*Table S1: Baseline vastus medialis muscle sarcolemmal and corticospinal excitability per session*

|  |  |  |
| --- | --- | --- |
|  | MMAX (mV) | MEP (% MMAX) |
| Concentric session | 1 ± 0.4 | 31.8 ± 13.6 |
| Eccentric session | 1.1 ± 0.4 | 30.5 ± 15.1 |
| P-value | 0.21 | 0.67 |
| Pearson’s r | 0.49 | 0.3 |

Maximal muscle compound (MMAX) and motor-evoked potential (MEP) for the vastus medialis muscle during concentric cycling at 40% peak power output, prior to the fatiguing exercises.

*Table S2: Vastus medialis muscle sarcolemmal excitability during the fatiguing exercises*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Concentric | | Eccentric | |
|  | 3rd | 25th | 3rd | 25th |
| MMAX (mV) | 1 ± 0.5 | 1 ± 0.4 | 1.2 ± 0.5 | 1.1 ± 0.4 |

Maximal muscle compound (MMAX) for the vastus medialis muscle during the fatiguing exercise a 60% peak power output.

*Table S3: ANOVA results*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | Degrees of freedom | Condition (n = 2) | | | Time (n = 2) | | | Interaction | | |
| F value | P value | Partial eta squared | F value | P value | Partial eta squared | F value | P value | Partial eta squared |
| Effort perception | 1,26 | 48.1 | <0.001 | 0.65 | 47.7 | <0.001 | 0.65 | 6.01 | 0.021 | 0.19 |
| Heart rate | 1,25 | 128 | <0.001 | 0.84 | 125.7 | <0.001 | 0.84 | 3.37 | 0.078 | 0.12 |
| RF MMAX amplitude | 1,26 | 0.12 | 0.73 | 0.005 | 0.33 | 0.57 | 0.012 | 2.18 | 0.15 | 0.08 |
| VL MMAX amplitude | 1,24 | 0.81 | 0.38 | 0.03 | 0.58 | 0.45 | 0.023 | 1.11 | 0.3 | 0.04 |
| VM MMAX amplitude | 1,25 | 0.55 | 0.5 | 0.021 | 2.26 | 0.14 | 0.083 | 0.008 | 0.93 | 0 |
| RF MEP | 1,21 | 4.22 | 0.051 | 0.155 | 1.17 | 0.29 | 0.048 | 2.08 | 0.16 | 0.083 |
| VL MEP | 1,23 | 8.58 | 0.008 | 0.27 | 1.5 | 0.23 | 0.061 | 0.68 | 0.4 | 0.03 |
| VM MEP | 1,23 | 33.4 | <0.001 | 0.59 | 0.089 | 0.77 | 0.004 | 1.82 | 0.19 | 0.073 |
| RF SP | 1,18 | 0.26 | 0.61 | 0.014 | 0.82 | 0.38 | 0.044 | 0.18 | 0.68 | 0.01 |
| VL SP | 1,18 | 0.03 | 0.86 | 0.002 | 0.05 | 0.83 | 0.003 | 2.53 | 0.13 | 0.12 |
| VM SP | 1,18 | 0.2 | 0.66 | 0.011 | 0.22 | 0.64 | 0.012 | 3.85 | 0.065 | 0.18 |
| RF SP/ EMG | 1,17 | 6.6 | 0.02 | 0.28 | 0.4 | 0.53 | 0.023 | 0.005 | 0.94 | 0 |
| VL SP/ EMG | 1,17 | 5.4 | 0.033 | 0.24 | 1.7 | 0.21 | 0.09 | 1.5 | 0.24 | 0.08 |
| VM SP/ EMG | 1,17 | 6.62 | 0.02 | 0.28 | 1.96 | 0.18 | 0.1 | 0.12 | 0.73 | 0.007 |

Red values mean P < 0.05 ; yellow values mean 0.05 < P < 0.1



*Figure S1: Vastus medialis muscle corticospinal excitability and inhibition*

Panel A and B show the motor-evoked potential (MEP) amplitude and relative inhibition (MEP amplitude/ silent period duration ratio), respectively, for the vastus medialis muscle during concentric (CON) and eccentric (ECC) cycling at 60% peak power output.