

Health



COGNITIVE TREAT

New study finds link between chocolate and brain power

STORY BY ROBERTO A. FERDMAN ■ ILLUSTRATION BY SHAFFER GRUBB

In the mid-1970s, psychologist Merrill Elias began tracking the cognitive abilities of more than a thousand people in the state of New York. The goal was fairly specific: to observe the relationship between people's blood pressure and brain performance. And for decades he did just that, eventually expanding the Maine-Syracuse Longitudinal Study (MSLS) to observe other cardiovascular risk factors, including diabetes, obesity and smoking. There was never an inkling that his research would lead to any sort of discovery about chocolate.

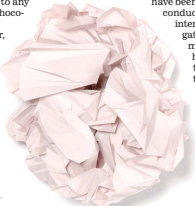
And yet, 40 years later, it seems to have done just that.

Late in the study, Elias and his team had an idea. Why not ask the participants what they were eating, too? It wasn't un-

reasonable to wonder if what someone ate might add to the discussion. Diets, after all, had been shown to affect the risk factors Elias was already monitoring. Plus, they had this large pool of participants at their disposal, a perfect chance to learn a bit more about the decisions people were making about food.

The researchers incorporated a new questionnaire into the sixth wave of their data collection, which spanned the five years between 2001 and 2006 (there have been seven waves in all, each conducted in five-year intervals). The questionnaire gathered all sorts of information about the dietary habits of the participants. And the dietary habits of the participants revealed an interesting pattern.

"We found that



"We found that people who eat chocolate at least once a week tend to perform better cognitively." Merrill Elias • Maine-Syracuse Longitudinal Study

MOVE MOUSE TO OTHER SIDE TO REDUCE SHOULDER STRAIN

BY ALISON BOWEN

For many of us, sitting at a desk during the day means a lot of movement with a mouse.

But often, this means moving your right shoulder back, which can create an imbalance.

Dr. Robin Roshears, who owns 100 percent Chiropractic in Addison, Texas, often sees patients with shoulder and neck issues.

"They come in, and I say, 'Do you work at a desk all day?'" she said. She, herself, has had two shoulder surgeries.

"It definitely is an issue for me on a daily basis," she said.

Using one side constantly can create issues with the rotator cuff, for example.

She suggests switching your mouse from side to side — so if you use your mouse on the right side, put it on the left and vice versa. Most



Using your mouse every day with the same hand can create imbalance in movement that can strain shoulder and neck muscles.

computers have a setting that can make a mouse more left-hand friendly, she said.

"It takes a little bit to get used to, but if you're going back and forth, you're not creating an imbalance," she said.

Keyboard placement is also important.

"We're reaching forward, our arms are coming forward, our necks are moving forward," she said.

Humans weren't designed to be straining forward constantly, and most people are too far from their keyboard.

Ideally, a keyboard should be in a

place where arms are at sides, with your elbow at a 90-degree angle while pressing the keys.

She said that you might not notice strain all the time, and it is "a slow, progressive change."

"You're slowly losing strength, you're slowly losing range of motion, all because we're not in the correct position and posture that we should be," she said.

She said these simple fixes, including elevating your screen to eye level, can benefit your health in the long run.

Bowen writes for the Chicago Tribune.

FOR WOMEN, CHIN-UP IS ELUSIVE BUT WORTHWHILE

Muscle mass limitations require months of training

BY JAMES FELL

One day in my early teens, it seemed as if my ability to do chin-ups increased exponentially overnight. The victory was dampened by a crackling voice and ache.

As a man, I take the ability to lift my entire body weight so my chin is above a bar for granted. At my most out of shape, when I was sedentary and tipping the

scales toward obesity, I could still do three chin-ups.

But for a woman to do even a single chin-up, she needs to work for it, said

Easton strength and conditioning coach Tony Gentilcore. And the work, Gentilcore added, is worth it.

"I consider it an important fitness goal for women," said Gentilcore, who trains Major League Baseball

players as well as many female clients. The latter often have an aesthetic goal in mind, and the chin-up helps them achieve that, too.

The training helps sculpt muscles in a way many find appealing, and "weight loss can be part of the discussion because it's less weight to pull up over the bar."

Once his clients have mastered a chin-up, it's a skill they don't want to lose.

Instead, they want to go for two chin-ups. Then more.

Lord Andrews, 46, just achieved her first full chin-up, and it was six months in the making.

"I never had the upper body strength to do anything; I couldn't even climb a tree," said the interior designer from Calgary, Canada, who hired a trainer in January to help her do chin-ups.

Why is it women need to work so hard to achieve even a single chin-up?

"It's not the quality of the muscle, it's the total

SEE CHIN-UP • E2

BRAIN

FROM **E1** people who eat chocolate at least once a week tend to perform better cognitively," said Elias. "It's significant — it touches a number of cognitive domains."

The findings, chronicled in a new study published earlier this year, come largely thanks to the interest of Georgina Crichton, a nutrition researcher at the University of South Australia, who led the analysis. Others had previously shown that eating chocolate correlated with various positive health outcomes, but few had explored the treat's effect on the brain and behavior, and even fewer had observed the effect of habitual chocolate consumption. This, Crichton knew, was a unique opportunity.

