

# Review of: "Sustained Muscle EMG Activity to Contractile Failure During Incremental Exercise and Intense Constant Load Cycling: No Evidence of a Central Governor"

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Potential competing interests: No potential competing interests to declare.

Dear authors,

Congratulations on this interesting study. I do, however, have a few points to point out that the authors might want to consider.

In the statistics section, the authors write that sphericity was assumed. However, there is no mention of a respective statistical test. I would recommend adding information on how the sphericity was tested.

How was maximum volitional exercise quantified? Was a Borg scale or other means of subjective perceived exertion used? Please clarify.

The study had a rather low number of subjects. Although I would not ask about separate power testing, I would like to ask the authors about any non-significant results and how they made sure that those were not the results because of low statistical power?

According to the results, the authors obviously recruited both trained and untrained subjects. I would like to encourage the authors to discuss in more depth the influence of thermoregulation, which may be differently effective among trained and untrained subjects, as well as muscle fiber type distribution - which may have led to different EMG results among subjects?

Within proprioception, the Golgi-tendon apparatus acts as a protective agent in order to prevent muscle overuse injuries. I would encourage the authors to discuss the possible role and influence of the Golgi apparatus in the context of this study.

The authors argue that there is no central governor. I would very much encourage the authors to first introduce and then later discuss the definition of such a governor. I would assume that such a governor would comprise several mechanisms, which (depending on definition) could be different. It is well known that parameters like increased body core temperature, pH value (acidosis), pCO<sub>2</sub>, heart rate, ventilation, etc., indicate strain and lead to perceived (central) fatigue. I therefore recommend that the authors define and discuss what they mean by "central governor" in the context of this study.

Finally, I would ask the authors what practical clinical implications they would draw from the results of their study.



Thank you and kind regards!