

## Supplemental material S1 - Secondary findings.

### Modelling 5-km running performance on level and hilly terrains in recreational runners

#### SM1.1 - Correlations between 5-km running performance on level and hilly terrains versus anthropometric and neuromuscular variables in recreational runners

Table S1.1 Pearson correlation coefficients ( $r$ ) and p-values ( $P$ ) between level and hilly running performance *versus* anthropometric and neuromuscular variables.

Variables	Level		Hilly	
	$r$	$P$	$r$	$P$
Body Mass (kg)	-.032	.892	-.089	.708
Height (m)	-.088	.711	-.054	.820
Body Fat (%)	-.086	.718	-.028	.907
BMI (kg.m <sup>-2</sup> )	-.029	.972	-.078	.745
LLL (cm)	-.008	.902	-.003	.989
Maximum ST (kg)	-.334	.150	-.180	.448
Relative ST (kg·body mass <sup>-1</sup> )	-.424	.062	-.194	.413

Body Mass Index (BMI), Lower Limb Length (LLL), Strength (ST).

**SM1.2 - Correlations between 5-km running performance on level and hilly terrains versus physiological variables in recreational runners. In this section, we have included the non-specific correlations, i.e., between level performance versus physiological variables determined from uphill (7%) tests, and between hilly performance versus physiological**

**variables determined from level (0%) tests.**

Table S1.2 Pearson correlation coefficients ( $r$ ) and p-values ( $P$ ) between level running performance *versus* physiological variables evaluated in maximal and submaximal tests at 7% incline.

Variables	level running performance	
	$r$	$P$
VO <sub>2</sub> max	-.404	.070
vVO <sub>2</sub> max	-.530	.016
VT <sub>1</sub>	-.078	.744
vVT <sub>1</sub>	-.285	.223
HR at VT <sub>1</sub>	.032	.894
VT <sub>2</sub>	-.417	.067
vVT <sub>2</sub>	-.758	.001
HR at VT <sub>2</sub>	.247	.294
RE	-.298	.202
HR <sub>RE</sub>	.807	.001

Table S1.3 Pearson correlation coefficients ( $r$ ) and p-values ( $P$ ) between hilly running performance *versus* physiological variables evaluated in maximal and submaximal tests at 0% incline.

Variables	hilly running performance	
	$r$	$P$

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VO <sub>2</sub> max	-.332	.153
vVO <sub>2</sub> max	-.633	.003
VT <sub>1</sub>	-.400	.080
vVT <sub>1</sub>	-.416	.068
HR at VT <sub>1</sub>	.027	.911
VT <sub>2</sub>	-.464	.039
vVT <sub>2</sub>	-.636	.003
HR at VT <sub>2</sub>	.316	.175
RE	-.274	.243
HR <sub>RE</sub>	.653	.002

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