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HALF HOUR OF EXERCISE COUNTERACTS A DAY OF SITTING

Research finds even small amounts of exercise can dramatically improve your health

JULIA RIES

A good many Americans spend a large portion of their days tethered to a desk or affixed to some form of furniture. This type of sedentary lifestyle takes a serious toll on your health and can even lead to an early death, research shows.

However, just because you spend most days glued to a chair doesn't mean you're doomed. Just 30 minutes of physical activity can counteract a day of sitting, according to a new study published in the American Journal of Epidemiology.

Physical Activity Linked to Longer Life

Researchers from Columbia University Irving Medical Center evaluated 7,999 healthy adults, ages 45 and older, who had previously participated in a separate study that required them to wear activity monitors for at least four days between 2009 and 2013.

Even short 1- to 2-minute bursts of movement was linked to valuable long-term health benefits.

The research team used the data from the monitors—which recorded the amount and intensity of physical activity they did—and, over the course of five years, tracked the mortalities and health risks the participants experienced. The study found that substituting 30 minutes

of sitting with light physical activity could lower your risks of an early death by about 17 percent.

Replace that sedentary time with more moderate to vigorous exercise, like running and biking, and you'll cut the risk of early mortality by 35 percent. Even short 1- to 2-minute bursts of movement was linked to valuable long-term health benefits.

"If you have a job or lifestyle that involves a lot of sitting, you can lower your risk of early death by moving more often—for as long as you want and as your ability allows—whether that means taking an hour-long high-intensity spin class or choosing lower-intensity activities, like walking," lead author of the study Dr. Keith Diaz, an assistant professor of behavioral medicine at Columbia University Vagelos College of Physicians and Surgeons, said in a press release.

Prolonged Sitting Dangerous to Your Health
One in four U.S. adults sits for more than eight hours a day, the CDC states. Furthermore, about 40 percent of adults don't bother with physical activity, according to previous research.

Together, both behaviors can be deadly. In fact, a sedentary lifestyle has been linked to multiple dangerous health risks.

"Sitting for long periods of times—like six to eight hours a day—has increased risk of developing truncal obesity, hypertension, higher blood sugar, [and] higher cholesterol levels leading to metabolic syndrome, which then has increased risk of heart attack, stroke, and death from those events," Dr. Sanjiv Patel, a cardiologist at MemorialCare Heart and Vascular Institute at Orange Coast Medical Center in Fountain Valley, California, told Healthline.

That's because when we sit for an extended period of time, our metabolic system essentially



Movement can also improve our overall mood.

TIME FLYING? Here's How to Slow It Down

Time seems to go faster every year, but there are ways to get more life out of every minute

STEVE TAYLOR

Sometimes it seems as if life is passing us by. When we are children, time ambles by, with endless car journeys and summer holidays that seem to last forever.

But as adults, time seems to speed up at a frightening rate, with Christmas and birthdays arriving more quickly every year.

But perhaps it doesn't need to feel this way. Our experience of time is flexible, speeding up in some situations and slowing down in others. There are even some altered states of consciousness (such as under the influence of psychedelic drugs, in traumatic situations, or when athletes are "in the zone") in which time seems to slow down to an extraordinary degree.

So maybe by understanding the psychological processes behind our different experiences of time, we might be able to slow things down a little.

In my book "Making Time," I suggest a number of basic "laws" of psychological time, as experienced by most people. One of these is that time seems to speed up as we get older. Another is that time seems to slow down when we're exposed to new environments and experiences.

These two laws are caused by the same underlying factor: the relationship between our experience of time and the amount of information (including perceptions, sensations, and thoughts) our minds process. The more information our minds take in, the slower time seems to pass.

This partly explains why time passes so slowly for children and seems to speed up as we get older. For children, the world is a fascinating place, full of new experiences and fresh sensations. As we get older, we have fewer new experiences and the world around us becomes more and more familiar.

We become desensitized to our experience,

which means that we process less information, and time seems to speed up. (Another factor may be the "proportional" aspect, which is that as we get older each period of time constitutes a smaller proportion of our life as a whole.)

It follows, then, that our experience of time should expand in unfamiliar surroundings because this is where our minds process more information than normal. When you go away to a foreign country, you are much more sensitive to your surroundings. Everything is unfamiliar and new, so you pay much more attention and take in much more information.

It's the same when you spend a day on a training course, learning new things with a group of unfamiliar people. It feels like more time has passed than if you had stayed at home and followed your normal routine.

All of this leads to two simple suggestions about how we can expand our experience of time.

Firstly, since we know that familiarity makes time pass faster, we can slow down time by exposing ourselves to as many new experiences as possible: traveling to new places, giving ourselves new challenges, meeting new people, exposing our mind to new information, hobbies and skills, and so on. This will increase the amount of information our minds process and stretch out our experience of time passing.

Secondly, and perhaps most effectively, we can slow down time by making a conscious effort to be more "mindful" of our experiences. Mindfulness means giving our whole attention to an experience—to what we are seeing, feeling, tasting, smelling, or hearing—rather than to our thoughts.

In the Moment

It means living through our senses and our experience rather than through our minds. It's a different approach to avoiding familiarity—and happens not by seeking new experiences, but by changing our attitude to our experiences.



JACOB LUND/SHUTTERSTOCK

We can slow down time by exposing ourselves to as much new experience as possible.

When you're having a shower in the morning, for example—instead of letting your mind chatter away about the things you've got to do today or the things you did last night, try to bring your attention to the here and now, to really be aware of the sensation of the water splashing against and running down your body and the sense of warmth and cleanness you feel.

Or on the way home from work on the bus or the train—instead of mulling over all the problems you've had to deal with at work, focus your attention outside of yourself. Look at the sky, at the houses and buildings you pass, and be aware of yourself here, traveling among them.

When you do chores such as mowing the lawn or washing the dishes, don't listen to music on your headphones or let yourself daydream. Give your attention to the objects and phenomena around you and the physical sensations you are experiencing.

One thing you'll find is that these chores become more enjoyable. And you'll also discover that this open and alert attitude to your experiences has a time-expanding effect since mindfulness increases the amount of information we process.

From this point of view, we don't have to think of time as an enemy. To a certain extent, we can understand and control our experience of time passing.

Many of us try to make sure we can live for as long as possible by eating good food and exercising, which is sensible. But it's possible for us to increase the amount of time that we experience in our lives in another way—by expanding our experience of time.

Steve Taylor is a senior lecturer in psychology at Leeds Beckett University in the United Kingdom. This article was first published on The Conversation.

MINDSET MATTERS

NEGATIVE THINKING A Most Dangerous Addiction

We can't stop thinking about the things that make us feel terrible because we're caught in the mind trap

NANCY COLIER

Have you ever noticed how much time you spend thinking about negative or painful situations, ruminating and replaying what's not working in your life?

It's not just you. The last statistic I read claimed that 80 percent of our thoughts are negative and 95 percent are repetitive. Strangely, the more negative an experience, the more we return to it. Like vultures to a carcass, we're drawn to what hurts.

As the Buddhist saying goes, we want happiness and yet we chase our suffering. Why? What's at the root of our mind's addiction to suffering? Why do we compulsively cling to our pain, and how can we change this unhelpful habit of ours?

We return to our suffering because, fundamentally, we're trying to make the negative experience come out a different way.

Our mental replays are attempts to re-script what we don't want into a new reality. If we can just understand our pain more clearly, spend more time with it, we'll be able to figure it out and make it go away. If we can know the cause, who's to blame, and what needs to be done about it, we'll be okay.

We hold onto our pain, paradoxically in an effort to figure out how to let it go. With pain or any sort of negative experience comes a host of uncomfortable feelings. In response to the feelings we don't want to feel, our mind takes control and steers us in a more familiar direction. Over and again, the mind restructures and reframes the contents of our pain in an effort to avoid directly feeling it.

The mind always will choose to think about pain rather than experience it directly. So we counterintuitively cling to suffering as a way of taking care of ourselves. Continually thinking about what has hurt us helps us feel like our pain matters, that it didn't happen for no reason, and that it won't be forgotten.

Here's How Much You Should Move

The body was designed to get up and move.

When we move, we increase our muscle strength and cardiovascular health all while cutting down our chances of developing many diseases, such as cancer and diabetes.

Movement can also improve our overall mood, decrease stress levels, and, ultimately, prolong our lifespan.

