

# Open-ended laboratory tests for cyclists could help athletes train better

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Scientists at the University's School of Sport and Exercise Sciences (SSES) have discovered that cyclists can perform better when they do not have to pace their efforts.

Using 17 experienced male cyclists in a series of tests, they compared open-ended Time-To-Exhaustion (TTE) trials that are often used in laboratories with race-like Time-Trials to measure [endurance performance](#). All of the cyclists were blinded to elapsed [time](#), [power output](#), cadence and [heart rate](#).

In an article published in the *Journal of Sports Sciences* Professor Louis Passfield and Dr Sarah Coakley say that they were surprised to discover that, despite being experienced, the cyclists could not pace their effort effectively in the Time-Trial.

They expect that their findings will help to better understand the role of feedback in how people choose when to stop exercising because they imply we are not good at keeping track of time when we exercise hard.

For the SSES study the cyclists were told to maintain their target power for as long as possible and were given verbal encouragement to continue as long as possible. Their [performance](#) was compared with separate Time-Trials where they had to "race" for a set period of time. They were not told during any of the trials how much time had passed.

The cyclists performed better in the open-ended TTE than in the trials where they knew beforehand how long they had to "race". This finding has implications for how athletes plan their training as these types of tests are frequently used for this purpose, as well as to predict their race performances.

Previously TTE tests were considered by many as less useful but the research by Professor Passfield and Dr Coakley indicates TTE should still be regarded as a useful measure of performance in the laboratory.

**More information:** Sarah L. Coakley et al. Cycling performance is superior for time-to-exhaustion versus time-trial in endurance laboratory

tests, *Journal of Sports Sciences* (2017). [DOI: 10.1080/02640414.2017.1368691](https://doi.org/10.1080/02640414.2017.1368691) Sarah L. Coakley et al. Cycling performance is superior for time-to-exhaustion versus time-trial in endurance laboratory tests, *Journal of Sports Sciences* (2017). [DOI: 10.1080/02640414.2017.1368691](https://doi.org/10.1080/02640414.2017.1368691)

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