

You can't outrun your fork, but that doesn't mean exercise can't help you lose weight or change your diet

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Credit: Anete Lusina from Pexels

Every January, millions of individuals make New Year's [resolutions](#) to lose weight or eat healthier, if not both. To achieve this goal, many

individuals will begin strenuous exercise programs that incorporate too much exercise [too soon](#), leading to fitness burnout or injury. Overtraining can actually prevent you from losing weight.

As a health neuroscientist, I have been studying the [brain](#) and cognitive mechanisms underlying dietary behaviors and the role exercise plays in helping people improve their diets for over 10 years.

Energy and exercise

The truth is that you simply cannot [exercise away](#) a poor diet and expect to lose weight (if that is your goal). Humans are very good at conserving energy and will account for any calories burned through exercise by consuming more calories later in the day or by being [less physically active](#) throughout the rest of the day.

That being said, you can—and should—use exercise to help you lose weight and maintain your weight loss. But not to offset calories consumed.

If you are looking to lose weight, the only way to do it is by controlling your calorie intake. The best and most effective way of doing that is limiting the consumption of ultra-processed foods—typical "junk foods" and fast-food meals. Even if you are not trying to lose weight, reducing ultra-processed food consumption is good for mental and physical health.

Regular exercise makes it easier to do this by improving the brain and cognitive processes that help us regulate junk food consumption, and by reducing stress. And the best part is, as little as 20 minutes of brisk walking is all you need to get the beneficial effects.

Why we over-consume junk foods

We know that we shouldn't overeat candy, cookies, cake and chips, or drink sugary sodas. Diets that are high in these ultra-processed foods cause us to [gain weight](#). But they are just so hard to resist.

Ultra-processed junk foods have been designed to be as tasty and rewarding as possible. When we are exposed to media advertisements, or actual food items (for example, [chocolate bars](#) in the checkout lane at grocery stores), [brain activity](#) in regions associated with [reward processing](#) increases. This reward-related brain activity results in increased food cravings and the drive to eat, even when we are not hungry.

A brain region known as the [dorsolateral prefrontal cortex \(dlPFC\)](#) helps us limit the consumption of ultra-processed foods by both decreasing activity in these reward regions to reduce food cravings and by initiating the [cognitive processes](#) needed to exert conscious control over food choices.

When using [functional brain imaging](#) to examine brain responses, neuroscientists have shown that increased activity in the dlPFC helps us control [food cravings](#) and select healthier food items by decreasing activity in the reward regions of the brain. Conversely, when [activity in the dlPFC is decreased](#), we have a harder time resisting the temptation of appealing junk foods and will consume more snack foods.

Exercise can help regulate food consumption

Exercise boosts brain plasticity, which is the brain's [ability to adapt](#) its functions based on new input. Boosting brain plasticity makes it easier to change our habits and lifestyle. More and more evidence has shown that

regular physical activity can increase [prefrontal brain function](#) and improve cognition.

These exercise-induced increases in prefrontal brain function and cognition makes it easier to regulate or limit our consumption of junk foods. And we can see the effects with as little as 20 minutes of moderate intensity exercise.

I have shown that people consume less ultra-processed food such as chips or milk chocolate [after 20 minutes](#) of moderate-intensity exercise (in our study, this was a brisk walk at 5.6–6.1 kilometers per hour on a treadmill with a slight incline). Research has also shown that both a single session of [high-intensity interval training](#) and a 12-week high-intensity aerobic exercise program can reduce preferences or appetite for high-calorie junk foods. Similar effects are seen when people engage in moderate [aerobic exercise or strength training](#).

The key takeaway here is that regular exercise can reduce how much people want junk foods and improve their ability to resist the temptation of these appealing foods by improving brain function and cognition. This makes it easier to limit the consumption of these foods to achieve healthier eating and weight loss goals.

Exercise also helps reduce stress

When people are stressed, the body releases a [hormone called cortisol](#), which activates what is known as the fight-or-flight response. When cortisol levels are high, the brain thinks it needs more fuel, resulting in increased cravings for sugary or salty ultra-processed foods.

Participation in [regular exercise](#) or a single bout of exercise reduces perceived stress levels and [cortisol levels](#). Exercise also helps [reduce unhealthy drink and food consumption](#) when people are stressed.

Stress can also impact how the brain functions. Research has shown that stress can result in decreased activity in the [prefrontal cortex](#) and increased activity in [reward regions](#) of the brain when looking at pictures of [food](#). This makes it harder to resist the temptation of appealing junk foods.

By offsetting the impact of stress on prefrontal brain function, exercise makes it easier to maintain your goals of healthier eating or reducing junk [food consumption](#). Twenty minutes of brisk walking can help the prefrontal cortex recover from temporary changes in activity, like the ones seen when people are stressed.

Next time you are feeling stressed, try going for a brisk 20-minute walk. It could prevent you from stress-eating.

What exercise is best?

Researchers often get asked what is the best exercise and how much exercise to do.

At the end of the day, the best exercise is one you enjoy and can sustain over time. High-intensity interval training (HIIT), aerobic exercise, meditation and mindfulness, yoga and strength training are all effective in helping improve diet by targeting prefrontal brain function and reducing stress.

If you are beginning a new [exercise](#) routine this new year, ease into it, be kind to yourself, listen to your body and remember that a little goes a long way.

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