T cells play a central role in the adaptive immune response and if they are being over-activated because of a massive influx of antigens, they can damage healthy tissues.

"Depending on the host genetic makeup, activated T cells may remain within the GI tract, causing CID of the gut ... or migrate to several different organs to cause systemic CID."

Chronic inflammatory diseases associated with dysregulation of the zonulin pathway include:

- Autoimmune disorders such as Celiac disease, Type 1 diabetes, inflammatory bowel disease, multiple sclerosis, and ankylosing spondylitis
- Metabolic disorders such as obesity, insulin resistance, nonalcoholic fatty liver disease, gestational diabetes, hyperlipidemia and Type 2 diabetes
- Intestinal diseases such as irritable bowel syndrome, non-celiac gluten sensitivity, and environmental enteric dysfunction (a chronic disease affecting the proximal intestine)
- Neuroinflammatory diseases such as autism spectrum disorder, schizophrenia, major depressive disorder and chronic fatigue/myalgic encephalomyelitis
- Brain and liver cancers

Gut Microbes Influence Genes, Can Alter Cancer Risk

While the inclusion of cancer on that list may seem odd at first glance, some researchers believe the gut microbiome may actually end up being a game-changer for cancer prevention and treatment.

Not only have gut bacteria been shown to influence gene expression, turning some genes on and others off, research published in 2018 found gut microbes actually control antitumor immune responses in your liver, and that antibiotics can alter the composition of immune cells in your liver, triggering tumor growth.

Certain gut bacteria also promote inflammation, which is an underlying factor in virtually all cancers, whereas other bacteria quell it. The presence of certain gut bacteria has even been shown to boost the patient's response to anticancer drugs.

One way in which gut bacteria improve the effectiveness of cancer treatment is by activating your immune system and allowing it to function more efficiently. Researchers have actually found that when these specific microbes are absent, certain anticancer drugs may not work at all.

Gut Bacteria Are Part of Your Antiviral Defense

Gut bacteria are also involved in your antiviral defense, recent research shows. As reported by Harvard Medical School on Nov. 18, 2020:

"For the first time, Harvard Medical School researchers have ... identified the specific population of gut microbes that modulates both localized and systemic immune response to ward off viral invaders. The work ... pinpoints a group of gut microbes, and a specific species within it, that causes immune cells to release virus-repelling chemicals known as type 1 interferons."

"The researchers further identified the precise molecule—shared

by many gut bacteria within that group—that unlocks the immune-protective cascade. That molecule, the researchers noted, is not difficult to isolate and could become the basis for drugs that boost antiviral immunity in humans."

While the findings still need to be replicated and confirmed, they point to the possibility that you might be able to enhance your antiviral immunity by reseeding your gut with Bacteroides fragilis and other bacteria in the Bacteroides family.

These bacteria initiate a signaling cascade that induces the release of interferon-beta that protect against viral invasion by stimulating immune cells to attack the virus and causing virus-infected cells to self-destruct.

"Specifically, ... a molecule that resides on the bacterium's surface triggers the release of interferon-beta by activating the so-called TLR4-TRIF signaling pathway," Harvard explains. "This bacterial molecule stimulates an immune-signaling pathway initiated by one of the nine toll-like receptors (TLR) that are part of the innate immune system."

The Role of Vitamin D

Recent research also highlights the role of vitamin D in gut health and systemic autoimmunity. The review article, published Jan. 21, 2020, in Frontiers in Immunology, notes:

Gut permeability refers to how easily substances moving through the digestive tract can leak through the intestinal wall.

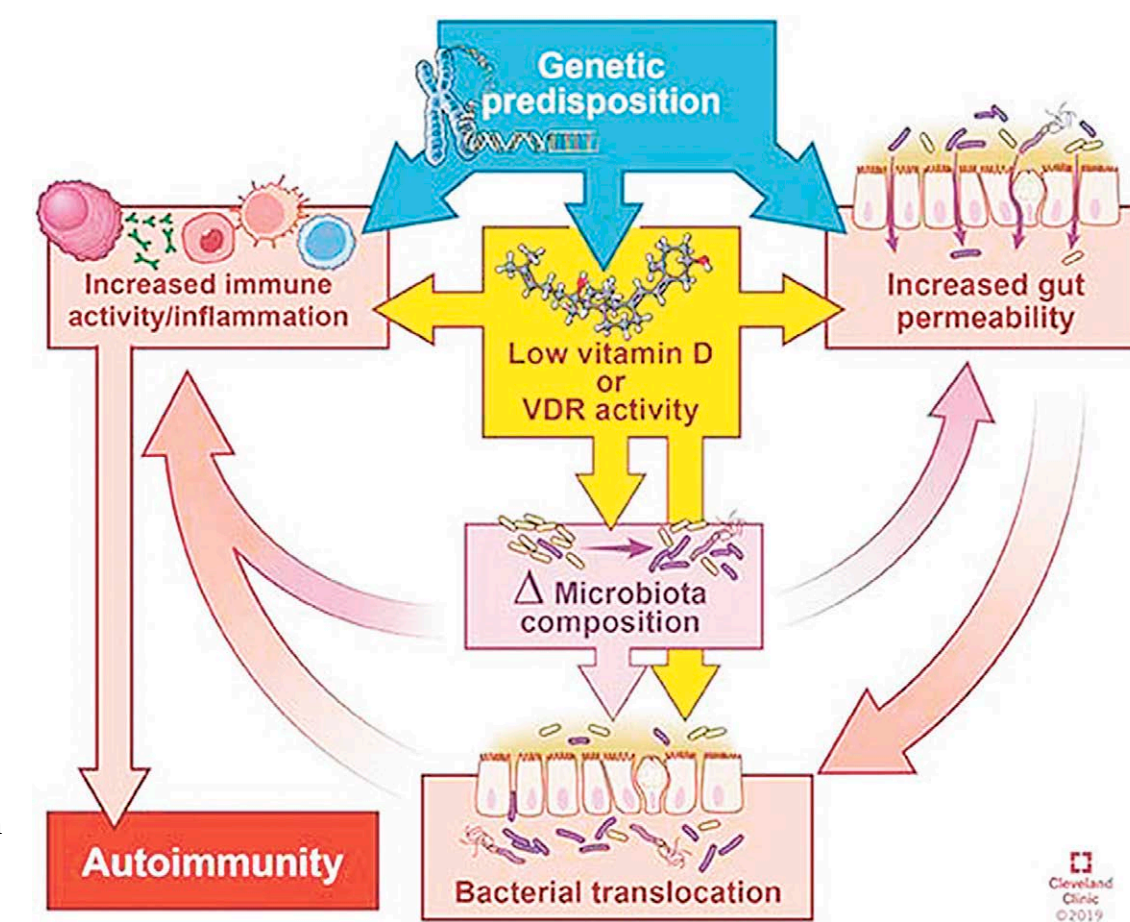
"Autoimmune diseases tend to share a predisposition for vitamin D deficiency, which alters the microbiome and integrity of the gut epithelial barrier. ... Vitamin D deficiency may contribute to autoimmunity via its effects on the intestinal barrier function, microbiome composition, and/or direct effects on immune responses."

