

# Study suggests running to music combats mental fatigue

A study carried out by the University of Edinburgh suggests that listening to music while running might be the key to improving people's performance when they feel mentally fatigued.

The performance of runners who listened to a self-selected playlist after completing a demanding thinking task was at the same level as when they were not mentally fatigued, the research found.

The study is the first to investigate the effect of listening to music playlists on endurance running capacity and performance when mentally fatigued.

Researchers at the University of Edinburgh used two tests to study how listening to music affected the running performance of eighteen fitness enthusiasts.

One test looked at the effects on interval running capacity – alternating between high intensity running and lower intensity jogging – with a group of nine physically active exercisers, and the other on a 5km time-trial with a group of nine trained runners.

The groups completed a 30 minute computer based cognitive test which put them in a mentally fatigued state before completing high intensity exercise. The runners were tested with and without self-selected motivational music.

Researchers assisted participants in choosing motivational

songs with a pre-test questionnaire asking them to rate the rhythm, style, melody, tempo, sound and beat of the music.

Examples of songs participants listened to were: Everyday (A\$ap Rocky); Addicted To You (Avicii); Run This Town (Jay-Z); Power (Kanye West); No One Knows (Queens of the Stone Age); Eye of the Tiger (Survivor).

During the exercise, heart rate and rating of perceived exertion were measured at multiple points.

The team took into account the results of a baseline test taken by participants which was without a mentally demanding test beforehand – and without the use of music.



Old College University of Edinburgh

The researchers found the interval running capacity among the mentally fatigued fitness enthusiasts was moderately greater with music compared to without music, and was the same as when the participants were not mentally fatigued.

The 5km time-trial performances also showed small improvements with self-selected music versus no music.

Researchers say the positive effects of music could potentially be due to altered perception of effort when listening to tunes.

Dr Shaun Phillips, of the University of Edinburgh's Moray House School of Education and Sport, said: "Mental fatigue is a common occurrence for many of us, and can negatively impact many of our day-to-day activities, including exercise. Finding safe and effective ways to reduce this negative impact is therefore useful.

"The findings indicate that listening to self-selected motivational music may be a useful strategy to help active people improve their endurance running capacity and

performance when mentally fatigued. This positive impact of self-selected music could help people to better maintain the quality and beneficial impact of their exercise sessions.”

Researchers say there are opportunities for further study into how listening to music while running affects larger and different groups of people, in different settings, and using different exercise challenges. Work in these areas is ongoing at the University of Edinburgh.

The study is published in the Journal of Human Sport and Exercise. An Open Access version of the paper is available here:

<https://www.research.ed.ac.uk/en/publications/the-effect-of-self-selected-music-on-endurance-running-capacity-a>