Not Motivated to Exercise? A Lack of This Hormone Could Help Explain Why

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For many people, sticking to a decision to work out consistently can be one of the hardest New Year's resolutions to keep. New findings published in the journal Cell Metabolism show that a lack of dopamine, a feel-good chemical produced by the brain, might affect our desire to get up and move and help explain why many individuals end up being so sedentary, Medical News Today reports.

For the study, researchers fed a group of eight mice a normal diet and placed another group on a high-fat diet for 18 weeks. At week two, the mice on the high-fat diet started to gain significantly more weight than the control group. As expected, by week four, the obese mice were also less energetic than their leaner counterparts when they did engage in activity.

Interestingly, scientists found that changes in movement didn't correlate with body weight gain in the rodents. In fact, researchers noted that mice on the high-fat diet moved less before they gained the majority of their weight. This suggested that the weight gain wasn't the reason the lab animals were less active.

Instead, findings showed that their bodies seemed to have trouble signaling dopamine, which stimulates the area of the brain associated with feelings of pleasure, motivation and reward. Scientists theorized that a deficiency of these dopamine receptors, called D2Rs, contributed to physical inactivity in obese mice. Researchers said this inactivity could be more "a consequence than a cause of obesity."

"In many cases, willpower is invoked as a way to modify behavior. But if we don't understand the physical basis for that behavior, it is difficult to say that willpower alone can solve it," wrote Alexxai V. Kravitz, PhD, of the Diabetes, Endocrinology and Obesity Branch of the National Institute of Diabetes and Digestive and Kidney Diseases, and the study's lead author.

Kravitz mentioned that he'll conduct future research to further examine the connection between diet and dopamine signaling and whether unhealthy eating can affect the body's ability to trigger this essential hormone. He also hopes this research will help to relieve some of the stigma faced by people suffering from obesity.

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