As noted in this review, vitamin D has several direct and indirect regulatory effects on your immune system, including promoting regulatory T cells (Tregs), inhibiting differentiation of Th1 and Th17 cells, impairing development and function of B cells, reducing monocyte activation, and stimulating antimicrobial peptides from immune cells.

That said, the relationship between vitamin D and autoimmunity is complicated. Aside from suppressing an immune response that could run amok, vitamin D also appears to improve autoimmune disorders by the way it affects your microbiota composition and gut barrier.

The review cites research showing that your vitamin D status alters the composition of your gut microbiome. Generally speaking, vitamin D deficiency tends to increase Bacteroidetes and Proteobacteria, while higher vitamin D intake tends to increase prevalence of Prevotella and reduce certain types of Proteobacteria and Firmicutes.

While research is still slim when it comes to vitamin D's impact on gut bacteria, especially in patients with autoimmune disease, vitamin D deficiency and autoimmune diseases are known comorbidities and vitamin D supplementation is often recommended for these patients.



Vitamin D Required for Tight Junction Maintenance

Better known is how vitamin D supports intestinal and immune cell defenses in the gut. In fact, vitamin D is one of the crucial components required for maintaining tight junctions.

This is important for the health of the intestinal epithelium, the single cell layer that lines the interior of the small and large intestine (colon) of the gastrointestinal tract.

As explained in this review: "The intestinal epithelium is in constant interaction with the external environment. Adequate barrier integrity and antimicrobial function at epithelial surfaces are critical in maintaining homeostasis and preventing invasion or overcolonization of particular microbial species. A healthy intestinal epithelium and intact mucus layer are critical to protect against invasion by pathogenic organisms, and vitamin D helps to maintain this barrier function ..."

"Autoimmune diseases tend to share a predisposition for vitamin D deficiency, which alters the microbiome and integrity of the gut epithelial barrier. ... Vitamin D deficiency may contribute to autoimmunity via its effects on the intestinal barrier function, microbiome composition, and/or direct effects on immune responses."

Vitamin D May Contribute to Autoimmune Disease

According to the authors, vitamin D deficiency may contribute to autoimmune disease by affecting the microbiome and the immune system in the following manner:

1. Vitamin D deficiency or supplementation changes the microbiome, and manipulation of bacterial abundance or composition impacts disease manifestation.
2. Lack of vitamin D signaling due to dietary deficiency can impair physical and functional barrier integrity of the gut, thereby allowing bacterial interactions to either stimulate or inhibit immune responses.
3. Your innate immunologic defenses may be compromised if you are deficient in vitamin D.

How to Optimize Your Gut Microbiome

All of this information should really drive home the point that optimizing your gut flora and vitamin D level is of crucial importance for good health. By reseeding your gut with beneficial bacteria, you can keep pathogenic microbes and fungi in check and prevent them from taking over, and optimizing your vitamin D will help avoid leaky gut.

Regularly eating traditionally fermented and cultured foods is the easi-

est, most effective, and least expensive way to make a significant impact on your gut microbiome. Healthy choices include lassi (an Indian yogurt drink), cultured grass-fed organic milk products such as kefir and yogurt, natto (fermented soy) and fermented vegetables of all kinds.

Although I'm not a major proponent of taking many supplements (as I believe the majority of your nutrients need to come from food), probiotics are an exception if you don't eat fermented foods on a regular basis. Spore-based probiotics, or sporebiotics, can be particularly helpful when you're taking antibiotics. They're also an excellent complement to regular probiotics.

Sporebiotics, which consist of the cell wall of bacillus spores, will help boost your immune tolerance. And because they don't contain any live bacillus strains, only its spores—the protective shell around the DNA and the working mechanism of that DNA—they are unaffected by antibiotics.

Autoimmune diseases tend to share a predisposition for vitamin D deficiency, which alters the microbiome and integrity of the gut epithelial barrier.

Frontiers in Immunology

Antibiotics, as you may know, indiscriminately kill your gut bacteria, both good and bad. This is why secondary infections and lowered immune function are common side effects of taking antibiotics. Chronic low-dose exposure to antibiotics through your food also takes a toll on your gut microbiome, which can result in chronic ill health and increased risk of drug resistance. Last but not least, you also need to avoid things that disrupt or kill your microbiome, and this includes:

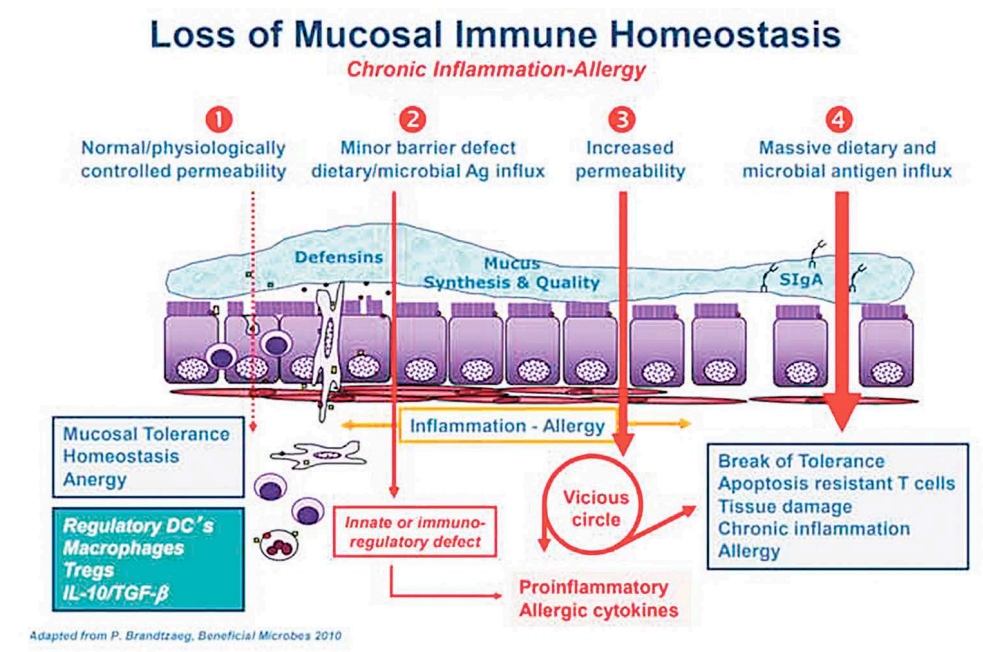
- Antibiotics, unless absolutely necessary
- Conventionally raised meats and other animal products, as these animals are routinely fed low-dose antibiotics, plus genetically engineered and/or glyphosate-treated grains
- Processed foods (as the excessive sugars feed pathogenic bacteria)
- Chlorinated and/or fluoridated water
- Antibacterial soap and products containing triclosan