Not only was the sample size large — a shade under 1,000 people when the new questionnaire was added —

but the cognitive data was perhaps the most comprehensive of any study ever undertaken.

In the first of two analyses, Crichton, along with Elias and Ala'a Alkerwi, an epidemiologist at the Luxembourg Institute of Health, compared the mean scores on various cognitive tests of participants who reported eating chocolate less than once a week and those who reported eating it at least once a week. They found "significant positive associations" between chocolate intake and cognitive performance, associations which held even after adjusting for various variables that might have skewed the results, including age, education, cardiovascular risk factors and dietary habits.

In scientific terms, eating chocolate was significantly associated with superior "visual-spatial memory and (organization), working memory, scanning and tracking, abstract reasoning, and the mini-mental state examination."



Researchers didn't study whether various types of chocolate had different impacts on cognitive abilities.

But as Crichton explained, these functions translate to everyday tasks, "such as remembering a phone number, or your

shopping list, or being able to do two things at once, like talking and driving at the same time."

In the second analysis, the researchers tested whether chocolate consumption predicted cognitive ability, or if it was actually the other way around — that people with better performing brains tended to gravitate toward chocolate. To do this, they zeroed in on a group of more than 300 participants who had taken part in the first four waves of the MSLS as well as the sixth, which included the dietary questionnaire. If better cognitive ability predicted chocolate consumption, there should have been an association between the people's cognitive performance prior to answering the questionnaire and their reported chocolate intake. But there wasn't.

"It's not possible to talk about causality, because that's nearly impossible to prove with our design," said

Elias. "But we can talk about direction. Our study definitely indicates that the direction is not that cognitive ability affects chocolate consumption, but that chocolate consumption affects cognitive ability."

Why exactly eating chocolate is associated with improved brain function Crichton can't say with absolute certainty. Nor can Elias, who says he expected to observe the opposite effect — that chocolate, given its sugar content, would be correlated with stunted rather than enhanced cognitive abilities. But they have a few ideas.

They know, for instance, that nutrients called cocoa flavanols, which are found naturally in cocoa, and thus chocolate, seem to have a positive effect on people's brains. In 2014, one concluded that eating the nutrient can "reduce some measures of age-related cognitive dysfunction." A 2011 study, meanwhile found that cocoa flavanols "posi-

tively influence psychological processes." The suspicion is that eating the nutrient increases blood flow to the brain, which in turn improves a number of its functions.

Chocolate, like both coffee and tea, also has methylxanthines, plant-produced compounds that enhance various bodily functions. Among them: concentration levels. A number of studies have shown this, including one in 2004, and another in 2008.

Experts have known about the wonders of eating chocolate for some time. A lot of previous research has shown that there are, or at least could be, immediate cognitive benefits from eating chocolate. But rarely, if ever, have researchers been able to observe the impact of habitual chocolate eating on the brain.

The take-away isn't that everyone should rush to stuff their faces with the magical sweet. "I think what we can say for now is that you can eat small amounts of chocolate without guilt if you don't substitute chocolate for a normal balanced healthy diet," Elias said.

The research, he says, isn't finished yet. There are more questions to ask, more answers to pursue.

"We didn't look at dark chocolate and lighter chocolate separately," he pointed out. "That next study could tell us a lot more about what's going on."

"We also only looked at people who were eating chocolate never or rarely versus once a week or more than once a week," he added. "I'd really like to see what happens when people eat tons of chocolate."

Ferdman writes for The Washington Post.



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CALENDAR SPOTLIGHT

31 Aug.
Senior Health Fair
Waterford Terrace Retirement Community hosts this annual health fair that includes more than 30 local businesses, health care providers and community organizations. 2 to 5 p.m. Wednesday, Waterford Terrace Retirement Community, 5580 Aztec Drive, La Mesa. Free admission. Information: (619) 463-2111.

02 Sept.
Memories in the Making
Join Alzheimer's San Diego for a unique class that encourages individuals with Alzheimer's disease or another dementia to express themselves, share memories and connect with others through art. Held the first and third Friday of the month, 10 to 11:30 a.m. Friday, 6532 Conroy Court, San Diego. For more information and to RSVP call (858) 452-4400.

07 Sept.
Clean & Lean detox and weight loss
Ready for a reset? Stress, modern food and environmental toxins impact our health, hormones and metabolism. Join us to get lean, feel vibrant starting Sept. 7. Get supplies, acupuncture ear buds, medical supervision, support and more. Pacific Pearl La Jolla, 6919 La Jolla Blvd., La Jolla. RSVP by 8/30. 858-459-6919

10 Sept.
Disaster Preparedness Expo
Natural disasters can strike quickly and without warning. Attend Sharp's free community event to learn how to protect yourself and your loved ones in case of an emergency. 10 a.m. to 2 p.m. at Balboa Park, 1500 Park Blvd. at President's Way, San Diego. Learn more at sharp.com/health-class-and-preparedness-expo-1753 or 1-800-82-SHARP.