Dear Alice,

Why is it I can always run a greater distance on a track than I can on a treadmill? On a track, I can run 5 or 6 miles, but on a treadmill, I can only go a maximum of 3 or 4, then I tucker out. Is it because I get more bored on a treadmill, or is there a more physical explanation?

Answer

Dear Reader,

First off, it's not clear if you are running on an indoor or outdoor track. For the sake of this answer, let's assume you run outdoors when you do your track runs. There may be some slight physical differences between how your body expends energy running on a track versus a treadmill.

- The treadmill belt offers some help by pulling your feet back underneath your body, so you are potentially exerting less energy to move your feet and legs than if you were not on a treadmill. However, running stride may change depending on jogging geography. Studies have shown that many runners shift their stride when running on a treadmill. There is a chance that these changes may contribute to your slumping stamina. Subconscious attempts to correct balance on the revolving surface of the treadmill may also cause a runner to increase the amount of time his or her support leg is in contact with the belt, which, in turn, may decrease his or her forward lean. This may result in a runner spending more energy on moving up and down rather than forward, potentially leading to a quicker sap on energy.

- When you run indoors on a treadmill, you do not have to overcome wind resistance. The lack of wind means you'll spend less energy running four miles on a treadmill than you will when you run four miles outdoors. However, it may depend on how fast you are running. For the average person, running five to nine miles per hour (mph) will result in little difference. Some studies say outdoor running expends up to five percent more calories; if you run faster than nine mph, running outdoors could utilize up to ten percent more calories because you are working harder against wind resistance. Other studies say there's no difference. One study demonstrated the way to balance energy use between indoor and outdoor running is to set the treadmill at an incline (or grade) of one percent.

- Running indoors maintains or offers stable elements. Runners not only avoid wind, but
also other potential natural elements, such as cold air, rain, or sand (if you run on a beach), which demand extra energy. The stability offered by a treadmill, however, does not necessarily mimic reality. On a treadmill you consistently run at the same pace. When outside, you may subconsciously slow down as your body tires, allowing you to run farther since you’re exerting less energy. If you haven't already done so, use a stopwatch to measure your outdoor running speed to see if this is the case.

- Running on a treadmill versus pavement (the composition of the track surface you run on is unclear) provides a softer surface, making it a little easier for your joints. People with knee pain or soreness might opt for a treadmill versus the road outside for this reason.

- Though running on a treadmill may offer these benefits plus others, the psychological benefits of running au naturel may be contributing to your feelings of fatigue. Psychological cues from running outdoors, such as feeling wind against your face or gaining motivation from running with or around other people may make runners feel like they're making progress. On a treadmill, there is also the option to track the distance, speed, and other characteristics of your workout which may subconsciously cause you to feel tired ("wow, I'm running really fast/far!").

Your boredom theory may certainly be contributing to feeling like you're running on empty. Without the need to worry about navigating different paths, terrains, or natural elements, treadmill runners may have more of an opportunity to think about how tired they are. Some people find that being distracted may help them fight this and run for a longer duration. Sports and exercise psychologists often refer to the "distraction hypothesis" as an explanation for the stress/anxiety reducing effects of exercise. Running, in this case, gives someone a time-out from daily stressors or worries by diverting attention. Some people enjoy running on a treadmill because they can watch television, listen to music, or just zone out and run. Others prefer running outdoors because they are distracted by the scenery, other people, the weather, varying terrain, and/or avoiding traffic.

The next time you run on a treadmill, if possible, position yourself in front of a television or listen to your favorite music to test this "distraction hypothesis." See if you can run for a longer period of time. Other factors that contribute to how a person feels when s/he runs include the food(s) s/he has eaten, how well s/he has slept, and/or whether or not s/he is properly hydrated. Every day is a different day for our bodies, but if someone is a consistent runner and has fairly consistent lifestyle behaviors, it may be that their enjoyment of the outdoors is what fuels their running. Though track and treadmill running both offer many of the same benefits, finding out what works best in your workout routine will lead to a more satisfying experience.

Alice!

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Last reviewed on:
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