Dr. Joseph Mercola is the founder of Mercola.com. An osteopathic physician, best-selling author, and recipient of multiple awards in the field of natural health, his primary vision is to change the modern health paradigm by providing people with a valuable resource to help them take control of their health. This article was originally published on Mercola.com

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FOOD AS MEDICINE

Lycopene Lowers Risks for Neurodegenerative Diseases

The red pigment in fruits and vegetables reveals varied benefits against several diseases

Did you know that guava and tomato are just two of the lycopene-rich fruits and vegetables that can protect your brain and reduce your risks for cancer, heart disease, and bone fractures?

Lycopene is the pigment in red fruits and vegetables such as pink guava and tomatoes. It is an important nutrient scientists are currently testing in the prevention and suppression of neurodegenerative diseases. Past research has shown lycopene to have antioxidant properties, which are effective in fighting other diseases such as cancer, precursors to heart diseases, and bone conditions.

Neurodegenerative Disease

Lycopene demonstrated antioxidant properties in protecting the neural system in vitro, and the consumption of lycopene-rich fruits and vegetables is recommended as a preventive strategy for neurodegenerative diseases, according to a review and meta-analysis published in *Atherosclerosis*.

In addition to suppressing oxidative stress and inflammation in the brain, lycopene restores changes associated with neurodegenerative disorders, epileptic conditions, aging, brain hemorrhages, spinal cord injury, and neuropathy. It also prevents proteinopathies, neuroinflammation, apoptosis, cerebral edema, and synaptic dysfunction in the brain, according to a review published in *Neurochemistry International*.

Lycopene also ameliorated neuroinflammation, oxidative stress, amyloid genesis, and memory loss in an Alzheimer's-induced mice model, through mediating cell signaling pathways related to inflammation, and thus could be effective in preventing Alzheimer's disease, found an animal study published in *The Journal of Nutritional Biochemistry*.

Researchers are delving into the varied ways lycopene counteracts disease and strengthens the body.

In their in vitro study of mice, researchers found lycopene to be effective in reducing oxidative stress, which is considered a major cause of Alzheimer's disease, by reducing cell apoptosis through activation of the PI3K/Akt pathway.

Researchers studied 6,958 participants aged older than 50 years to assess the impact of carotenoids on mortality risk from Alzheimer's. High levels of lycopene, lutein, and zeaxanthin were found to lower the risk of Alzheimer's mortality. In an Alzheimer's-induced mice study, oxidative stress biomarkers were measured with two treatments—lycopene and lycopene combined with vitamin E.

The combination was synergistic in significantly decreasing memory impairments and improved three oxidative stress markers for Alzheimer's. In a rat study, researchers demonstrated that lycopene, a natural carotenoid, lowered aluminum-induced hippocampal lesions by inhibiting oxidative stress-mediated inflammation and apoptosis in the brain.

Similarly, lycopene was found to be very effective against age-induced cognitive impairment, memory loss, and cognitive defects while reversing age-associated neuronal damage and synaptic dysfunction in brain synapses by mitigating oxidative stress and inflammation markers in a mouse model.

Cancer Risk

Twenty-six studies of 563,299 participants with 17,517 documented cases of prostate cancer were meta-analyzed,



Foods rich in lycopene are generally red in color, though asparagus bucks the rule.

showing that higher lycopene intake (between 9 milligrams (mg) and 21 mg per day) reduced the incidence of prostate cancer. The prostate cancer risk declined 18 percent with increasing consumption of lycopene (intake of tomatoes and watermelon) in a study of 404 participants.

In addition, researchers have found lycopene-rich foods such as tomatoes affected rates of a variety of other cancers. In a meta-analysis including 15 studies of 644 animals, lycopene supplementation significantly reduced the incidence, number, and growth of liver cancer.

In their comprehensive review of the literature, scientists attested to tomato lycopene's preventive action against the formation and development of lung cancer as well. Lycopene supplementation in lung and liver tumor-induced mice reduced experimental tumor metastasis in vivo by decreasing tumor invasion, proliferation, and angiogenesis.

In a pooled analysis of 21 studies, the group that consumed the most tomato products had the lowest risk for gastric cancer. In a study of U.S. adults, tomato (86 percent lower risk) and lycopene (79 percent lower risk) intake was inversely related to all cancer deaths.

Guava leaf extract has been shown to have a strong anticancer effect by preventing and stopping the growth of cancerous cells in in-vitro studies of animal induced cancers.

Cardiovascular Disease Risk

In a meta-analysis of 14 studies, high dietary lycopene was significantly associated with low risk for cardiovascular disease, stroke, and coronary heart disease. Similarly, in an overview of 23,935 patients, mortality from coronary heart disease and cerebrovascular disease was significantly lower for those who had high tomato and lycopene intake, illustrating their cardioprotective abilities.

A systematic review and meta-analysis of 21 studies showed that increasing the intake of tomatoes and lycopene products has positive effects on blood lipids, blood pressure, and endothelial function, which make them valuable nutritional strategies to fight cardiovascular diseases.

