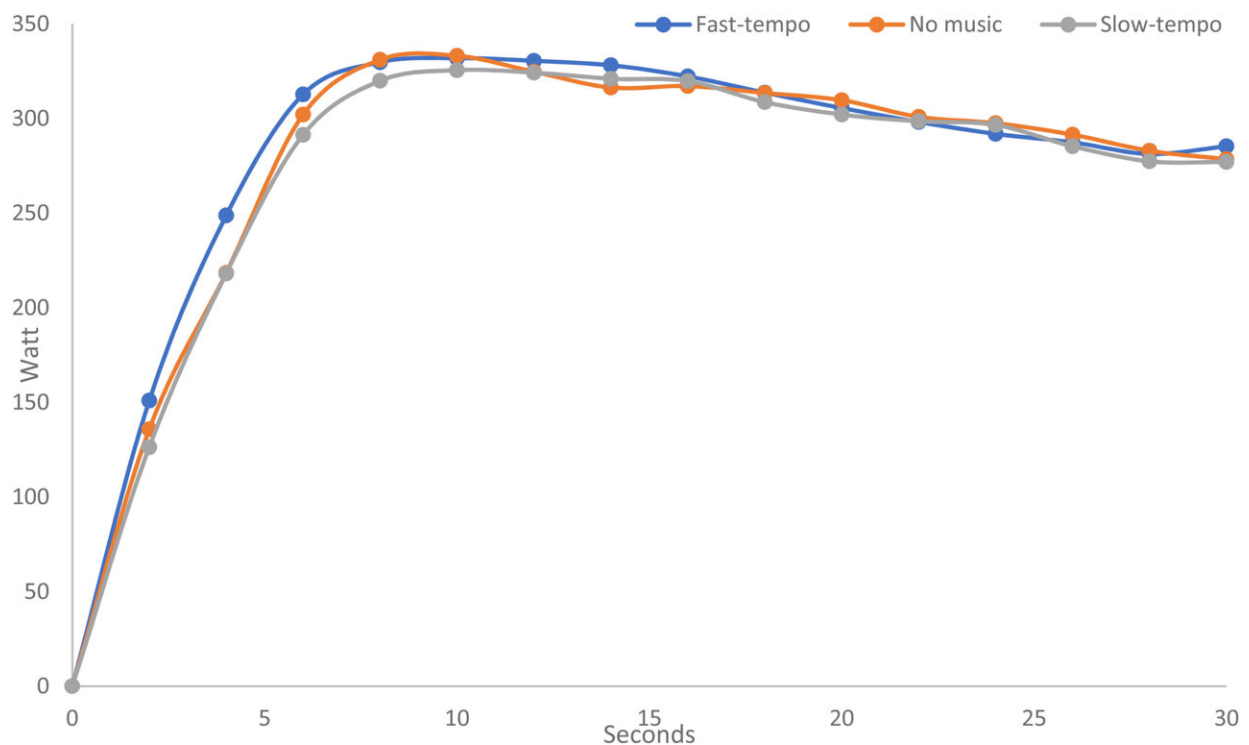


# Listening to music before a competition can boost your performance

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Plot of watt-production every two seconds throughout the task, according to condition. Credit: *Music & Science* (2023). DOI: 10.1177/20592043231174388

If you exercise regularly, you have probably noticed that you increase the effort if you have music playing in the background. Researchers know this as the ergogenic effect; the right music makes you feel less tired and produces a positive stress reaction in the body.

"It is well known that music can improve performance when exercising. But athletes cannot wear headphones during competitions. We wanted to understand what happens if you listen to music before a competition, not during it," says Associate Professor Aron Laxdal at the University of Agder (UiA).

To get to the bottom of this, he and his colleagues needed forty young soldiers and two versions of a self-composed techno track.

"We recruited subjects to take part in the experiment from military recruits. It was a conscious choice because they are about the same age, have more or less the same taste in music, and are relatively well trained," Laxdal says.

It was important for the researchers to control things that might affect the results. Therefore, it was also important to select the music carefully.

"If someone has a particular relationship with 'Eye of the Tiger', they will perform extra well when they've heard it. Others may have a [negative relationship](#) with the song, and that may also affect performance," Laxdal says.

The researchers needed to find a piece of music that none of the participants had heard before. The solution was a bachelor's student in electronic music from UiA's Faculty of Fine Arts.

## **Specially composed music**

"As far as we know, this is the first time someone has used self-composed music to investigate the effect it has before competitions," says Assistant Professor Andreas Waaler Røshol at UiA.

He heads the bachelor's program in [electronic music](#) at the university

and gave his students the task of creating a piece of music that would be suitable for training, and that could be adjusted in tempo.

"The challenge was to create a [piece of music](#) that fits the survey and still has qualities equivalent to something that could be on the subjects' playlist," he says.

The best solution came from student Martin Brudevoll Vosseteig. His techno track was designed to be played faster or slower, without it compromising the quality of the music.

"It strengthens our research that we were able to design the music to such a large extent. We wanted music that the target group would understand, without vocals, and that would make people want to exercise," Røshol says.

Previous research at UiA shows that individuals react physically to electronic dance music (EDM) whether they want to or not.

## **Better prepared with music**

In a series of experiments, the forty young soldiers—23 men and 17 women—were given either the fast version, the slower version, or no music at all. They were then asked how they felt. And finally, they completed a thirty-second session on the rowing machine.

The researchers measured the effect of the music in two areas.

One area was [mental state](#). This is about how the participants felt. The second area is about how prepared the participants were to perform, how "eager" they were.

"The participants scored higher in both areas after listening to the music.

Regardless of whether the music was fast or slow, it had a positive preparatory effect on the performer compared to when they were not listening to music," says Laxdal.

Those who had listened to fast music before the exercise were also the ones who put in the most effort during rowing.

"This shows that those who listen to [music](#) before competitions will get more psychological benefits," says Laxdal.

The study is published in the journal *Music & Science*.

**More information:** Christopher Garry Pusey et al, Put Some Music on: The Effects of pre-Task Music Tempo on Arousal, Affective State, Perceived Exertion, and Anaerobic Performance, *Music & Science* (2023). [DOI: 10.1177/20592043231174388](https://doi.org/10.1177/20592043231174388)

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