

New Research Discovers a Link Between Gut Health and Exercise Motivation

You have probably you are probably somewhat aware that a healthy microbiome (also known as your “gut”) is important to your health, but what exactly does that mean?. Your unique microbiome consists of trillions of microorganisms that include bacteria, fungi, parasites, and viruses, most of which generally coexist peacefully in your small and large intestines and promote the smooth daily operation of your immune system, your muscles, and other bodily functions. There is a growing area of research on inter-organ communication within the body which focuses on problems that can occur if the microbial equilibrium in the gut is disturbed.

Groundbreaking research on this subject was published in December, 2022 in the journal Nature. It focuses on the link between gut health and exercise motivation. As is often the case with this type of research, the preliminary studies were conducted using mice as subjects, but there is ongoing research on humans which, if it confirms these results, could help to explain why about half of Americans are basically sedentary, unable to find the motivation to engage in even the minimum recommended 150 minutes per week of moderate physical activity.

Gut bacteria normally monitor the contents of the colon and signal the brain whether the body has enough food to fuel a workout. When mice in the recent study were dosed with broad-spectrum antibiotics that killed off some of their gut bacteria, the distance the mice ran dropped by half. When they were taken off the antibiotics, the mice mostly returned to their prior performance levels. While the mice were being treated with antibiotics, the researchers studied the part of the brain responsible for motivation and found reduced cellular activity in the dopamine receptors. Dopamine is what gives you a sense of pleasure and motivates you to repeat the pleasurable activity.

Earlier research has established that if an activity is repeated with the dopamine function blocked, the motivation to repeat the activity will progressively weaken. This is what appears to have happened to the mice in the present study; their microbiome was disturbed by the antibiotics with the result that their brain’s dopamine receptors were temporarily impaired. Even though they had enough food to be active, the mice were apparently less motivated to be active--even though they had adequate food.

How can you keep your microbiome healthy?

The scientific literature has recognized that fermented foods generally are “gut-friendly” because they contain beneficial live microorganisms. If you incorporate into your diet fermented foods like yogurt, kefir, pickled vegetables, tempeh, kombucha tea, kimchi, miso, and sauerkraut, it should improve the health of your microbiome and it might have an impact on your motivation to exercise. In addition, eating a plant-based diet, eliminating or minimizing sugar and processed foods, minimizing the use of antibiotics, getting a good night’s sleep, and minimizing stress are known to be favorable to the health of the gut.

As part of the current research into human exercise motivation, one group of researchers is analyzing the gut microbiomes of people with varying levels of exercise motivation, and another group is analyzing the microbiome’s impact on high-intensity interval training. This type of research can take years to complete, so while we wait for the results why don’t *you* experiment and try to improve the health of *your* microbiome-- and see if you find yourself wanting to do more exercise.