In a human study of 142 patients with cardiovascular disease, lycopene supplementation (7 mg per day) for four weeks increased serum lycopene levels more than four times, significantly improved tissue oxygenation and blood flow, and reduced inflammatory oxidative dam-

age markers threefold and oxidized lipid levels fivefold. Tomato juice (338 mg per day) treatment for 20 days also reduced inflammation (an underlying risk factor for cardiovascular disease and diabetes) in a controlled trial of 106 overweight and obese females.

Guava consumption was shown to have significant effects on heart health risk in 120 patients with high blood pressure. Specifically, the study found a 9.9 percent net decrease in total cholesterol, 7.7 percent decrease in triglycerides, and blood pressure lowered (systolic by 9 points and diastolic by 8 points) with an 8 percent net increase in high-density lipoprotein cholesterol after 12 weeks of guava fruit treatment.

Bone Health

In another study, 370 men and 576 women (70 to 80 years of age) from the Framingham Osteoporosis Study completed a food frequency questionnaire in 1988 to 1989 and were followed for 17 years for bone fractures.

Results showed that subjects with higher lycopene intake had a significantly lower risk of hip and nonvertebral fractures. Tomato and tomato products, as rich sources of lycopene, have been shown to decrease bone loss, which significantly lowers the risk for fractures in vivo and in vitro studies of postmenopausal women.

The group that consumed the most tomato products had the lowest risk for gastric cancer.

In vitro and clinical studies of osteoblast cells found the intake of a lycopene-rich tomato sauce (5 mg and 10 mg) in 39 postmenopausal women resulted in no significant bone density loss with the treatment and better bone turnover results compared to those in the non-tomato sauce control group, showing that tomato sauce can be used to lower risk of bone loss and to prevent osteoporosis.

Top 12 Lycopene Food Sources

So which fruits and veggies are reliable lycopene sources? Boost your lycopene levels by increasing your consumption of the top foods found in the list below. Although there is no daily minimum re-

quirement for lycopene, sources suggest consuming from 8 mg to 21 mg per day for optimal health.

Top Fruits and Vegetables Highest in Lycopene

- (By milligrams per cup)
1. Tomato Puree (50)
 2. Sun Dried Tomatoes (25)
 3. Guavas (8.6)
 4. Fresh Tomato (7.3)
 5. Watermelon (6.9)
 6. Pink Grapefruit (3.3)
 7. Papaya (2.7)
 8. Red Bell Peppers (0.5)
 9. Persimmon (0.3)
 10. Asparagus (0.05)
 11. Red Cabbage (0.02)
 12. Mangos (0.01)

Sensitivities to Nightshade Vegetables

Some people may experience chronic pain and inflammation from sensitivity to foods called "nightshade" vegetables. That is because they can contain glycoalkaloids such as solanine in potato and eggplant, tomatine in tomato and capsaicin in garden peppers as well as wheat lectin or chitin-binding lectins found in tomatoes and red pepper.

Reactions should be monitored for their effect on the digestive system and arthritic symptoms, and triggering foods should be avoided completely (if the sensitivity continues) or slowly brought back into the diet one by one if tolerated. Pesticide-treated and genetically modified (GMO) foods are the most problematic and buying non-GMO and organic nightshade vegetables is essential.

Lycopene gives fruits and vegetables, such as tomatoes, guavas, watermelon, and red bell peppers, their reddish hues and packs a punch for its neuroprotective, anticancer, bone protective, and heart-healthy properties. To read more about the impact of guavas and tomatoes on your health, see [GreenMedInfo.com's](#) research database on lycopene.

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MADE TO MOVE

Water Exercises as Effective as Gym Workouts

Exercising in water is softer on the joints and still lowers the risk of cardiovascular disease

MARKOS KLONIZAKIS

Swimming, aqua-aerobics, and other water-based exercises are popular for people aged 55 and older to keep fit without putting strain on the joints. A new study shows these forms of exercise could also help reduce cardiovascular disease.

Previous studies show that water-based exercises have many benefits, including improving gait, balance, and mobility. It's also thought to offer benefits as part of rehabilitation programs for peripheral arterial disease, in which arteries in the legs, stomach, arms, and head narrow.

But while water-based exercises are shown to have benefits for other aspects of health, until now there's been limited evidence on whether it's as beneficial on reducing cardiovascular disease risk for older adults and improving their heart health.

Water-based exercises have many benefits, including improving gait, balance, and mobility.

Our latest study explored the long-term effects of regular, water-based aerobic exercise on cardiovascular health. We proved for the first time that they're as effective as other types of aerobic exercise for lowering cardiovascular disease risk for older people.

Our study enrolled 80 people over the age of 55 with normal blood pressure and without pre-existing clinical conditions, such as diabetes. We avoided recruiting people



Exercising in water can improve balance and mobility with less risk for older adults.

who regularly performed high-intensity exercise, such as CrossFit. This was to ensure that all the exercise regimes we compared were as similar as possible and because high-intensity exercise can be difficult to perform in water.

Our participants were exercising on average four times per week, for at least six months. We compared people who trained in the water against those who trained in a gym or took exercise classes, and those who did a mixture of both types of exercises. We also compared this data against a reference group who didn't exercise at all.

In order to see what effect exercise was having on cardiovascular health, we measured how efficient the inner vein lining (endothelium) of their small veins and large arteries were. Endothelium is crucial for minimizing cardiovascular disease risk at any age.

We found that all three modes of exercise offer similar benefits to our arteries and

small veins. The mechanism behind these findings isn't very clear. However, it's likely that this is because exercise can increase the production of nitric oxide in our bodies. This is a key component for preserving endothelial function in both small veins and arteries. So the greater the nitric oxide production, the better arteries, and small veins can work.

Endothelial function for the exercise groups were also significantly better than the function in the inactive group. This suggests that for older adults, all exercise plays an important role in protecting against cardiovascular disease, whether it's performed in or out of water.

Exercising at Every Age

Cardiovascular disease remains a main cause of death for older people. While exercise—either alone or alongside a healthy diet—can protect against cardiovascular disease, older people often don't get as much exercise as they should. For example, statistics show that only 13 percent of women over 75 meet daily physical activity recommendations for their age group.

