

Why do I find it more difficult and tiring when I take my walk on a treadmill?

Many people, including me, find a treadmill workout more draining than the same activity on a sidewalk or track. In a [2012 experiment](#), runners were asked to jog on a track while rating how difficult the exercise felt. Then they hopped on treadmills without speed displays and were told to set the machine to a pace that felt the same as what they had just run. Almost all chose a speed that was much slower. On the treadmill, this gentle pace felt as difficult as swifter running on the track.

But scientists are unsure why treadmill exercise feels harder. Most people's [biomechanics are the same](#), whether they are on a treadmill or the ground, studies show. And where there are differences, the advantage would seem to reside with the machine. Treadmill jogging is less jarring than running on the ground, for instance. A [2014 study](#) shows that we strike the ground with about 200 percent of our body weight while running on the track and only 175 percent of our body weight when we are on a treadmill.

So the most likely explanation for any drudgery associated with treadmill exercise is psychological. Treadmills are indoor machines, and many studies show that people generally prefer outdoor workouts. In [various experiments](#), people have reported experiencing less fatigue, more vitality and greater pleasure after walking outside compared with on an indoor treadmill.

Also, treadmills typically provide a walk to nowhere, which may be demoralizing. In a [study published last year](#), volunteers who set out to walk a course that had no clear finish line felt more fatigued afterward than when they covered the same distance with an obvious finish line ahead on which to focus.

So the lesson may be that, if you can, find a treadmill with a monitor and video programming showing an outdoor walking course with a beginning and, most important, an end.

Expensive Drugs Work Better Than Cheap Ones *By* [NICHOLAS BAKALAR](#)

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Expensive drugs work better than cheap ones — or at least some people firmly believe they do.

Researchers told 12 patients with Parkinson's disease that they were testing two drugs, one costing \$100 and one \$1,500 per dose. The drugs contained the same dose of the same medicine, they explained, but the manufacturing processes were different, and they wanted to see if they worked equally well. [The study was published by the journal Neurology.](#)

What the subjects did not know is that they all received an identical injection of a plain saline solution.

The "expensive" placebo worked significantly better, producing a two-fold improvement compared with the "cheap" one. The effect was apparent not only in tests of physical ability, but also as measured by brain imaging. In fact, the effect of the expensive placebo was not significantly different from that of levodopa, the most effective medication for Parkinson's disease. Levodopa acts by raising levels of the neurotransmitter dopamine in the brain.

"One of the reasons why the effect is so large is that it's mediated by dopamine," said the lead author, Dr. Alberto J. Espay, an associate professor of neurology at the University of Cincinnati. "We make more dopamine when we have heightened expectations of efficacy."

When the subjects were told the true nature of the study, the researchers write, the reactions ranged from incredulity to astonishment.

Sugary Drinks Tied to Earlier Menstruation *By* [NICHOLAS BAKALAR](#)

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Here is another mark against sugary drinks: A new study has found that drinking them is associated with lowered age of menarche.

Age of first menses has decreased substantially since the early 20th century, and studies have shown that younger age of menarche is associated with increased risk of breast and endometrial cancer in later life.

The study, published online in Human Reproduction, used data on 5,583 girls ages 9 to 14 who had not yet attained menarche at the start. They filled out diet questionnaires yearly from 1996 to 1998. By 2001, 159 still had not yet had their first period.

After controlling for birth weight, maternal age at menarche, physical activity, and many dietary and behavioral factors, they found that girls who drank one-and-a-half 12-ounce cans a day of nondiet soda or sugared iced tea had their first period an average of 2.7 months earlier than those who drank less than two cans a week.

The lead author, Karin B. Michels, an associate professor of epidemiology at Harvard, said that the contribution of sugary drinks to early menarche was independent of the well-known contribution of obesity.

"Our findings are robust," she said, "and not dependent on body mass index. Sugared beverages are not healthy to begin with, and there should be heightened attention to avoiding them."