"The key message here is that individuals must get up and get moving at least once an hour in an eight-hour day to reverse the effects of prolonged sitting," said Dr. Ricardo Cook, an orthopedic surgeon and sports medicine specialist at The Centers for Advanced Orthopaedics.

"And, as the study points out, even minimal activity is much more beneficial than doing nothing," he added.

Here's the good news: You don't need a fancy gym membership to reap the benefits.

If you have a desk job, simply make a point to

fixed, we literally lose our separateness from life.

Our addiction to suffering, at some level, is driven by a desire to feel better. But regardless, the result is that it makes us feel worse and causes us to suffer more even than we actually need to. What can be done then to break this addiction to pain?

Solutions:

1. Awareness

The key to breaking any habit is awareness.

Start noticing those moments when you're actively choosing to revisit your pain, to literally direct your attention back to what could bother you. Become conscious of your tendency to interrupt moments of peace with morsels of suffering. Notice that you are doing this to yourself.

2. Acknowledge That You're Caught

When you notice that you're down the rabbit hole in your story of suffering, take a moment and acknowledge that you're there, that you're caught. Say it out loud, "Wow, I'm really caught." "I'm really doing this to myself right now," or whatever words fit. Stop for a moment and—with kindness—be with yourself exactly where you are. Acknowledge the truth of feeling powerless or stuck inside your pain story.

3. Inquire

Ask your mind (without judgment) what it's hoping to accomplish in luring your attention back to your suffering. Is it to figure out your problem, make it come out a different way, make your pain feel heard? Do you need to remember the pain to protect yourself from it happening again? Is it scary to just feel good? Does remembering your problem ground you?

Get curious about your mind's intentions: Does the rehearsing and ruminating lead you to peace? Does it make you feel better?

Eventually, you will discover that trying to get to peace with the mind is like trying to open a lock with a banana; it's simply the wrong tool. The next time you return to the scene of your pain, you can remind yourself that more thinking doesn't actually work, and you will know this from your own experience, your own inquiry. Failure is a great teacher here.

4. Shift Your Focus From Thinking About the Problem to Actually Feeling It

Sense where and how in your body, through what sensations, you are experiencing this pain story. You can place your hand on your heart as you do this and offer yourself some kind words, perhaps even a prayer of healing for this suffering. Unhook from your head story and drop into a body-felt experience.

5. Say 'No' or 'Stop' Out Loud

We can learn to just say "no" to our mind's inclinations just as we say "no" to a child who's doing something that will harm her. Sometimes a wiser and more evolved part of us has to step in and put a stop to the harmful behavior the mind is engaged in. Say "no" or "stop" out loud so you can hear and experience it directly through your senses, rather than as just another thought inside the negative-addicted mind.

6. Ask Yourself, What's at Risk if You Let Go of Your Pain?

Investigate what feels dangerous about living without reminding yourself of what's happened to you and what's still wrong. Make the active choice to not fill your now with the past. Be bold: Create a new identity that's not pieced together from your personal narrative, but always fresh and endlessly changing.

In the process, you will discover that you can be entirely well and happy at this moment without having to go back and make anything that came before it different.

Nancy Collier is a psychotherapist, interfaith minister, public speaker, workshop leader, and author of "The Power of Off: The Mindful Way to Stay Sane in a Virtual World." For more information, visit NancyCollier.com



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To give up ruminating over problems feels threatening at a primal level.



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Why Trees Can Make You Happier

Research suggests that being around trees is good for our mental and social well-being

JILL SUTTIE

I love trees and am not immune to hugging them. It may not be rational, but when I'm near one of these quiet giants, I feel like they are kin—ancient grandparents, or at least benevolent witnesses of history and time.

Everyone probably doesn't feel the same way as I do, but perhaps they should. While being in nature leads to better health, creativity, and even kindness, there may be something special about being among trees.

After all, trees are important to our lives in many ways. The most obvious is their role in producing the oxygen we breathe and sequestering carbon dioxide to help protect our atmosphere; but science suggests trees provide other important benefits, too.

Here are some of the more provocative findings from recent research on how trees increase human well-being.

Trees Help Us Feel Less Stressed and More Restored

Probably the most well-researched benefit of nature exposure is that it seems to help decrease our stress, rumination, and anxiety. And much of that research has been conducted in forests.

In one recent study, 585 young Japanese adults reported on their moods after walking for 15 minutes, either in an urban setting or in a forest. The forests and urban centers were in 52 different locations around the country, and about a dozen participants walked in each area. In all cases, the participants walking in a forest experienced less anxiety, hostility, fatigue, confusion, and depressive symptoms, and more vigor, compared to walking in an urban setting. The results were even stronger for people who were more anxious to begin with.

"The psychological benefits of walking through forests are very significant, and forest environments are expected to have very important roles in promoting mental health in the future," the authors write. Indeed, various other studies suggest that the practice of "forest bathing"—deliberately spending time among the woods—can help us deal with the stresses and strains of urban living.

In another recent study, Polish participants

spent 15 minutes gazing at either a wintertime urban forest or an unforested urban landscape.

The trees in the forest had straight trunks and no leaves (because of winter), and there was no other shrubbery below the trees—in other

words, no green; the urban landscape consisted of buildings and roads. Before and after, the participants filled out questionnaires related to their moods and emotions. Those who gazed at a winter forest reported significantly better moods, more positive emotions, more vigor, and a greater sense of personal restoration afterward than those who gazed at the urban scene.

It may be that some of these benefits have to do with how forests affect our brains. One study found that people living in proximity to trees had better "amygdala integrity"—meaning, a brain structure better able to handle stressors.

These findings and many others—including an earlier review of the research—show how even short amounts of time in a forest can give us a break from our frenzied lifestyles.

Trees Improve Our Health

Besides helping us breathe, being around trees may improve our health in other ways, too.

Studies have shown that spending short amounts of time in forests seems to benefit our immune systems. Specifically, one study found that elderly patients suffering from chronic obstructive pulmonary disease experienced decreases in perforin and granzyme B expressions, as well as decreased pro-inflammatory cytokines—all related to better immune function—after they visited forests rather than urban areas. Though it's not clear exactly why this would be, a prior study suggests that trees may improve immunity thanks to certain aromatic compounds they release.

Trees also seem to help our heart health. In one study, participants walked in a forest one day and an urban environment another day, and researchers measured how the two walks impacted their bodies. In comparison to the urban environment, walking in trees lowered people's blood pressure, cortisol levels, pulse rates, and sympathetic nervous system activity (related to stress), while increasing their parasympathetic nervous system activity (related to relaxation). All of these physiological markers are tied to better heart health, sug-

gesting that walking in the woods improves cardiovascular function.

Though it could be that these health benefits are due less to trees than to natural spaces in general, New Yorkers living near trees report better overall health than residents living near green, grassy spaces. And another study found that women who live in areas affected by tree loss have a higher risk of cardiovascular disease than those in unaffected areas. One study published in Nature's Scientific Reports that tried to quantify this health effect concluded that "having 10 more trees in a city block, on average, improves health perception in ways comparable to an increase in annual personal income of \$10,000 and moving to a neighborhood with \$10,000 higher median income or being 7 years younger." Clearly, there's something healing about trees.

Trees in Neighborhoods Lead to Less Crime

While some prior research has shown that green spaces reduce crime in urban settings, it may be that trees are even more effective.

In one recent study, researchers looked at crime data for the city of Chicago, computing a score for each census tract. Then, they compared that to the percentage of tree canopy cover and park space enclosed in each tract. They found that for every 10 percent increase in tree canopy cover, crime rates went down in several categories—11.3 percent for assaults, narcotics crimes, and robbery, and 10.3 percent for battery.

These findings held after controlling for factors that might skew the results—like the socioeconomic status, poverty, unemployment, and education of the residents. Also, while burglary rates went down 6.3 percent for every 10 percent increase in park space, other types of crimes were unaffected by having a park nearby. In other words, trees were more predictive of crime reduction than parks.

"Understanding the relationship between green space and crime can inform urban planning to improve human safety and well-being," conclude the authors.

This result mirrors those of other studies in different urban settings—Baltimore, New Haven, and Vancouver. In all cases, areas with more tree coverage had lower crime.

Why would this be? Researchers don't know for sure, but prior research has shown that

vegetation around houses helps reduce people's fear, incivility, and aggression—potential precursors to crime. And trees may also draw people out of their homes, creating an atmosphere of more "eyes on the street," which aids in reducing crime. Whatever the case, planting some trees may be an effective way to help communities stay safer.