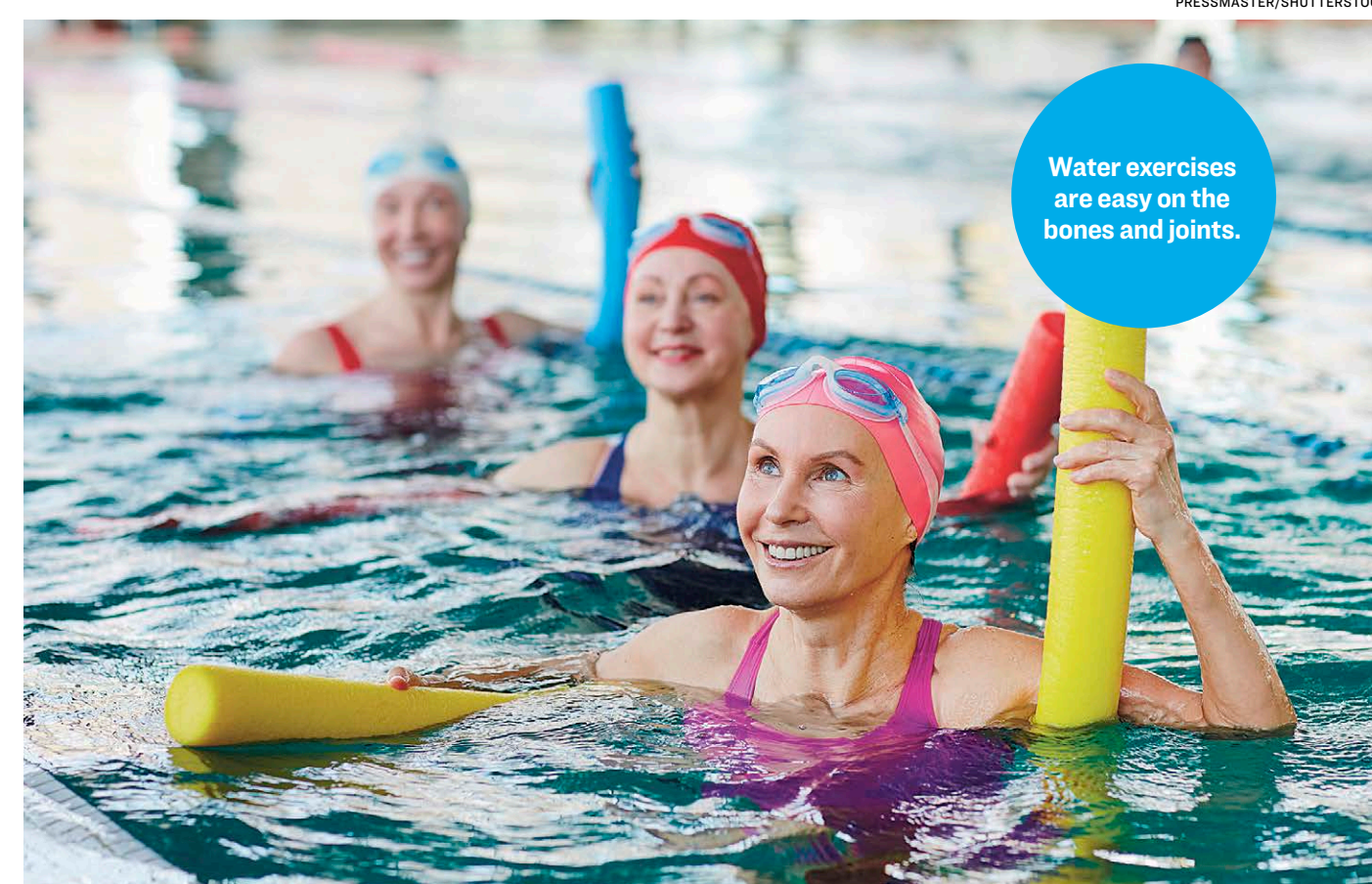
There are many reasons why older people might not exercise, including fear of injury and lack of confidence in using exercise equipment. But this could mean they're missing out on important heart benefits that can protect against cardiovascular disease. This is why promoting forms of exercise that older people feel comfortable doing—and that they want to do—need to be explored and promoted.

Exercise plays an important role in protecting against cardiovascular disease, in or out of water.

This is why our findings may be particularly important, as we're the first to directly show that water-based exercise is as good for cardiovascular health as exercising in a gym, for the older age group. This means people can choose a form of exercise that causes less pain, stress, or strain on joints, but will still benefit their heart health. This may be especially good news for people who may be more frail, or for those who are afraid of handling gym equipment.

More research will be needed to better understand why water-based exercise causes these benefits to veins and arteries. But our findings suggest that water-based exercise is an enjoyable way to protect against cardiovascular disease.

Markos Klonizakis is a reader in clinical physiology at Sheffield Hallam University in the UK. This article was first published on [The Conversation](#).



Water exercises are easy on the bones and joints.

Gained Weight on the Diet That Your Friend Swore By?

We are far too different in body and lifestyle for one diet to work for everyone

LYNN JAFFEE

I have never been much of a dieter, although there are times in my life when I probably should have been. I have, however, tried tweaking my diet based on a friend's recommendation or an article I have read, only to have it backfire. Either my digestion tanked, or my energy took a vacation, leaving me sluggish and tired.

This phenomenon seems to happen to many people. They read about a miracle food or foolproof diet, only to gain weight or feel like crap. So what's going on?

Chinese medicine has long had the answer, and it seems that Western researchers are now catching on, too. The key to eating the right is in tailoring your diet to your unique needs. This is true for a couple of reasons. First, each of us has specific nutritional needs that vary from person to person. Second, foods have specific properties that make them good for some kinds of health conditions, but not for others. For example:

Each food has an inherent energetic temperature, which translates into how it will affect your body. For example, ginger is considered to be a warming food, while mint is cooling. In practice, if you were struggling with hot flashes, you would choose energetically cooling foods and avoid those that heat you up.

Foods also have an action or impact on your body. For example, depending on your needs, you can choose foods that moisten, nourish blood, build up your qi (energy gained through food and breathing), or drain dampness.

How you prepare food can change its properties. Raw fruits tend to be cool and moistening. However, dried fruits are warmer and less dampening. In addition, if you're struggling with your digestion, cooking your vegetables in a soup or stir fry makes them far easier to digest, allowing you to extract more energy from them.

While practitioners of Chinese medicine have long known that food therapy is based on creating an individualized diet, food scientists are now conducting research that suggests the same thing. The results of an Israeli study of the blood sugar levels of 800 people documented that different people responded differently to eating the same food. The researchers suggest that, like Chinese food therapy, successful dieting and healthy eating depend on meals tailored to the individual and their unique biology. Instead of wondering what you were doing wrong when you gained weight on the diet that your friend swore by, understand that the foods you need are different from the foods others need.

