

**Table S2.** Variables mean comparisons and interaction effects of Maturity Status, Teams and RAE in U13 soccer players.

	U13 Bologna			U13 Russi						U13 Bologna				U13 Russi						
	E (n=7)	OT (n=9)	L (n=11)	E (n=2)	OT (n=8)	L (n=2)	Bo- Ru	MS	team s*MS	Q1 (n=12)	Q2 (n=5)	Q3 (n=8)	Q4 (n=2)	Q1 (n=3)	Q2 (n=3)	Q3 (n=2)	Q4 (n=4)	Bo- Ru	RA E	team s*RA E
	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	F (1, 37)	F (2, 36)	F (5, 33)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	F (1, 36)	F (3, 34)	F (7, 30)
Weight (Kg)	50.14 (6.77)	43.44 (4.25)	40.27 (3.82)	47.50 (7.07)	51.88 (5.36)	35.50 (9.19)	0.0 26	9.8 69 <sup>†</sup>	5.063 *	42.58 (4.72)	48.00 (8.80)	43.63 (6.63)	42.50 (3.54)	49.00 (3.50)	57.17 (4.07)	48.50 (3.54)	41.38 (9.45)	4.1 08*	3.3 21*	0.735
Height (cm)	162.63 (7.41)	156.7 (4.51)	148.66 (3.81)	162.80 (7.64)	155.44 (5.35)	138.85 (9.83)	2.6 90	650 +	1.778	154.72 (6.51)	158.12 (10.69)	153.69 (8.00)	153.65 (8.56)	162.90 (6.68)	157.17 (3.04)	151.00 (2.26)	146.15 (10.66)	0.0 61	2.0 16	1.346
Trunk Height (cm)	81.66 (2.82)	78.11 (1.55)	74.36 (2.05)	83.00 (0.57)	78.91 (1.48)	69.95 (3.32)	0.8 53	778 +	4.619 *	77.67 (3.00)	77.72 (4.32)	77.20 (4.43)	77.20 (5.37)	81.90 (1.41)	78.33 (0.57)	78.30 (0.28)	74.98 (6.47)	0.3 93	1.0 85	0.837
Leg length (cm)	80.97 (6.6)	78.59 (3.99)	74.30 (3.53)	79.80 (7.07)	76.53 (4.44)	68.90 (6.51)	2.2 53	6.0 57 <sup>†</sup>	0.392	77.05 (4.54)	80.40 (8.53)	76.49 (4.44)	76.45 (3.18)	81.00 (5.41)	78.83 (3.07)	72.70 (1.98)	71.18 (4.71)	0.7 31	2.2 91	1.221
BMI (kg/m <sup>2</sup> )	18.93 (1.99)	17.66 (1.04)	18.21 (1.48)	17.86 (0.99)	21.52 (2.50)	18.21 (2.18)	1.6 83	1.9 74	5.744 †	17.78 (1.52)	19.09 (2.21)	18.38 (1.14)	18.00 (0.51)	18.46 (0.44)	23.17 (1.98)	21.30 (2.19)	19.21 (3.02)	130 †	4.6 61 <sup>†</sup>	1.559
Relaxed arm circ. (cm)	22.27 (1.6)	21.30 (1.30)	20.45 (1.47)	21.70 (1.13)	24.88 (1.81)	21.35 (1.63)	4.4 38*	5.1 92 <sup>†</sup>	4.855 †	20.68 (1.47)	22.04 (2.13)	21.68 (1.32)	20.40 (0.85)	22.33 (0.47)	26.13 (0.90)	24.95 (0.78)	22.45 (2.68)	20. 687 †	5.0 54 <sup>†</sup>	0.958
Contracted arm circ. (cm)	24.57 (1.74)	23.37 (1.37)	22.30 (1.59)	23.85 (1.63)	26.26 (1.69)	23.40 (2.12)	2.8 11	3.5 98*	3.040	22.81 (1.81)	23.96 (2.13)	23.68 (1.62)	22.35 (0.64)	24.57 (0.67)	27.53 (1.34)	25.60 (0.99)	24.28 (2.55)	11. 486 †	2.6 51	0.439
Calf circ. (cm)	33.56 (3.24)	30.43 (5.73)	29.69 (1.90)	32.65 (1.91)	34.36 (1.26)	29.40 (1.56)	0.4 42	2.2 10	1.646	30.77 (4.18)	31.90 (2.98)	29.49 (3.92)	35.40 (5.66)	33.67 (0.31)	35.17 (1.69)	34.00 (1.27)	31.13 (2.53)	1.3 87	0.3 91	1.771
Thigh circ. (cm)	42.40 (6.31)	40.11 (3.25)	40.45 (1.96)	43.65 (1.77)	48.54 (2.93)	42.00 (4.81)	6.3 17*	1.7 42	3.345 *	40.30 (3.19)	44.00 (3.18)	41.20 (2.31)	34.80 (8.20)	45.07 (1.26)	50.43 (1.76)	47.25 (0.64)	44.65 (5.75)	26. 744 †	5.3 24 <sup>†</sup>	0.634
Humeral diameter (mm)	6.33 (0.43)	6.16 (0.28)	5.94 (0.22)	6.25 (0.07)	6.21 (0.42)	5.35 (0.49)	2.2 55	7.8 32 <sup>†</sup>	2.256	6.08 (0.38)	6.04 (0.36)	6.19 (0.25)	6.15 (0.49)	6.13 (0.50)	6.33 (0.25)	5.90 (0.28)	5.93 (0.74)	0.0 74	0.1 95	0.730
Femoral diameter (mm)	8.97 (0.55)	8.56 (0.49)	8.42 (0.41)	7.65 (1.77)	9.45 (0.49)	8.35 (0.78)	0.5 11	4.8 37*	8.819 †	8.55 (0.47)	8.74 (0.59)	8.64 (0.60)	8.50 (0.42)	9.40 (0.78)	9.60 (0.10)	9.15 (0.64)	8.08 (1.27)	3.3 00	2.0 51	1.318
Triceps SK (mm)	7.43 (1.43)	8.06 (1.94)	8.91 (1.30)	6.50 (0.71)	12.38 (3.54)	11.00 (4.24)	4.0 71	4.9 84*	3.207	8.38 (1.61)	8.10 (2.30)	8.31 (1.58)	7.50 (0.71)	7.67 (1.53)	12.33 (3.06)	15.00 (4.24)	11.00 (4.08)	15. 762 †	3.5 40*	3.764 *
Biceps SK (mm)	4.14 (0.94)	4.83 (1.37)	4.86 (1.63)	4.25 (0.35)	8.44 (3.35)	7.00 (2.83)	5.7 40*	3.3 41*	1.762	4.63 (1.48)	4.40 (1.39)	5.13 (1.36)	3.75 (1.06)	4.00 (1.00)	9.17 (2.47)	11.00 (2.83)	7.13 (2.78)	26. 243 †	6.9 01 <sup>†</sup>	5.760 <sup>†</sup>
Subscapular SK (mm)	6.29 (0.99)	4.94 (0.39)	5.23 (0.85)	6.25 (1.06)	9.81 (3.52)	7.50 (2.12)	10. 599 †	1.2 81	4.552 *	5.04 (0.54)	5.90 (1.14)	5.69 (1.19)	5.25 (0.35)	6.33 (0.58)	11.67 (4.73)	10.25 (1.06)	7.88 (2.59)	31. 771 †	5.6 62 <sup>†</sup>	2.927 *

