

Supplementary files for

Comparison of Metabolic Power and Energy Cost of Submaximal and Sprint Running Efforts Using Different Methods in Elite Youth Soccer Players: A Novel Energetic Approach

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MP

| Splits | Mean MP_GPS | SD MP_GPS | Mean MP_EMG | SD MP_EMG | CV (%) MP_GPS | CV (%) MP_EMG | p-value | ES | F | CI (95%, lower) | CI (95%, upper) |
|--------|-------------|-----------|-------------|-----------|---------------|---------------|----------|---------|------|-----------------|-----------------|
| 0-5m | 54.58 | 10.80 | 46.07 | 10.15 | 19.79% | 22.04% | 0.029* | 0.81§§§ | 1.13 | 2.54 | 14.465 |
| 5-10m | 62.77 | 11.23 | 53.81 | 8.70 | 17.89% | 16.16% | 0.017* | 0.89§§§ | 1.67 | 2.56 | 15.381 |
| 10-15m | 58.61 | 11.57 | 54.70 | 9.70 | 19.74% | 17.74% | 0.308 | 0.37§ | 1.42 | -4.65 | 12.478 |
| 15-20m | 56.88 | 11.83 | 54.78 | 8.91 | 20.80% | 16.27% | 0.575 | 0.20§ | 1.76 | -3.89 | 8.086 |
| 20-25m | 52.73 | 11.53 | 55.89 | 8.94 | 21.86% | 16.00% | 0.01** | 0.31§ | 1.66 | -11.72 | 4.195 |
| 25-30m | 44.67 | 8.31 | 56.07 | 7.70 | 18.60% | 13.73% | 0.000*** | 1.42§§§ | 1.17 | -15.88 | -6.901 |
| 30-35m | 44.25 | 6.97 | 54.51 | 10.04 | 15.75% | 18.42% | 0.002** | 1.19§§§ | 0.48 | -14.54 | -5.982 |
| 35-40m | 44.08 | 9.17 | 52.79 | 8.56 | 20.81% | 16.22% | 0.015* | 0.98§§§ | 1.15 | -14.59 | -2.23 |
| 40-45m | 44.53 | 9.17 | 49.58 | 9.46 | 20.59% | 19.08% | 0.136 | 0.54§§ | 0.94 | -10.6 | 0.519 |
| 45-50m | 41.35 | 11.20 | 39.02 | 9.54 | 27.08% | 24.46% | 0.532 | 0.22§ | 1.38 | -2.67 | 7.318 |

Table S1. Metabolic Power outcomes and statistical analysis results for the different splits. CV = Coefficient of Variation; EC = Energy cost; ES = Effect size; SD = Standard deviation; * p -value ≤ 0.05 , ** $p \leq 0.01$, *** $p \leq 0.001$; §§ ES ≥ 0.20 , §§§ ES ≥ 0.50 , §§§§ ES ≥ 0.80 .

EC

| Splits | Mean EC_GPS | SD EC_GPS | Mean EC_EMG | SD EC_EMG | CV (%) EC_GPS | CV (%) EC_EMG | p-value | ES | F | CI (95%, lower) | CI (95%, upper) |
|--------|-------------|-----------|-------------|-----------|---------------|---------------|----------|---------|------|-----------------|-----------------|
| 0-5m | 17.76 | 2.85 | 16.57 | 3.46 | 16.04% | 20.87% | 0.296 | 0.38§ | 0.68 | -1.23 | 3.62 |
| 5-10m | 10.54 | 1.45 | 8.64 | 1.42 | 13.71% | 16.49% | 0.001*** | 1.33§§§ | 1.03 | 0.84 | 2.97 |
| 10-15m | 8.59 | 1.45 | 7.69 | 1.43 | 16.89% | 18.59% | 0.087 | 0.63§§ | 1.03 | -0.30 | 2.10 |
| 15-20m | 7.67 | 1.33 | 7.17 | 1.16 | 17.32% | 16.11% | 0.085 | 0.40§ | 1.32 | -0.50 | 1.38 |
| 20-25m | 6.72 | 1.33 | 6.95 | 1.03 | 19.84% | 14.86% | 0.542 | 0.20§ | 1.66 | -1.32 | 0.69 |
| 25-30m | 5.73 | 0.85 | 6.89 | 0.86 | 14.76% | 12.52% | 0.02* | 1.35§§§ | 0.96 | -1.76 | -0.55 |
| 30-35m | 5.78 | 1.00 | 6.87 | 1.29 | 17.38% | 18.71% | 0.003** | 0.95§§§ | 0.61 | -1.58 | -0.61 |
| 35-40m | 5.76 | 1.19 | 6.64 | 1.12 | 20.69% | 16.80% | 0.048* | 0.76§§ | 1.14 | -1.57 | 0.08 |
| 40-45m | 6.02 | 1.16 | 6.41 | 0.92 | 19.20% | 14.39% | 0.298 | 0.37§ | 1.57 | -1.04 | 0.26 |
| 45-50m | 5.94 | 1.28 | 5.35 | 0.77 | 21.56% | 14.36% | 0.124 | 0.56§§ | 2.78 | -0.15 | 1.33 |

Table S2. Energy Cost outcomes and statistical analysis results for the different splits. * p -value ≤ 0.05 , ** $p \leq 0.01$, *** $p \leq 0.001$; § ES ≥ 0.20 , §§ ES ≥ 0.50 , §§§ ES ≥ 0.80 .