Lynn Jaffee is a licensed acupuncturist and the author of "Simple Steps: The Chinese Way to Better Health." This article was originally published on [Acupuncture-TwinCities.com](#)

Each of us has specific nutritional needs that vary from person to person.





To Beat the Winter Blues, Think Like a Norwegian

Embrace the season and seek out what it offers, rather than lamenting what is lost

MELISSA DE WITTE

You might find inspiration for handling the dark months ahead from Norwegians, according to Kari Leibowitz.

Leibowitz, a doctoral candidate in social psychology at Stanford University, has studied how Norwegians cope with winter and “polar nights,” the period beginning on Nov. 21, when the sun sets in Norway and doesn’t rise again for another two months. She spent a year at the University of Tromsø, located 200 miles north of the Arctic Circle, to better understand how people survive—and actually, thrive—in such extreme and unusual conditions.

She found that people with a positive wintertime mindset—which encompasses their thoughts, beliefs, and attitudes toward the season—is positively associated with their well-being, including life satisfaction and personal growth.

Leibowitz is researching psychological and social factors in health care, with a focus on the doctor-patient relationship. She also works with psychologist Alia Crum in the Stanford Mind & Body Lab, where they study how mindsets can make a positive difference to emotional and physical well-being.

Here, Leibowitz discusses some of her findings—data from her survey of 238 Norwegians recently published in the *International Journal of Wellbeing*—and how their approach to winter and the indoors might offer comfort during these challenging times:

Melissa De Witte: What did you learn from studying, and living with, Norwegians? Is there anything that you were surprised to discover about them, and yourself?

Kari Leibowitz: I learned so much how delicious brunost—a special, slightly caramelly brown cheese that they often eat on waffles—is and how good reindeer hot dogs are. How to dress appropriately for winter weather—all wool base layers are key—and how to forage for blueberries. But I also learned that—surprise—Norwegians love winter! This was genuinely surprising to me—I grew up on the Jersey Shore hating winter.

I originally went to understand how they survived during the winter. But people in Norway



Norwegians enjoy the warmth of homes and friends in winter, but still head outdoors despite the cold and dark.

For me, this is the first year that I won’t be going home to be with my family in New Jersey for the holidays, and I’m really sad to not be doing that. But I’m trying to focus instead on the fact that that means instead of flying cross-country and running around seeing all my family members, this year I can actually have a really restful holiday and focus on expressing my love for my family by sending things in the mail and organizing Zoom calls. So those are some of the opportunities I’ll be trying to take advantage of this year. And this idea of finding the opportunity in difficult things isn’t just from a wintertime mindset—it’s backed by a lot of psychological research, including work out of the Stanford Mind & Body Lab, like Alia Crum’s work on stress mindsets.

Another big part of this mindset is getting outside—Norwegians love to be active in the winter, and even have the saying, “There’s no such thing as bad weather, only bad clothing.” Given that we’re all stuck at home right now, prioritizing bundling up and moving and spending time outdoors even in “bad” weather will be really important for keeping up people’s spirits and mood this winter.

didn’t see it so much as something to survive—they saw it as an opportunity for lots of things they loved: outdoor activities like cross-country skiing but also special, cozy time indoors. Instead of the polar night being a time of darkness, I actually learned that it is a time of incredible light—blue light for a few hours a day, really pretty sunset colors as the sun skirts below the horizon, and, of course, incredible Northern Lights. They really showed me that it’s possible to love winter, and there I learned to love winter myself.

“A positive wintertime mindset was associated with every metric of well-being we looked at, including life satisfaction, positive emotions, psychological flourishing, and personal growth.”

Kari Leibowitz, researcher, Stanford University

Ms. De Witte: And what did you learn about their well-being?

Ms. Leibowitz: In our cross-sectional, correlational survey of Norwegians at three different latitudes—Oslo, Tromsø, and Svalbard—conducted at the end of January, we found that a positive wintertime mindset was associated with every metric of well-being we looked at, including life satisfaction, positive emotions, psychological flourishing, and personal growth. In other words, people in Norway who had more positive wintertime mindsets also tended to be happier overall.

Ms. Witte: How might this mindset help people as they shelter in place during the pandemic?

Ms. Leibowitz: It might be especially easy to love winter in Tromsø—it’s magical, surrounded by snowy mountains and fjords. But I think the people in Tromsø have strategies for making winter wonderful that people can use wherever they are. People in Tromsø see winter as full of opportunities, whereas in the U.S. we tend to only focus on the ways winter limits us and the things we can’t do.

Of course, when we shelter in place, there’s a lot we can’t do and it’s easy to focus on that. And I’m not suggesting that people deny this reality or ignore all of the suffering and loss and things we’re missing this year. But given that we’re all stuck in a situation no one wants to be in, how can we focus on a) what opportunities might be present? and b) the things that we do enjoy about the winter season, to bring us a little bit of comfort?

“It’s about focusing on what we can control and trying to make the best of a bad situation.”

Kari Leibowitz, researcher, Stanford University

Ms. De Witte: Is there anything you would like to add about how your research applies to these current times?

Ms. Leibowitz: The thing I like about mindsets is that they have room for complexity—it’s not just telling people to look on the bright side, think positive, or find the silver lining.

I think it’s really important to let people mourn and grieve and not diminish the extremely real hardships people are facing. Instead, it’s about focusing on what we can control and trying to make the best of a bad situation. So if you hate how early it gets dark out, you can try to focus instead on how it’s a chance to light candles and get cozy earlier, how it might help you get to bed earlier—something I’m forever trying and failing to do—or even how it can be nice to watch the sunset from your window while you’re working.

I encourage people to start small and find one or two things they like about this winter, maybe one or two things they are doing to make this challenging season an opportunity, and to focus on those. And I personally will be thinking about this winter as a kind of hibernation, a time dedicated to quiet and rest and reflection, and that kind of mindful pause can help us come out the other side of the pandemic with a clearer sense of what’s important to us and how we want to live our lives.

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MINDSET MATTERS

Fear: False Evidence Appearing Real

When our thoughts scare us and we need to make them stop

NANCY COLIER

I took a deep dive into fear after someone I love dearly, a close family member, began experiencing a physical symptom. We’ve been unable to get to the bottom of it; the doctors have not been particularly concerned, and so we’ve resorted to just managing the symptom best we can.