Trees May Make Us More Generous and Trusting

Research suggests that nature experiences help us to feel kinder toward others, and many of those studies involve trees.

In one experiment, researchers asked a group of university students to look up at either a tall building or a grove of towering eucalyptus trees for one minute. They found that students who studied the trees experienced more feelings of awe—a sense of wonder and of being in the presence of something larger than oneself. Afterward, when one of the experimenters pretended to accidentally drop a bunch of pens, the students who had seen the trees and felt awe helped pick up more pens than those who had looked at the building.

In another study, researchers found that people were more willing to help someone who'd lost a glove if they had just spent time walking through a park with trees, rather than if they were near the entrance to the park. Unfortunately, this study, like many others, doesn't specify the benefits of trees versus green space in general. So, we don't know the exact role trees play in promoting kind and helpful behavior. But there's a good chance that their presence at least contributes to better social interactions.

For all of these reasons, I make an almost daily practice of interacting with trees. Whether it's just looking out my office window or taking a short stroll down the block to visit a favorite oak, I like to acknowledge the trees around me, often with a quick pat or hug. As research continues to grow, I'm sure my tree appreciation will, too.

Jill Suttie is Greater Good's book review editor and a frequent contributor to the magazine. This article was first published on Greater Good, the online magazine of the Greater Good Science Center at UC-Berkeley.

FAMVELO/SHUTTERSTOCK

Trees offer more than shade. Mounting research suggests wide-ranging mental and physical benefits to being around trees.



What Happens When Parents Play Favorites?

Kids are sensitive, and perceptions of favoritism can matter more than reality

LEAH CAMPBELL

The subject of parental favoritism has been trending lately, with a number of think pieces popping up over the last several months on the topic.

While many parents are often quick to declare they don't have a favorite, a number of kids—and adult siblings—may beg to differ. In fact, the effect parental favoritism can have on kids, whether real or perceived, is a topic that's been of growing concern.

Research has found that the effect isn't great, showing that children who perceive themselves as being the least favorite are more likely to do drugs and use alcohol and cigarettes in their teenage years.

This is especially true when the family unit isn't otherwise very close.

And the tension between siblings seems to increase when a favored child is in the mix.

Parents also may be surprised to learn that perception appears to hold a greater weight than reality in this case.

In other words, it doesn't matter so much if Mom or Dad actually have a favorite. All that really counts is if a child thinks they do.

Let's Be Honest

"It can be very common for a parent to 'like' or 'vibe better' with one sibling more so than the others," says Michele Levin, family therapist and co-owner of Blueprint Mental Health.

She's not suggesting you run out and buy T-shirts to advertise your favorite child, but she thinks it's important for parents to know and recognize how those preferences can occur.

She explained that kids all have different personalities, interests, needs, and ways of expressing their needs.

Kids dealing with other struggles, such as depression or anxiety, can sometimes exhibit challenging behavior that makes them not as easy to be around as their siblings.

So it's not always a case that a parent loves one child more than the other. It may just be that one child is easier to parent and be around than another is.

"Often another sibling simply doesn't have the same needs or struggles, or can become the peacemaker, which can lead to a perceived feeling of favoritism," Levin said.

Then there's the case of children with medical concerns.

Levin explained that these kids sometimes can require a lot of a parent's time and energy. They may not be the favorite, but to the siblings who aren't getting as much time and attention, the resentment can be very real.

Sometimes it's as simple as shared interests.

"A father who's interested in sports will likely relate better to a child who's also into sports, as opposed to a child who prefers the indoors and video games, for example," Levin explained.

"These dynamics can get very complicated," she said.

The Negative Effects

The problem is that a perception of being the least favorite child can take a definite hit on a kid's self-esteem, pediatrician Shelly Vaziri Flais, mother of four explained.

"Something we need to be very aware of as parents is to not compare siblings," she said. "As a mom of twins, it's something I have to be extra cautious of. We try really hard to avoid labels like 'the smart one' or 'the athletic one.' If you're not the favored child, the concern might be that you've been pigeonholed as the more difficult child."

She added, "I think kids who get the sense that they're less favored are more likely to act out, especially as they enter their teens. Having strong self-esteem in those years is so important, and if they already think of themselves as the bad kid, it can turn out poorly."

Levin agreed, adding, "It can certainly impact their self-esteem and how they feel within their family, especially at family events and holidays."

While she explained that everyone is different in how they might handle the perception of being the least favorite, she pointed out that some feelings "carry into adulthood unless they're acknowledged and really talked about."

The Damage to the Family

It's not just about the relationships between parents and their kids. The relationships between siblings can struggle as well.

"It's different for every family," Levin explained. "Some siblings will notice it and feel bad or guilty for the other and it will help them bond, while others will hold resentments or competitiveness."

Vaziri Flais worries that the damage done by parental favoritism can carry into adulthood, making relationships between adult siblings and their parents strained.

However, she wants to remind people who may be struggling with those difficult family dynamics "that your friends are the family you make for yourself."

"We live in a society where everyone lives all over the country, and you can create a new 'family' if you

had a less-than-desirable experience in the family you were born into," she said.

For parents who don't want their kids to grow up and separate themselves from the family, acting now to put an end to any perceptions of favoritism may be the best solution.

What You Can Do

Levin says the most important thing a parent can do is to acknowledge their feelings.

"Don't just say, 'I don't have a favorite' or ignore it. If that's what they're feeling, it's coming from somewhere and it's their perspective. So it's important not to dismiss it," she said.

Instead, she says to talk about it. "Genuinely validate how they're feeling and then problem-solve."

She explained that what the child may really be saying is that they'd like more time and attention.

Perhaps they could use a one-on-one day, where you make an effort to engage in shared interests with them.

"Specifically asking the child what they need will give them the chance to tell you," Levin said.

Vaziri Flais agrees, advising, "Don't ignore the outbursts or write them off as your kid just being a teenager. There needs to be a cooling-off period for sure. When things calm down, it's good to listen to what your child is trying to tell you."

Taking the time to hear your child when they express a perception of favoritism, acknowledging what they're feeling, and working together to find ways to help them not feel that way may be the best approach to protecting relationships with all children in the future.

Levin also encourages parents to "check in with yourself."

"Whether it's said or unsaid, when there's favoritism, kids often will feel it. If it's true, what do you need to do as a parent to have a better relationship with your child?" she said.

This may require parents to step out of their comfort zones and work to take an interest in the things their kid loves—even if they don't particularly see the appeal themselves.

Sometimes a little effort can make a big difference in bringing parents and kids closer together.

Leah Campbell is a freelance health and wellness writer. This article was first published on Healthline.

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“Asking the child what they need will give them the chance to tell you.”

Michele Levin, family therapist, Blueprint Mental Health

It's not just about the relationships between parents and their kids. The relationships between siblings can struggle as well.



Why the Okinawa Diet Gives Rise to Centenarians

The diet developed on this once-isolated island is high carb, low fat, and all about sweet potatoes

ANSLEY HILL

Okinawa is the largest of the Ryukyu Islands located off the coast of Japan between East China and Philippine Seas. Okinawa belongs to one of five regions of the world known as blue zones. People who reside in blue zones live exceptionally long, healthy lives compared to the rest of the world's population. The lifespans enjoyed by Okinawans may be explained by several genetic, environmental, and lifestyle factors. That said, experts believe that one of the strongest influences is diet.

What Is the Okinawa Diet?

In the purest sense, the Okinawa diet refers to the traditional eating patterns of the people living on the Japanese island of Okinawa. Their unique diet and lifestyle are credited with giving them some of the longest lifespans on the planet. The traditional Okinawa diet is low in calories and fat while high in carbs. It emphasizes vegetables and soy products alongside occasional—and small—amounts of noodles, rice, pork, and fish. In recent years, the modernization of food production and dietary habits has led to a shift in the macronutrient content of the Okinawa diet. Although still low-calorie and primarily carb-based, it now contains more protein and fat. The macronutrient breakdown of the original Okinawa diet is 85 percent carbs, 9 percent protein, and 6 percent fat (including 2 percent saturated fat). The modern Okinawa diet has shifted substantially with 58 percent carbs, 15 percent protein, and 28 percent fat (including 7 percent saturated fat). The Okinawan culture treats food as medicine and utilizes many practices from traditional Chinese medicine. As such, the diet includes herbs and spices known for having health benefits, such as turmeric and mugwort. The Okinawan lifestyle also emphasizes daily physical activity and mindful eating practices. The health benefits associated with the traditional Okinawan diet have given rise to a mainstream version intended to promote weight loss. While it encourages intake of nutrient-dense foods, this offshoot is heavily influenced by the Western diet.

