SUPPLEMENTARY

Supplementary Table S1. Trunk muscles electromyographic activity during FPT and differences between sex and age groups in muscle activation during FPT

Whole Sample							
	URA	**LRA**	**EO**	**MF**	**ES**	***p***	***R*²**
MVIC (%)	63.44 ± 56.31***	60.87 ± 51.65***	72.25 ± 50.64***	24.15 ± 34.97	21.29 ± 32.76	<0.0001	0.178
Sex							
	Male (n = 52)			Female (n = 32)		**t**	***p***
URA (%MVIC)	62.04±55.87			65.69±57.91		-0.277	0.783
LRA (%MVIC)	67.79±54.59			49.80±45.25		1.509	0.135
OE (%MVIC)	72.83±47.17			71.28±56.78		0.131	0.896
MF (%MVIC)	25.72± 41.36			21.54±28.76		0.516	0.607
ES (%MVIC)	21.74±33.74			20.51±31.57		0.162	0.872
Age Groups							
	Young Adults (n = 64)			Adults (n = 20)		**t**	***p***
URA (%MVIC)	64.14±55.13			60.94±62.10		0.206	0.838
LRA (%MVIC)	63.44±52.97			50.88±46.35		0.866	0.389
OE (%MVIC)	75.62±50.73			59.75±49.75		1.149	0.254
MF (%MVIC)	24.79±38.49			21.80±17.11		0.311	0.756
ES (%MVIC)	23.50±36.29			12.96±9.35		1.182	0.241

Note: *** = statistically significant ($p < 0.001$) regard to erector spinae and multifidus muscle. Data are presented as mean ± standard deviation.

MVIC = maximum voluntary isometric contraction; URA = upper rectus abdominis; LRA = lower rectus abdominis; EO = external oblique; MF = multifidus; ES = erector spinae

Supplementary Table S2. Differences between sex in force variables in the isokinetic device.

			Male (n = 52)	Female (n = 32)	t	p
Isokinetic Con-Con (120º/s)	Flexors	Initial Peak Torque (Nm)	202.17±59.21	93.81±43.10	8.982	< 0.001
		Initial Peak Torque per BW (Nm/kg)	269.94±74.90	159.47±68.06	6.793	< 0.001
		Fatigue Index	-32.02±35.02	-53.16±71.30	1.816	0.073
		Total Work (N/m)	1977.10±420.63	919.09±424.63	11.155	< 0.001
		Total Work per BW (N/m/kg)	2642.27±516.20	1559.19±649.24	8.455	< 0.001
		Average Power per Rep (W/av)	273.98±60.21	124.63±59.79	11.070	< 0.001
		Average Power per Rep per BW (W/av/kg)	366.79±74.39	210.97±89.81	8.608	< 0.001
		Time to Peak (s)	0.19±0.04	0.24±0.07	-4.100	< 0.001
Isokinetic Con-Con (120º/s)	Extensors	Initial Peak Torque (Nm)	158.17±54.64	75.06±40.32	7.441	< 0.001
		Initial Peak Torque per BW (Nm/kg)	211.85±72.39	127.81±64.61	5.378	< 0.001
		Fatigue Index	-29.77±31.54	-43.47±44.65	1.646	0.104
		Total Work (N/m)	1348.75±471.92	664.06±430.77	6.671	< 0.001
		Total Work per BW (N/m/kg)	1815.81±656.30	1132.25±696.95	4.528	< 0.001
		Average Power per Rep (W/av)	203.56±69.59	96.09±64.29	7.072	< 0.001
		Average Power per Rep per BW (W/av/kg)	273.69±96.15	163.21±101.87	4.999	< 0.001
		Time to Peak (s)	0.23±0.05	0.23±0.04	-0.435	0.665
Isokinetic Con-Con (120º/s)	Flexors and extensors	Ratio Peak Torque	134.27±44.35	135.53±48.01	-0.123	0.903
		Ratio Total Work	178.52±118.64	210.78±212.56	-0.893	0.374
		Ratio Average Power	151.19±67.51	169.78±109.60	-0.963	0.338
Isometric Con	Flexors	Peak Torque (Nm)	247.92±73.03	121.41±37.97	9.061	< 0.001
		Peak Torque per BW (Nm/kg)	332.69±82.75	205.75±56.68	7.637	< 0.001
		Average Torque (Nm)	186.92±51.31	100.59±32.30	8.530	< 0.001
		Average Torque per BW(Nm/kg)	248.50±59.86	169.41±44.33	6.458	< 0.001
		Time to Peak (s)	1.18±1.29	2.30±1.40	-3.729	< 0.001