I haven’t been particularly worried, assuming it was just one of the umpteen physical symptoms that come for seemingly no reason and then go for seemingly no reason, without our ever really knowing why or what it was all about.

On a recent Friday afternoon, I was having a conversation with this person, and she casually mentioned another symptom that she experiences. She had never brought this to my attention because she just assumed everybody felt the same thing.

In that moment, I was slightly alarmed by the symptom she mentioned as it was definitely not a sensation most people have and certainly not one that people get on a regular basis. It was also, I knew, a symptom associated with some pretty terrible things. I said nothing about my concern but calmly inquired more into her experience, like when does she get this sensation and what if anything brings it on. On the outside, I probably appeared quite nonchalant, but on the inside, a small tsunami was forming in my chest.

Immediately following our conversation, I made a beeline to search the internet. I feverishly punched in her symptoms. What I found was, not surprisingly, both horrifying and terrifying. Her symptoms happened to be the first two on every list for one, particularly dreadful and life-destroying condition.

Within three hours of our initial conversation, I was paralyzed with information. I had three symptoms to work with now, three symptoms that were the first three on every list describing the early signs of one particular horrifying fate. Fear had taken me hostage.

The more afraid I became, the more frantically I researched the internet, reading everything available on the condition I had diagnosed, looking for anything that would give me a different list of symptoms or at least a list where her symptoms were further down from the top.

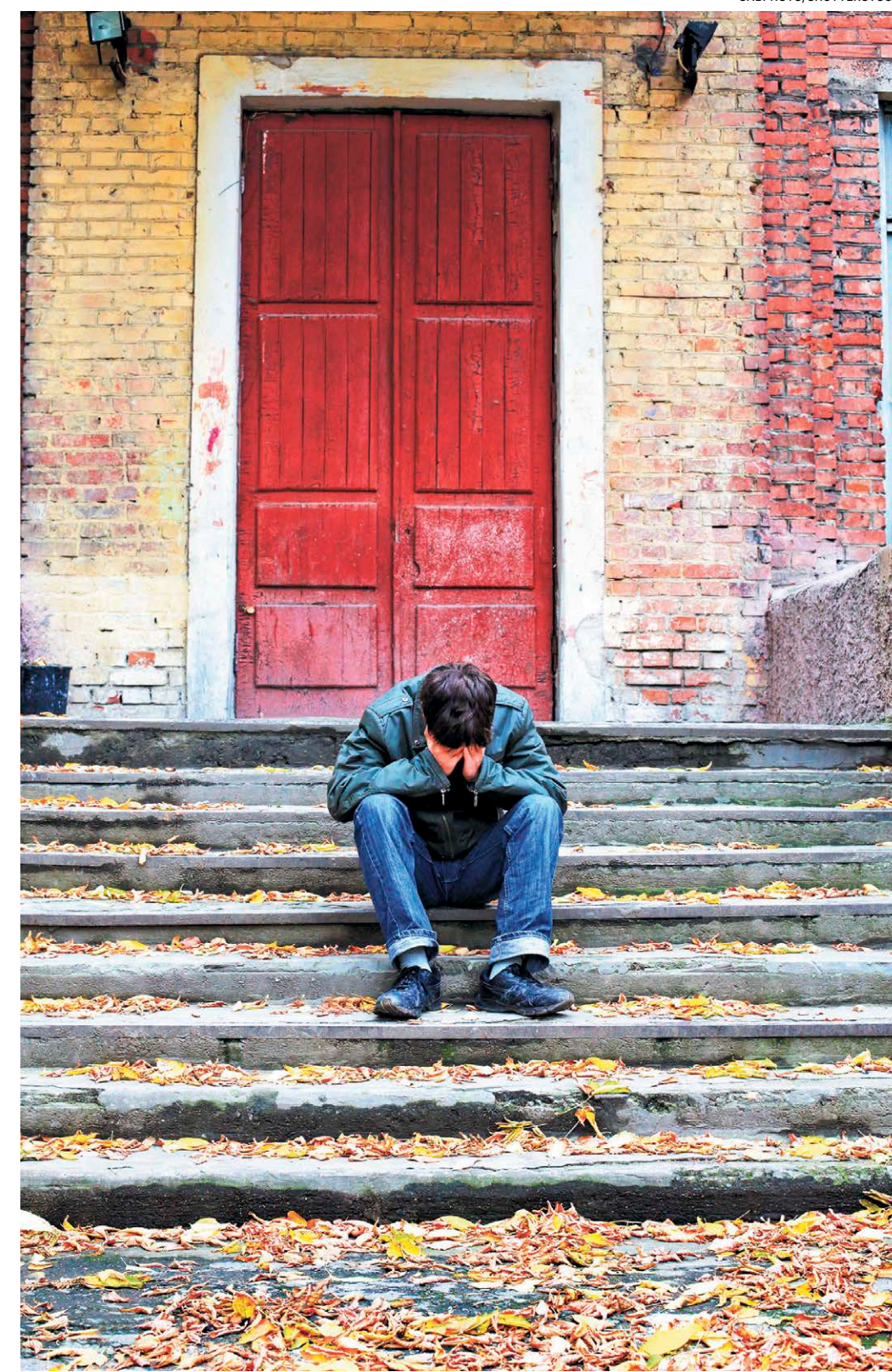
I read about treatments, now and future, trial studies, ways that people self-care once diagnosed, the psychological effects of the disease, how early one should start taking the medication, and what the final stages look like. I read testimonials from people living with the disease, everything I could get my hands on. By Sunday night, I had five doctorates in this condition.

I was in a state of panic, heartbroken, and truly unable to get OK. If a moment of serenity appeared, I would remember the shock of what I knew, that this person I love beyond anything, beyond everything, had no future. I would remember that I could never be happy again. Each moment I spent with my family member that weekend felt like the last, weighted with melancholy and finality.

I was living a narrative of fear and despair I had written in less than 48 hours. I was sure the worst thing I could ever imagine happening was happening. I wondered how it was possible that I had spent my whole life working on accepting reality as it is, and yet here I was screaming, “No, this reality is the one reality that’s not OK! This reality, I cannot bear.”

I was in a thought-constructed hell,

The more afraid I became, the more frantically I researched the internet, reading every thing available on the condition I had diagnosed.



Sometimes our mind fills in the missing pieces with a terrifying story we can’t stop telling ourselves.

which felt real, inarguable, and true.