Foods to Eat

Many of the Okinawa diet's benefits may be attributed to its rich supply of whole, nutrient-dense, high-antioxidant foods. Essential nutrients are important for the proper function of your body, while antioxidants protect your body against cellular damage. Unlike other Japanese, Okinawans consume very little rice. Instead, their main source of calories is the sweet potato, followed by whole grains, legumes, and fiber-rich vegetables. The staple foods in a traditional Okinawan diet are:

- Vegetables (58–60 percent): sweet potato (orange and purple), seaweed, kelp, bamboo shoots, daikon radish, bitter melon, cabbage, carrots, Chinese okra, pumpkin, and green papaya
- Grains (33 percent): millet, wheat, rice, and noodles

- Soy foods (5 percent): tofu, miso, natto, and edamame
- Meat and seafood (1–2 percent): mostly white fish, seafood, and occasional pork—all cuts, including organs
- Other (1 percent): alcohol, tea, spices, and dashi (broth)

What's more, jasmine tea is consumed liberally on this diet, and antioxidant-rich spices like turmeric are common.

Food to Avoid

The traditional Okinawa diet is quite restrictive compared to a modern, Western diet. Because of Okinawa's relative isolation and island geography, a wide variety of foods haven't been accessible for much of its history. Thus, to follow this diet, you'll want to restrict the following groups of foods:

- Meats: beef, poultry, and processed products like bacon, ham, salami, hot dogs, sausage, and other cured meats
- Animal products: eggs and dairy, including milk, cheese, butter, and yogurt
- Processed foods: refined sugars, grains, breakfast

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Okinawa is home to more centenarians—or people who live to be at least 100 years old—than anywhere else in the world.

- cereals, snacks, and processed cooking oils
- Legumes: most legumes, other than soybeans
- Other foods: most fruit, as well as nuts and seeds

Because the modern, mainstream version of the Okinawa diet is based primarily on calorie content, it allows for more flexibility. Some of the lower-calorie foods like fruit may be permitted, although most of the higher-calorie foods—such as dairy, nuts, and seeds—are still limited.

Health Benefits of the Okinawa Diet

The Okinawa diet has a number of health benefits, which often are attributed to its high antioxidant content and high-quality, nutritious foods.

Longevity

The most notable benefit of the traditional Okinawa diet is its apparent impact on lifespan. Okinawa is home to more centenarians—or people who live to be at least 100 years old—than anywhere else in the world. Proponents of the mainstream version of the diet claim that it also promotes longevity, but no substantial research is available to validate these claims. Many factors influence longevity, including genetics and environment—but lifestyle choices also play a significant role.

High levels of free radicals—or reactive particles that cause stress and cellular damage in your body—may accelerate aging. Research suggests that antioxidant-rich foods may help slow the aging process by protecting your cells from free radical damage and reducing inflammation.

The traditional Okinawa diet is comprised primarily of plant-based foods that offer potent antioxidant and anti-inflammatory capacities, which possibly promote a longer lifespan.

The diet's low-calorie, low-protein, and high-carb foods may also promote longevity. Animal studies suggest that a calorie-restricted diet made of more carbs and less protein tends to support a longer lifespan, compared to high-protein Western diets. More research is needed to better understand how the Okinawa diet may contribute to longevity in humans.

Reduced Risk of Chronic Diseases

Okinawans not only live long lives but also experience fewer chronic illnesses, such as heart disease, cancer, and diabetes. Diet likely plays a role, as Okinawan foods boast essential nutrients, fiber, and anti-inflammatory compounds while being low in calories, refined sugar, and saturated fats. In the traditional diet, most calories come from sweet potatoes. Some experts even claim that the sweet potato is one of the healthiest foods you can eat. Sweet potatoes provide a healthy dose of fiber and have a low glycemic index, meaning that they don't contribute to sharp rises in blood sugar. They also offer essential nutrients like calcium, potassium, magnesium, and vitamins A and C. What's more, sweet potatoes and other colorful vegetables frequently consumed on Okinawa contain powerful plant compounds called carotenoids. Carotenoids have antioxidant and anti-inflammatory benefits and may play a role in preventing heart disease and type 2 diabetes. The Okinawa diet also supplies relatively high levels of soy. Research suggests that particular soy-based foods are associated with a reduced risk of chronic illnesses like heart disease and certain types of cancer, including breast cancer.

Potential Downsides

Although the Okinawa diet has many benefits, possible drawbacks exist, as well.

Fairly Restrictive

The traditional Okinawa diet excludes different

groups of foods—many of which are quite healthy. This can make strict adherence to the diet difficult and may limit valuable sources of important nutrients. Moreover, some Okinawan foods may not be accessible depending on your location. For instance, the diet contains very little fruit, nuts, seeds, and dairy. Collectively, these foods provide an excellent source of fiber, vitamins, minerals, and antioxidants that can boost your health. Restricting these food groups may not be necessary—and could be detrimental if you're not careful to replace missing nutrients.

For this reason, some people prefer the mainstream, weight-loss version of the Okinawa diet because it's more flexible with food choices.

Can Be High in Sodium

The biggest downside to the Okinawa diet may be its high sodium content.

Some versions of the diet dole out as much as 3,200 mg of sodium per day. This level of sodium intake may not be appropriate for some people—particularly those who have high blood pressure.

The American Heart Association recommends limiting sodium intake to 1,500 mg per day if you have high blood pressure and 2,300 mg per day if you have normal blood pressure. High sodium intake can increase retention of fluid within blood vessels, leading to increased blood pressure.

Notably, the Okinawa diet tends to be high in potassium, which may offset some of the potential negative effects of high sodium intake. Adequate potassium intake helps your kidneys remove excess fluid, resulting in reduced blood pressure. If you're interested in trying the Okinawa diet but need to limit your sodium intake, try to avoid the foods highest in sodium—such as miso or dashi.

Is the Okinawa Diet Right for You?

Although the Okinawa diet has many positive health effects, some people may prefer a less restrictive or less carb-heavy diet. Several aspects of the diet may benefit your health, such as its emphasis on vegetables, fiber, and antioxidant-rich foods coupled with its restrictions on sugar, refined grains, and excess fat. Lifestyle principles promoted by Okinawan culture—including daily exercise and mindfulness—may also provide measurable health benefits. That said, these principles can likewise be applied to many other diets and lifestyles. If you're unsure whether the Okinawa diet fits your dietary goals, consider talking to your dietitian or healthcare provider to create a plan tailored to your needs.

The Bottom Line

The Okinawa diet emphasizes nutrient-dense, high-fiber vegetables, and lean protein sources while discouraging saturated fat, sugar, and processed foods. Although its benefits may include a longer lifespan, it can be restrictive and high in sodium. Still, a modern form of the diet lifts some of these restrictions and is geared toward weight loss. Keep in mind that this modern version has not undergone rigorous scientific study. If you're interested in improving your overall health and boosting your longevity, the Okinawa diet could be worth trying out.

Ansley Hill is a clinical dietitian and a public policy coordinator in Portland. This article was originally published on Healthline.



HIROKAZU TOUWAKU/PIKABAY
Their main source of calories is the sweet potato.

How Genes Control Your Taste for Sugar

Whether we find sugary treats sickly sweet or simply delicious may be more than personal taste

DANIEL LIANG-DAR HWANG

You might love sugary doughnuts, but your friends find them too sweet and only take small nibbles. That's partly because your genes influence how you perceive sweetness and how much sugary food and drinks you consume. Now our recently published study shows a wider range of genes at play than anyone thought. In particular, we suggest how these genes might work with the brain to influence your sugar habit.

What We Know

When food touches our taste buds, taste receptors produce a signal that travels along taste nerves to the brain. This generates a sensation of flavor and helps us decide if we like the food. Genetic research in the past decade has largely focused on genes for sweet taste receptors and whether variation in these

genes influences how sensitive we are to sweetness and how much sugar we eat and drink. Our previous study showed genetics accounts for 30 percent of how sweet we think sugars or artificial sweeteners are. However, at the time, we didn't know the exact genes involved.

What Our Latest Study Found

Our new study looked at data from 176,867 people of European ancestry from Australia, the United States, and the United Kingdom.