Data are presented as mean ± standard deviation. Con = concentric; BW = body weight; REP = repetition; Con = concentric; º = degree; s = seconds; N = newton; kg = kilograms; m = meters; W = watts: av = average value.

Supplementary Table S3. Differences between age groups in force variables in the isokinetic device.

			Young adults (n = 64)	Adults (n = 20)	t	*p*
Isokinetic Con-Con (120º/s)	Flexors	Initial Peak Torque (Nm)	169.64 ±69.39	132.90 ± 87.39	1.939	0.056
		Initial Peak Torque per BW (Nm/kg)	239.42±82.72	190.85±103.72	2.154	0.034
		Fatigue Index	-40.58±56.31	-38.45±39.16	-0.157	0.875
		Total Work (N/m)	1696.78±567.01	1181.30±810.576	3.185	0.002
		Total Work per BW (N/m/kg)	2397.45±609.18	1692.75±998.63	3.829	< 0.001
		Average Power per Rep (W/av)	234.67±80.44	160.80±113.95	3.228	0.002
		Average Power per Rep per BW (W/av/kg)	331.53±87.34	230.30±140.76	3.865	< 0.001
		Time to Peak (s)	0.21±0.06	0.21±0.06	-0.176	0.861
Isokinetic Con-Con (120º/s)	Extensors	Initial Peak Torque (Nm)	138.09±57.72	89.45±70.16	3.121	0.002
		Initial Peak Torque per BW (Nm/kg)	196.16±72.76	127.60±83.16	3.554	< 0.001
		Fatigue Index	-34.34±34.70	-37.05±46.03	0.281	0.780
		Total Work (N/m)	1228.02±507.81	639.60±506.55	4.526	< 0.001
		Total Work per BW (N/m/kg)	1751.84±663.44	926.80±656.09	4.867	< 0.001
		Average Power per Rep (W/av)	184.11±76.48	93.85±76.51	4.607	< 0.001
		Average Power per Rep per BW (W/av/kg)	261.65±98.23	135.45±98.51	5.012	< 0.001
		Time to Peak (s)	0.22±0.04	0.25±0.04	-3.004	0.004
	Flexors and extensors	Ratio Peak Torque	126.95±44.26	159.70±41.07	-2.936	0.004
		Ratio Total Work	178.30±163.99	230.85±145.59	-1.283	0.203

Isokinetic Con-Con (120º/s)		Ratio Average Power	140.16±58.08	216.25±127.93	-3.718	< 0.001
Isometric Con	Flexors	Peak Torque (Nm)	211.09±86.29	163.40±82.72	2.177	0.032
		Peak Torque per BW (Nm/kg)	298.86±93.46	237.85±92.95	2.557	0.012
		Average Torque (Nm)	159.70±58.58	135.90±68.52	1.523	0.132
		Average Torque per BW(Nm/kg)	225.06±63.58	196.95±72.86	1.667	0.099
		Time to Peak (s)	1.34±.126	2.47±1.65	-3.250	0.002

Data are presented as mean ± standard deviation. Con = concentric; BW = body weight; REP = repetition; Con = concentric; º = degree; s = seconds; N = newton; kg = kilograms; m = meters; W = watts: av = average value.