

Active video games can have similar health benefits to jogging

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Researchers found that playing active video games had similar beneficial effects on the body as traditional forms of exercise. Credit: University of Bath

Active video games have similar positive health effects on the body as traditional exercises, such as jogging on a treadmill, according to a new study. The researchers say these games could be used by type 1 diabetics as a more enjoyable way to stay active and manage their condition.

Whilst sedentary screen time spent playing [video](#) games is often blamed for causing obesity, [high blood pressure](#) and diabetes, new research suggests that certain video games could encourage players to be more active.

Researchers from Brazil and the U.K. ran a randomized trial to investigate the physiological effects of 'active' video games, or exergames, where the gamer uses body movements to control the game and score points.

They measured the cardiovascular effects, including [heart rate](#), [blood pressure](#), efficiency of oxygen consumption (referred to as double product), and endothelial function (for maintaining blood fluidity), as well as recording enjoyment levels of volunteers with type 1 diabetes after either playing [active video games](#) or running on a treadmill with moderate intensity.

They took readings immediately after, 30 minutes after and 24 hours after the activity, repeating in twice-weekly sessions for three weeks.

Their results, published in *Games for Health Journal*, found that playing active video games gave very similar physiological effects to the traditional treadmill exercising, and [blood glucose levels](#) dropped to safe levels following both types of exercise.

The main difference the researchers found was that participants found the video games much more motivating and enjoyable than traditional exercise. The game element of scoring points, earning badges and being rewarded for effort also helped encourage the participants to repeat the exercise and try and improve their performance over time.

Dr. Pooya Soltani, researcher at CAMERA, based at the University of Bath, said: "Exercise is already recommended by doctors as a drug-free

way of managing diabetics' blood sugar levels, along with diet, but it can be difficult for people to stick to exercise routines long term.

"Whilst it's not the magic solution to keeping active, we found that players enjoyed playing exergames way more than running.

"This is really important when adherence to traditional physical activities is generally low in diabetic patients."

The researchers ran the trial using the Kinect Adventures game with the Kinect system on Xbox, which has a camera that tracks the players' movements in the game.

The researchers hope that whilst it's not a direct replacement for traditional exercise, using exergames might encourage patients to do be active more often.

Dr. Jorge Brito-Gomes, a researcher at Universidade Federal do Vale do São Francisco, Brazil, said: "Playing exergames could help some diabetics in managing a lifelong condition.

"Gamifying exercise not only takes your mind off the exertion, but working towards rewards in the [game](#) or even competing against friends helps motivate you to keep coming back to do more."

The team will next investigate the benefits of balance games and VR effects on balance for diabetics who experience foot problems associated with their condition.

Dr. Brito-Gomes appreciates Dr. Soltani, and the University of Bath for the scientific partnership and said: "I genuinely hope that the results of this study stimulates diabetic patients to [exercise](#) more with higher enjoyment levels and helps them manage their illness better."

More information: Jorge Luiz de Brito Gomes et al, Cardiovascular and Enjoyment Comparisons after Active Videogame and Running in Type-1 Diabetics: A Randomized Crossover Trial, *Games for Health Journal* (2021). [DOI: 10.1089/g4h.2020.0209](https://doi.org/10.1089/g4h.2020.0209)

Provided by University of Bath

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