We measured how sweet 1,757 Australians thought sugars (glucose and fructose) and artificial sweeteners (aspartame and neohesperidin dihydrochalcone) were. We also looked at how sweet 686 Americans thought sucrose was and whether they liked its taste.

We also calculated the daily intake of dietary sugars (monosaccharide and disaccharide sugars found in foods such as fruit, vegetables, milk, and cheese) and sweets (lollies and chocolates) from 174,424 British people of European descent in the UK Biobank.

Then we looked at the associations between millions of genetic markers across the whole genome and the perception of sweet taste and sugar intake, using a technique known as genome-wide association analysis. After a 15-year study, we showed that several genes (other than those related to sweet taste receptors) have a stronger impact on how we perceive sweetness and how much sugar we eat and drink.

These included an association between the FTO gene and sugar intake. Until now, this gene has been associated with obesity and related health risks. However, the effect is possibly driven not by FTO, but nearby genes whose protein products act in the brain to regulate appetite and how much energy we use.

We believe a similar situation may be influencing our sugar habit; genes near the FTO gene may be acting in the brain to regulate how much sugar we eat.

Our study suggests the important role the brain plays in how sweet we think something is and how much sugar we consume. That's in addition to what we already know about the role of taste receptors in our mouth.

Why We Love Sweet Foods

Our natural enjoyment of sweet foods could be an evolutionary hangover. Scientists believe being able to taste sweetness might have helped our ancestors identify energy-rich food, which played a critical part in their survival.

However, being able to taste sweetness doesn't always mean you prefer to eat lots of sweet-tasting food.

So it looks like there are genes associated with the consumption of sweet foods, but not how sweet we think they are, such as FTO. There

might also be genes that influence our perception of sweetness but not how likely we are to eat sweet food.

Regional Differences

We were surprised to find that genes for sweet taste receptors had no effect on either the ability to taste sweetness or on the amount of sugar consumed in our study, which looked only at large populations of European descent.

But by comparing people of different ancestries in the UK Biobank, we showed there was some variation between different populations that variations in genes for sweet taste receptors might explain. For instance, we found people of African descent tended to eat more sugar than people of European and Asian descent.

So, How Can We Use This?

Just like genetics can help explain why some people choose tea over coffee, our latest study helps explain why some people prefer sweet food. That could lead to personalized diets to improve people's eating habits based on their genetics.

However, genetics is not the only factor to influence your taste for sugary foods and how much of these you eat or drink. So you can't always blame your genes if you've ever tried to quit sugary drinks or snacks and failed. It just may mean you have to work harder than the average person.

Daniel Liang-Dar Hwang is a post-doctoral research fellow at The University of Queensland in Australia. This article was first published on The Conversation.

Those that can't get enough sugary snacks may have a genetic preference for sweet sugar.



The Okinawa diet is different from other Japanese diets in several ways, including the relatively low amount of rice in it.

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Asparagus the Mighty Stalk

This noble vegetable heralds spring and brings many delicious health benefits

DEBORAH MITCHELL

In many locations, when spring arrives the very first vegetable that pokes its head out of the ground is the asparagus. This delightful vegetable heralds in the growing season with its fleshy green stalks, each rising up about 6 to 8 inches tall. They have a regal quality, looking both bold and strong.

Although this spring vegetable is a loved food, there is something about it that makes it seem intimidating, because many people are unsure what to do with them. That could be why people frequently question how they should eat asparagus and how to prepare it.

Asparagus has a wealth of nutrients. Just one cup of cooked asparagus provides about 40 calories and the following Percent Daily Value of:

- Vitamin K: 101 percent
- Folate: 67 percent
- Copper: 33 percent
- Thiamin (vitamin B1): 24 percent
- Selenium: 20 percent
- Riboflavin (vitamin B2): 19 percent
- Vitamin E: 18 percent
- Vitamin C: 18 percent
- Phosphorus: 14 percent
- Fiber: 13 percent
- Protein: 9 percent
- Iron: 9 percent
- Also good amounts of potassium, vitamin B6, magnesium, and calcium

Health Benefits

- These stalks contain a unique combination of both anti-inflammatory and antioxidant compounds. For example, saponins and flavonoids are essential anti-inflammatory compounds found in high levels in asparagus. Foods that are high in antioxidants and anti-inflammatory substances support optimal body functioning and have the potential

Asparagus has a wealth of nutrients.

Be sure to prepare and eat them within 48 hours.

to lower the risk of heart disease, cancers, and type 2 diabetes.

- This delicious vegetable supports your digestive system in a way few others can. That's because it contains an impressive amount of natural inulin, a carbohydrate that is also a prebiotic. The role of prebiotics is to nourish probiotics that are in your digestive tract, which in turn helps them thrive and maintain a balanced intestinal tract and that supports your overall health.
- If you are looking for help with diabetes, this is your veggie. The fiber stabilizes blood sugar to prevent cravings and mood swings.
- Asparagus is a rich source of glutathione, a substance that helps break down cancer-causing compounds and free radicals. Therefore, eating this veggie may help protect against certain cancers, such as bone, breast, colon, and lung cancer.

Colors of Asparagus

- You can find this spring vegetable in three different colors: green, white, and purple. The growing conditions determine which color you get. For example:
- Green stalks have used their chlorophyll pigments to capture sunlight
 - Most green asparagus varieties transform into white if they are grown with the soil mounded up to surround the growing shoots and protect them from the sun.
 - Purple asparagus credit their color to flavonoids called anthocyanin pigments

Deborah Mitchell is a freelance health writer who has authored, co-authored, and written more than 50 books and thousands of articles on a wide range of topics. This article was first published on [NaturallySavvy.com](#)

This delicious vegetable supports your digestive system in a way few others can.



STUDIOPHOTO/REBEZ/SHUTTERSTOCK

EASY ASPARAGUS

When you bring your stalks home from the market or if you pick them in your garden, place the cut ends in a dish with some water or wrap them in a wet towel. Be sure to prepare and eat them within 48 hours or they will become wilted and less tasty.

Once you retrieve them from the fridge, you're ready to cook! Basically, the best ways to enjoy asparagus are grilled, steamed, or roasted. Serve them with your favorite seasonings, be it citrus, oil and vinegar, herbs and spices, or a light sauce.

1 lb medium asparagus, cut off tough ends and slice the stalks at a diagonal in 2-inch pieces

2 tbs extra virgin olive oil or avocado oil

1 tsp lemon zest

Handful of fresh cilantro

Salt and pepper to taste

Fill a medium saucepan halfway with lightly salted water. Bring to a boil and blanch the asparagus. Lower the heat to maintain a simmer. Simmer for 2 minutes. Remove immediately from heat and drain. Place the hot asparagus in a bowl and add all of the remaining ingredients. Toss and serve.

ROASTED ASPARAGUS AND SAUCE

1 lb fresh asparagus, tough ends cut off

1 tbs extra virgin olive oil or avocado oil

2-4 cloves garlic, minced (to taste)

1 tbs flour

4-6 oz non-dairy beverage, unsweetened

Dash of turmeric

Salt and pepper to taste

Preheat oven to 400 degrees F. Place the asparagus on a baking sheet lined with parchment paper. Sprinkle with salt and pepper. Roast for 15-18 minutes until tender. While they are roasting, saute garlic in a small pot for one minute. Whisk in the flour for an additional one minute, then add most of the non-dairy beverage, salt, pepper, and turmeric. Whisk and bring to a simmer. Remove from heat. Add more nondairy beverage if the sauce is too thick. Drizzle the sauce over the asparagus immediately after taking them out of the oven.

CONNECT TO LEAD

The Loneliness of Being in Command

Leading people can be a heavy burden full of difficult decisions, but you don't have to do it alone

SCOTT MANN

One of my later tours in Afghanistan was as a task force operations officer. My boss, Big Ed, was an amazing officer and an amazing leader. He was responsible for dozens upon dozens of special operations forces, operating in some of the most diverse and complex situations you can ever imagine.

I was fortunate enough to work very closely with this man for years. In combat, I observed how he went through the process of leadership: how he conducted the mission analysis, assessed risk, examined impact, loss, and how he dealt with it all. I watched this man make so many decisions that affected the lives of not just his men and his women, but also their families back home—because sometimes these folks didn't come home when they conducted those missions.

When Big Ed made these decisions, you could see the weight that he carried on his shoulders, and he carried that weight alone. He didn't share that burden. He knew that was his to carry. He knew that was his loneliness of command.