I was the only one who knew that she had all three symptoms. Other family members knew of one or another, but I was the keeper of the full truth, the only one who knew the whole of it. When I did finally break and tell another family member, he dismissed my fears as ridiculous, irritating, a case of bad hypochondria. I was to blame for my fear. His impatience felt like an abandonment of sorts. I felt terrified and deeply alone in my fear. I couldn’t share my fears with the person whom they were about because I didn’t want to frighten her; I couldn’t speak with anyone else in the family because they were angered by my fear; I couldn’t speak with her doctor about it because I didn’t want to set off further testing and thus speed the road to the eventual diagnosis. I was totally isolated; my thoughts had built a bubble of terror in which I was trapped and alone.

And then something miraculous happened, perhaps because I couldn’t bear another moment of being so afraid, or perhaps just because. Grace appeared and I heard the following: Your mind is inflicting violence on you! And what followed from there was simply, Stop! Stop! Stop! Something in me stood up for me. I knew that probability was still on my side and the fear I was living might well be false evidence appearing as real.

With this realization, I was able to halt my mind’s projections into the future and reexperiencing a reality that didn’t and might never exist.

I recognized that I knew nothing other than three facts and didn’t need to go one day or even five minutes into the future. I could decide to live right here, now, and construct no storyline at all.

Discomfort remained, mild anxiety, but without the narrative connecting the dots, I was remarkably OK. With the sudden awareness of how I was torturing myself, believing my thoughts, I was able to disembark from my mind’s terror train. I refused to participate in terrifying myself; I chose the freedom and self-compassion that comes with saying, and believing, “I simply don’t know. That’s the truth.”

For organizing and generating ideas, there’s no match for the human mind. And simultaneously, for whipping up

and creating frightening storylines that appear indisputable, there’s also no match for the human mind.

The tragic part is that by creating its narratives of terror, the mind is at some level trying to calm us down, to understand the unknown. The mind tries to protect us from the fear of what could happen by creating a certainty of what will happen, which paradoxically can feel less frightening.

In this recent episode, my mind was desperately searching to find proof for its wrongness, evidence that showed its thoughts were mistaken. And yet, the more my imagined storyline was confirmed, the more frantically I searched to find something else to explain the unknown.

We can, in fact, choose to live in the questions, to not know, and not fill in the blanks.

Our mind is often the perpetrator of unimaginable violence—on ourselves. Our thoughts are the great instigator of terror, yelling fire over and over again when a hint of smoke is detected. At some point, the suffering that we self-inflict can become too much and an act of grace or self-compassion occurs, when we say: “Stop, stop torturing me. Stop creating stories of terror. The truth is I don’t know, that’s all.”

Life is challenging enough without adding any of our own terrifying storylines to it. We can, in fact, choose to live in the questions, to not know, and not fill in the blanks. When we leave the dots not connected and sit with the fear that may or may not exist with what is, we feel a great relief. Not only relief from the self-inflicted violence of the terrifying storyline, but also from the need to close up reality and know—everything—even if it’s nothing we want to know.

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I chose the freedom and self-compassion that comes with saying, and believing, “I simply don’t know. That’s the truth.”

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Simple Decisions to Make 2021 Better than 2020

Here are 12 things you can do to make the year ahead better for everyone

JOSHUA BECKER

It's time to turn the page on 2020. And thankfully so.

What should we expect for 2021? Well, my guess is everything will start to feel a bit more normal. But I'm not in control of the world, so how would I know for sure?

I am not in control of the world, however, I am in control of myself—and you are in control of yourself. So even though we can't control everything around us, we can control some things.

At the very least, we can control how we interact with the world around us. And many times, that makes all the difference.

To that end, in an effort to make 2021 a better year for everyone, here are 12 decisions we can all make as the new year begins:

1. Smile more.

I think we all miss seeing smiles in public spaces. Once the masks are off, decide to show more of those pearly whites every chance you get.

2. Complain less.

2020 was a year of dealing with life-and-death issues on an almost daily basis. In some ways, all the things we used to complain about seem so small now. So

let's decide to no longer complain about the small stuff.

3. Appreciate more.

I thought 2020 would be the year I got everything I wanted. Now, I know 2020 was the year to appreciate everything I have. Decide now to carry that forward into 2021 and appreciate all the good around us in a more intentional way.

4. Connect more.

In 2020, we lost the ability to connect with others in-person—at coffee shops, churches, restaurants, concerts, sporting events, and even some family gatherings. Let's never overlook the opportunity to connect with others again.

5. Own less.

When everything is taken away, we see what is most important. When it comes to recognizing what activities contribute to quality of life, accumulating physical stuff pales in comparison to the actual life-giving pursuits we are being forced to go without. Decide now to own less in 2021.

6. Encourage more.

2020 was a hard year for everyone! And all of us needed encouragement from time to

time. Let's give it freely in 2021—whether people ask for it or not.

7. Waste less.

Seems like we all learned the value of another day and another opportunity—because too many had their last one taken from them in 2020. Let's decide now to not waste any day, any moment, or any amount of energy remaining.

8. Thank more.

Decide now to say “thank you” more often. You will feel better for it and so will the recipient. Win-win.

9. Compete less.

One thing is for sure—we're all in this world together. As a result, it's too easy to see the world as competition against one another. Instead, let's remember we're on the same team, all trying to be the best versions of ourselves. If you want to compete, compete against who you were yesterday rather than the stranger down the street.

10. Understand more.

Not only was 2020 marked with a pandemic and economic downturn, in many parts of the world (including my own) it was a year of political strife and division

where a difference in opinion was often regarded as a difference in principle. It rarely is. Everyone will benefit—both sides—if we decide now to argue less and understand more.

11. Save more.

With the overnight shutdown/collapse of many businesses and a worldwide economy, 2020 showed the importance of having some financial savings in reserve. If you haven't made saving a priority, decide to do it now.

12. Love more.

Love your spouse. Love your kids. Love your friends. Love your co-workers. Love your neighbor. Love. The world needs more of it.

What does 2021 hold? I have no idea.

But with these 12 decisions as my resolutions for 2020, I'm ready for just about anything. Because life is more than the circumstances surrounding me.

Joshua Becker is an author, public speaker, and the founder and editor of [Becoming Minimalist](http://BecomingMinimalist.com), where he inspires others to live more by owning less. Visit BecomingMinimalist.com



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