I felt versions of that in my career, though I never led at the scope that Big Ed did. I had my own moments as a commander, and there were times when I had to make hard decisions that affected people's lives.

In some cases, decisions I made in combat meant people didn't come home. It was a very lonely place to be.

Any of us who have to lead face the loneliness of command. Leadership is a personal endeavor, a human endeavor, whether you're leading in a commercial bank, a nonprofit, or as a teacher. Leadership means leading human beings. Often, we're going to have to make difficult, sometimes painful, decisions. There is a weight that we will have to carry, and the burden will be heavy.

The loneliness of command, the weight of leadership, is unavoidable because we're not going to get it right all the time. We're going to make mistakes. There are decisions that I have to make all the time as a business owner and veteran-advocate nonprofit founder that are not easy decisions, but I have to make them for the sake of something bigger than myself.

I think in this age of rapid tempo and transactional focus, one of the things we fail to teach our young leaders as they are coming up in the ranks is that there is a loneliness of command. There is a weight of leadership that one must bear when going through the tough decisions in life. And you cannot outsource it, avoid it, and most certainly cannot deflect it.

I've seen some very senior leaders, lately, try to avoid the loneliness of command. Some avoid it by pursuing popularity



MATEJ KASTELIC/SHUTTERSTOCK

Often, we're going to have to make difficult, sometimes painful, decisions.

with their associates and not making the hard calls. Some avoid it by punting the hard calls to a subordinate to make, or by pretending the situation requiring a decision doesn't exist. None of those options work and none of those options truly serve your people.

You can't avoid the loneliness of command, but you can make it easier to bear. When you have to make these tough decisions as a leader, refer back to the higher purpose—your own or your organization's. Big Ed knew his charter for being in Afghanistan was bigger than himself and our unit. He knew that the decisions he made were an obligation. He had to serve that higher purpose.

Even though we have to endure the loneliness of command, it doesn't mean that we must be isolated. In fact, I believe it's essential that we over-communicate with our people, our peers, and our seniors on what's going on in our lives. The more we can over-communicate, the better.

When you find yourself deep in the trenches of this loneliness, take communication a step further and find yourself a group of like-minded leaders who carry similar burdens.

They may not be in your industry, they may not even be in your organization. In fact, I think that's better. I had a five-person "mastermind" group and we met every few months. They were Dr. Ara Suppiah,

the golf doctor for the Ryder Cup, Jerry Lujan, who coaches high-performing corporate leaders, David Martin, a dynamic, high-impact business consultant, Greg Parsons, a former Marine who runs a wealth management company, and myself.

We're all very different, but we all experience the same loneliness of command and we go through things that only we understand. Yet, we're able to talk about those issues in ways that help us realize we're not alone in that journey. That realization can make a huge difference in the lonely moments of leaders. So get yourself an informal mastermind group who can circle around the table and talk about tough issues.

All those things will help you deal with it, but you can never avoid it. The loneliness of command is part of the necessary burden of leading people and doing the right thing. Leadership is personal. It's uncomfortable. It is, after all, an inherently human endeavor. So don't push away from it. Lean into it, accept it, and lead strong from that place. Your people deserve it.

Scott Mann is a former Green Beret who specialized in unconventional, high-impact missions and relationship building. He is the founder of *Rooftop Leadership* and appears frequently on TV and many syndicated radio programs. For more information, visit [RooftopLeadership.com](#)

Should We MAX OUR HEART RATE During Exercise?

Heart health benefits from moderate to intense aerobic fitness, but there can be a side effect

ANGELA SPENCE & CARLY BRADE

You have your running shoes on, your Fitbit is charged, but now what?

When you exercise, your heart and breathing rates increase, delivering greater quantities of oxygen from the lungs to the blood, then to exercising muscles.

Determining an optimal heart rate for exercise depends on your exercise goal, age, and current fitness level.

Heart rate and exercise intensity share a direct, linear relationship: the more intense the exercise, the higher the heart rate.

When you exercise at the highest possible intensity, your heart will reach maximal heart rate (HRmax), the fastest rate it is capable of beating.

But exercising at an HRmax for every exercise session will not produce efficient fitness results. These high intensities can rarely be sustained, negating the potential benefit of the exercise.

Exercise Makes Hearts More Efficient

Typical resting heart rate can vary quite substantially between people and even within an individual. Around 60 to 80 beats per minute (BPM) for adults is common.

Improving your aerobic fitness reduces your resting heart rate, as the heart becomes more efficient with each beat. An athlete's resting heart rate, for instance, is typically around 40 BPM.

In fact, evidence suggests that long-

term exercise training increases the size of the heart, specifically the left ventricle, a phenomenon known as "Athlete's Heart." A bigger heart means more blood can be pumped with each beat, and fewer beats per minute are required to maintain blood flow around the body. This is a beneficial physiological adaptation allowing athletes to exercise at higher intensities for longer.

Calculating Maximal Heart Rate

There is substantial variation in HRmax. The only true method of determining HRmax is to conduct a maximal exercise test. But HRmax can be estimated using formulas based on age.

The authors of a 2001 study proposed the following revised equation for estimating maximal heart rate:

HRMax = 208 - (0.7 x age)

This means a 45-year-old would have a predicted HRmax of 177 BPM.

Indeed, our genetics can influence actual maximal heart rates from their predicted value. However, HRmax is not a major determinant of exercise or athletic performance. Far more important is our physiological efficiency.

When assessing heart rate, it's also important to take into account the effects of emotions such as excitement or fear, stimulants like caffeine, and circulating hormones like adrenaline, all of which can increase heart rate.

Is exercising at maximal heart rates unsafe?

In short, the answer is no. For most adults, the risk of not doing enough exercise is far greater than that of doing excessive endurance exercise.

When you exercise at the highest possible intensity, your heart will reach maximal heart rate (HRmax), the fastest rate it is capable of beating.

The health benefits of regular exercise are well established, although emerging evidence suggests excessive exercise may not provide extra cardiovascular health benefits.

Likewise, there's a higher chance a sedentary person will experience an acute cardiac event, like a heart attack, during exercise when they're unaccustomed to high-intensity exercise, or they have a pre-existing heart condition. The maximal risk is 0.3 to 2.7 events per 10,000 person-hours.

With less than a third of U.S. citizens meeting the WHO recommended guidelines of accumulating 150 minutes of exercise per week, encouraging regular physical activity continues to be a pervasive public health message.

In terms of assessing risk, an exercise pre-screening assessment with an exercise specialist will allow you to mitigate the rare risk of exercising.

What Happens When We Go 'All Out'

Muscle cells require two key ingredients to function: fuel (glucose) and oxygen.

Muscles rely heavily on blood vessels to deliver the necessary nutrients and oxygen around the body, and also to remove by-products such as carbon dioxide.

The more muscles used in exercise, the more blood is distributed toward the active tissues.

When the intensity of the ex-

ercise is particularly high, the muscles start to produce another by-product called lactate.

Cells also can use lactate as a fuel although if production rate exceeds metabolism, lactate starts to accumulate and can interfere with cellular function.

The point at which this by-product starts to accumulate is termed the "lactate threshold".

Any exercise intensity that can be comfortably sustained is usually below this threshold and will have an accompanying heart rate. As it is much easier to measure heart rate than lactate production, heart rate can be used as a surrogate measure of exercise intensity.

Best Exercise for Heart Rate?

While interval-style exercise training is a popular choice for people who are time-poor, the intermittent nature of the exercise means heart rate will fluctuate, providing not much more benefit than traditional steady-state exercise.

From a scientific perspective, athletes typically use heart-rate ranges to train at specific intensities during aerobic exercises, like cycling or long-distance running. Exercising at certain intensities are known to elicit adaptive responses from the body,

for example, exercising at or below the lactate threshold.

These intensities are called training zones and are expressed relative to HRmax. For instance, a light aerobic training session would be prescribed below 75 percent HRmax, while training at threshold (around 95 percent HRmax) will induce physiological change.

Overall, some exercise is better than no exercise for your cardiovascular health. Accumulating 150 minutes of exercise per week is the minimum requirement for health benefit. Exercising at your maximal heart rate is not necessary to achieve these benefits. Athletes can use training zones, relative to HRmax, to achieve optimal adaptation and enhance endurance performance.

Angela Spence is a senior lecturer in exercise physiology at Curtin University in Australia. Carly Brade is a lecturer at the School of Physiotherapy and Exercise Science at Curtin University. This article was first published on [The Conversation](#).

Pushing yourself during exercise can literally make your heart bigger.

HRMAX 208 (0.7 X AGE)

ARTEM VARNITSIN/SHUTTERSTOCK

Heart Attack and Stroke Risk Increase With Antibiotic Use in Women

According to a recent study, women who take antibiotics over a long period are at an increased risk of heart attack and stroke.

The study, published in the European Heart Journal, found that women aged 60 or older who took antibiotics for more than two months had the greatest risk of cardiovascular disease. A long duration of antibiotic use also was associated with an increased risk if taken during middle age, those aged 40 to 50.

Professor Lu Qi, director of the Tulane University Obesity Research Center, concluded that a likely reason for the increased risk of cardiovascular disease is the imbalance of the microenvironment in the gut that is a side effect of antibiotics. Antibiotics alter the balance of the microbiomes in the gut destroying “good” probiotic bacteria and increasing the prevalence of viruses, and other microorganisms that can cause disease.

“Antibiotic use is the most critical factor in altering the balance of microorganisms in the gut. Previous studies have shown a link between alterations in the micro-biotic environment of the gut and inflammation and narrowing of the blood vessels, stroke, and heart disease,” said professor Lu Qi.

The study looked at 36,429 women who took part in the Nurses’ Health Study, which has been running in the United States since 1976. For this research, they looked at data from 2004 to 2014. The participants were divided into age groups and categorized into four sections: those who had never taken antibiotics, those who had taken them for periods of less than 15 days, 15 days to two months, or for two months or longer.

During the follow-up period of eight years, it was reported that 1,056 participants developed cardiovascular disease. These findings meant that among women who take antibiotics for longer than



Women aged

60

or older who took antibiotics for more than two months had the greatest risk of cardiovascular disease.



As researchers learn more about the critical role of the microbiome, the long-term costs of antibiotic use have begun to reveal themselves.

two months at a time, six women per 1,000 would develop cardiovascular disease, compared to three per 1,000 among women who not taken antibiotics.

Long-Term Use

Looking at the duration of antibiotic use in various stages of life, the study found an association between long-term use in middle age and later life with an increased risk of stroke and heart disease. As women grow older, they are more likely to need more antibiotics, and sometimes for longer periods, which suggests a cumulative effect may be the reason for the stronger link in older age between antibiotic use and cardiovascular disease.

Professor Lu Qi concluded, “This is an observational study, and so it cannot show that antibiotics cause heart disease and stroke, only that there is a link between them. It’s possible that women who reported more antibiotic use might be sicker in other ways that we were unable to measure, or there may be other factors that could affect the results that we have not been able to take account of.”

He suggests, “antibiotics should be used only when they are absolutely needed. Considering the potentially cumulative adverse effects, the shorter time of antibiotic use the better.”

This article was first published on Bel Marra Health.

Researchers Seek Elders’ Advice on Aging Issues

Often the people most affected by age-related issues are the least heard when it comes to policies and treatments

JUDITH GRAHAM

Rachel O’Conor booted up her slides and began posing questions to six older adults sitting around a table: How should primary care physicians support patients and caregivers after a diagnosis of dementia? And what stands in the way of getting adequate support?

“Please speak louder and go slower,” suggested Susanne Smith, a 75-year-old with early-stage Alzheimer’s disease.

Smith belongs to the Bureau of Sages, a group of vulnerable seniors who advise researchers about what matters to older adults, how to involve them in research about aging, and how to communicate with them effectively while doing so. It’s a groundbreaking program: Traditionally, ill, disabled and cognitively challenged older adults have been excluded from research and assumed to be too compromised to offer useful insights.

“The recognition that this population has something meaningful to contribute—that’s really unique,” said Robyn Stone, a former adviser to the Sages and senior vice president of research at LeadingAge, a national organization of nonprofit providers that focus on aging.

Everyone who works with older adults would do well to pay attention.

Sages groups are housed at several locations. At the Lieberman Center for Health and Rehabilitation, a nursing home in Skokie, a Chicago suburb, nearly a dozen residents meet every two weeks to discuss academic studies, issues they encounter in their daily lives and potential research projects. A similarly sized group of frail, homebound seniors in Chicago’s northern suburbs gets together virtually, via the internet.

At Northwestern University’s downtown medical campus, seven adults with dementia gather every couple



Conversations with older adults who face age-related issues are essential to deliver effective care, say researchers.

of months at the Mesulam Center for Cognitive Neurology and Alzheimer’s Disease to offer feedback to researchers.

On this sunny day in mid-April, Jim Butler, 70, acknowledged it took him 18 months to accept a diagnosis of mild cognitive impairment and to speak openly about it. Karen Finesilver, 68, who has Lewy body dementia, stressed the importance of bringing someone along to doctors’ appointments. “When I hear something that makes me nervous, I don’t retain it,” she explained. And Smith spoke of how important it is to feel heard by her physician: “One of the best things is when he actually listens to what I’m saying because a lot of times doctors may know what’s going on but they do not listen.”

O’Conor, an assistant professor at Northwestern’s Feinberg School of Medicine, had started the conversation by asking about problems that patients and caregivers face. After the discussion, she said she would focus more on “what helps people build on their strengths” because “the resilience and positivity of people really stood out today.”

The Bureau of Sages has received two rounds of funding totaling \$500,000 from the Patient-Centered Outcomes Research Institute (PCORI), an organization that sponsors innovative projects

that include patients in setting research priorities, designing research studies, and evaluating their impact.

Unlike occasional surveys or focus groups, a standing group like the Sages can provide “valuable ongoing context about individuals’ lives” that sharpens research and makes it more relevant, said Kristin Carman, PCORI’s director of public and patient engagement.

At the Lieberman nursing home, on another April afternoon, two researchers—a physician and a biomechanical engineer—presented a project they’re working on to nine seniors, most in wheelchairs. Their prototype device would help people with compromised mobility stand up from a sitting position, a task that requires a surprising amount of coordination and strength. “Would I be able to use this [device] if I can’t straighten my leg out all the way?” asked Sharon Koretsky, 73, who has diabetes and severe osteoarthritis and can no longer stand on her own. “If your muscles are atrophied, would this help improve your condition?” wondered Fern Netszky, 76, who has had multiple sclerosis for 35 years and can no longer stand or walk.

Both women use what’s known as a “sit-to-stand lift”—a clunky device that helps people transfer from a bed to a

chair or from a chair to a toilet seat and that requires two aides to maneuver it. Another commonly used device is a “Hoyer lift,” which uses a sling to help people rise.



When I hear something that makes me nervous, I don’t retain it.

Karen Finesilver, 68

“I hate the Hoyer. They pull it between your legs and you lay there like a big sack of potatoes with your butt hanging out,” Koretsky said. Anything that someone could strap on themselves and that could help people get up more easily with only one aide’s help would be a “wonderful idea,” she added.

As other Lieberman residents chimed in, it became clear they wanted help with walking, not just with standing. They wanted to be able to use the device outdoors, as well as inside the facility. And safety was essential. “I would be willing to try this if I was assured I would not fall and if there was enough

protection around me,” Netszky said.

The researchers, who asked not to be identified because they are working on this project outside of their full-time jobs, said they found many of the comments helpful. Older adults are often assumed to be resistant to using technology but this group seemed quite open to technology that could improve their quality of life.

After the meeting, Nancy Weinberg, 96, another participant, described a communication gap between researchers and nursing home residents when the Bureau of Sages began. “They were speaking ‘researchese,’ and I didn’t have any idea what they were talking about. Now they understand we don’t want to hear jargon, and they speak our language.”

With characteristic bluntness, Koretsky said she loved the Sages’ meetings, observing, “It’s the only time people here talk to you like you have a brain left.”

The Lieberman Sages are now trying to persuade researchers at Northwestern to investigate the shortage of certified nursing assistants (CNAs) and the need to better train CNAs—problems faced by nursing homes across the nation.

Amy Eisenstein, director of the Leonard Schanfield Research Institute at CJE SeniorLife in Chicago and the project’s principal investigator, is working to expand the program to other locations, including Miami University in Oxford, Ohio, and the University of Massachusetts Boston. CJE SeniorLife, sponsored by Chicago’s Council for Jewish Elderly, provides a variety of services to seniors and is the Bureau of Sages’ original sponsor.

Materials that can help any organization launch a Bureau of Sages are available at the Council for Jewish Elderly’s website, under the “Resources” section.

“I think that all research on aging needs to include the voices of older adults,” Eisenstein said. “They are experts about their lives, and we need to incorporate their perspectives to make research better.”

Judith Graham is a writer for Kaiser Health News, which originally published this article. KHN’s coverage of these topics is supported by the John A. Hartford Foundation, Gordon and Betty Moore Foundation, and The SCAN Foundation.

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How People Resist Tempting Foods

Strategies people commonly used to limit how much tasty but unhealthy food they ate

JENNIFER GATZEMEIER, LAURA WILKINSON, MENNA PRICE & MICHELLE LEE

It’s happened to most of us—we walk past a restaurant, cafe, or bakery and something catches our attention. A delicious smell wafts out the door and our taste buds start tingling.

With so much cheap and easily accessible food in the Western world, it’s almost unavoidable. Sometimes we don’t even need to have seen or smelled a food to experience the intense desire to eat it. We can get cravings just from a thought crossing our minds.

Research has found that while resisting temptations like these can be very hard, people often do it for reasons such as health and fitness, finances, ethics, and more. But what are the actual strategies that people use to refrain from eating every tasty morsel they see? For our latest study, we

asked a group how they manage to stop themselves from consuming tempting foods and drinks on a daily basis.

There is a wealth of advice available on how to manage food and drink intake. These range from the simple—for example, making a shopping list—to the extreme, such as cutting certain foods out of your diet completely. But our aim was to find out what people actually do to limit their consumption and if they find these strategies helpful.

Resisting Temptation

We spoke to 25 people, who had an average age of 37 and BMIs of between 20 and 33 (healthy weight to obese). In a group discussion, we found that there were four major types of techniques that they used to manage their intake of tempting foods and drinks.

The first focuses on reducing the availability of tempting foods. Our participants said that they found it difficult to make tempting foods unavailable or difficult to access. They locked sweets away, for example, or would not have a store of them in their homes at all. Some of the participants

made a shopping list, bought gro-



ceries for the whole week instead of every few days, or chose a supermarket with limited choices.

We also found that the study participants used different mental strategies to limit their intake. Some said they forbid themselves a certain food because once they start eating a small amount it leads to eating a larger amount. Others took a more flexible approach, allowing themselves to have a treat but actively planning a certain time to eat it.

In addition, some participants told us how they use exercise as a strategy to manage their consumption of tempting foods. Some found that exercise reduced their hunger and desire to eat tempting foods, while other participants didn’t want to “undo their good work” by eating tempting foods.

Finally, the participants said they managed their consumption by changing the formulation of their meals. The most frequently used strategies here included planning meals for a particular time and making the food themselves. They said it is important for them to be able to choose the ingredients going into a meal, the portion size, and the time they eat it.

In addition to these four themes, we also found that the participants did not use the strategies in isolation. They used them together to help resist temptation in the moment and/or avoid being tempted in the first place, too. These strategies were not only used by people who identified themselves as active dieters either—the participants with BMIs in the healthy range also regularly employed them to manage their eating.

Ultimately, these findings show that there is no one way that people can easily manage food consumption. If we want people to be successful in reaching their goal of managing their intake of tempting foods and drinks—whatever their motivation may be—then the above strategies can help them.

But changes to the environment can also offer a helping hand. One example of this is stocking workplace vending machines with healthier options.

In reality, there is unlikely to be a quick and easy way to change our environment, but efforts to make healthier options more accessible are a good place to start. People need to be able to go about their day without having to constantly manage temptation in response to ever-present reminders of tasty foods and drinks.

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We can get cravings just from a thought crossing our minds.



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Tylenol’s Empathy-Killing Properties *CONFIRMED*

New study confirms early findings, raising concerns about how Tylenol could be changing our relationships

SAYER JI

Two clinical studies have revealed that Tylenol kills more than pain, it can also dull human empathy. Its widespread usage raises concerns about how this soul-deadening property could affect our broader social relationships. This news comes after other studies have revealed that over-the-counter painkillers once considered relatively benign have other dangerous side-effects. These findings suggest synthetic, patented chemicals have profound unintended, adverse health effects that take decades to be recognized, long after exposed populations have suffered profoundly, sometimes for generations. The risks of these pharmaceuticals are sometimes several orders of magnitude higher than their natural alternatives, and often far less effective than lifestyle changes like eating better food and going for an afternoon stroll. Over-the-counter painkillers have become classic examples of this, with so-called “low-dose” aspirin no longer considered safe enough to use for the primary prevention of cardiovascular disease and stroke, ibuprofen causing tens of thousands of deaths each year due to its recently discovered cardiotoxicity, and Tylenol’s adverse effects on our psychological constitution, not to mention its well-established extreme toxicity to the liver.

The first study on Tylenol’s psychosocial side effects came out in 2015 when groundbreaking results found that Tylenol (known by the chemical names acetaminophen and paracetamol) not only blunts pain, but has potent psychotropic side effects, such as blunting both positive and negative emotional stimuli. In psychiatric terminology this is known as “affect flattening.” A flat affect, meaning a significantly diminished emotional expression, is considered a hallmark symptom of schizophrenia. Now, a new study published last month in the journal *Frontiers of Psychology*, titled, “A Social Analgesic? Acetaminophen (Paracetamol) Reduces Positive Empathy,” further confirms that this extremely popular drug (billions of doses taken annually) directly interferes with the experience of human empathic connection; specifically, reducing empathy for other people’s suffering. In the new study, researchers tested the hypothesis that Tylenol impaired affective processes related to the experience of empathy with a double-blinded, placebo-controlled trial consisting of 114 undergraduate students, who randomly received either 1,000 mg of the drug or a placebo. One hour after administration, subjects read scenarios about the uplifting experiences of other people (different protagonists within the stories), and their responses were evaluated with the aim of determining their ability to empathize. “Results showed that acetaminophen reduced personal pleasure and other-directed empathic feelings in response to these scenarios,” the researchers reported. “These findings suggest that (1) acetaminophen reduces affective reactivity to other people’s positive experiences and (2) the experience of physical pain and positive empathy may have a more similar neurochemical basis than previ-

One quarter of Americans take a drug containing acetaminophen every week.

Could Tylenol be contributing to anti-social behavior in exposed populations?



ously assumed,” wrote the researchers. “Because the experience of positive empathy is related to prosocial behavior, our findings also raise questions about the societal impact of excessive acetaminophen consumption.” The researchers hypothesized that key brain areas involved in the psychological effects of acetaminophen are likely to be the anterior insula (AI) and anterior parts of the cingulate cortex (dACC). “Acetaminophen reduces activation in these areas during physical and emotional pain,” they reported. Previous research has pointed out the centrality of these brain areas for positive empathy. “Both positive and negative empathy may rely on AI and ACC,” wrote the researchers. “Because acetaminophen appears to blunt responsiveness for one’s own pain and for the pain of others in brain areas overlapping with those involved in positive empathy, we hypothesize that acetaminophen may also impair people’s ability to experience empathy for others’ positive experiences.” The researchers say their findings have important practical implications, noting that positive empathy provides part of the “social glue” that allows us to build interpersonal bonds. “As such, taking pleasure from the good fortune of others fosters interpersonal connection, trust, and—ultimately—

prosocial behavior,” they write. Given that around one-quarter of Americans take a drug containing acetaminophen every week, it is possible that these side effects could be changing the social fabric of the country. The researchers note that there is currently no research on the relationship between acetaminophen usage and reduced prosocial behavior in the United States. “This research gap needs filling,” they write. “Overall, the present research shows that acetaminophen reduces empathy for the pleasurable experiences of other people. These findings not only constitute an important step forward in our understanding of the affective mechanisms underlying the experience of positive empathy but also raise concern about the societal impact of excessive acetaminophen consumption.”

Could Tylenol be contributing to anti-social behavior in exposed populations? Research like this indicates that this is a serious risk in society at large. Like psychiatric medications, with their well-known association with violence against self and other, drugs designed to blunt pain on a merely symptomatic physical or psychological, instead of addressing the root causes of the suffering, can lead to behaviors that demonstrate a lack of compassion and consideration for others. The silver lining is that information like this, as well as information about natural alternatives to pharmaceuticals, is finally getting the research and attention it needs.

Sayer Ji is the founder of *Greenmedinfo.com*, a reviewer at the *International Journal of Human Nutrition and Functional Medicine*, co-founder and CEO of *Systome Biomed*, vice chairman of the board of the *National Health Federation*, steering committee member of the *Global Non-GMO Foundation*.



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