Supraspinal SK (mm)	5.29 (0.91)	4.67 (1.25)	4.64 (1.19)	5.00 (1.41)	9.63 (4.27)	7.75 (2.47)	8.1 27†	1.8 87	3.107	4.63 (1.00)	5.20 (1.25)	5.00 (1.41)	4.25 (0.35)	5.00 (1.00)	11.33 (4.04)	9.50 (2.12)	8.63 (4.82)	22. 483 †	3.9 97*	2.876
Suprailiac SK (mm)	7.93 (1.79)	6.72 (2.08)	7.45 (1.75)	8.50 (0.71)	12.63 (4.37)	11.75 (4.6)	10. 850 †	0.7 03	2.226	6.92 (1.84)	8.20 (2.28)	7.50 (1.85)	7.00 (1.41)	7.67 (1.15)	14.67 (3.51)	12.50 (2.12)	12.38 (4.92)	21. 862 †	4.1 84†	2.238
Thigh SK (mm)	8.43 (1.27)	9.33 (1.41)	11.05 (1.52)	9.00 (1.00)	13.50 (4.00)	11.00 (4.24)	2.7 63	3.1 18	2.629	9.83 (1.80)	9.50 (1.87)	10.13 (1.73)	9.00 (2.83)	8.33 (1.15)	14.67 (2.52)	15.50 (3.54)	12.00 (4.24)	12. 055 †	4.2 76†	4.203†
Medial Calf SK (mm)	6.79 (1.29)	6.33 (1.64)	7.73 (2.41)	6.50 (0.71)	10.81 (2.42)	8.00 (1.41)	3.3 65	2.1 26	4.593 *	7.08 (2.04)	7.20 (1.64)	7.06 (2.41)	6.00 (1.10)	7.50 (0.87)	11.00 (1.73)	12.50 (2.12)	8.75 (3.10)	14. 846 †	2.4 78	1.991
Lateral Calf SK (mm)	7.14 (1.65)	7.11 (1.02)	8.27 (2.23)	7.50 (0.71)	11.00 (2.62)	8.75 (2.47)	3.8 81	1.7 54	2.830	7.88 (1.92)	7.20 (1.92)	7.75 (1.77)	6.25 (0.35)	7.67 (0.58)	12.00 (1.73)	11.50 (2.12)	9.63 (3.35)	14. 961 †	1.9 37	2.611
TUA (cm²)	39.67 (5.7)	36.24 (4.55)	33.44 (4.75)	37.54 (3.91)	49.49 (7.01)	36.40 (5.53)	4.5 66*	5.5 01†	5.388 †	34.19 (4.78)	38.97 (7.42)	37.53 (4.72)	33.16 (2.76)	39.72 (1.67)	54.42 (3.69)	49.59 (3.09)	40.56 (9.95)	22. 372 †	5.6 52†	1.266
UMA (cm²)	31.63 (5.22)	28.78 (4.43)	26.54 (4.45)	29.43 (3.24)	42.31 (7.23)	29.85 (6.31)	5.1 45*	5.3 48†	5.795 †	27.05 (4.42)	31.25 (6.97)	29.98 (4.18)	25.85 (2.23)	31.73 (1.27)	46.77 (3.49)	43.32 (4.46)	33.72 (10.29)	25. 371 †	6.0 44†	1.708
UFA (cm²)	8.03 (0.66)	7.46 (0.52)	6.90 (0.43)	8.12 (0.66)	7.19 (1.10)	6.54 (0.78)	0.4 26	6.1 14†	0.194	7.14 (0.60)	7.72 (0.84)	7.55 (0.73)	7.31 (0.53)	8.00 (0.61)	7.64 (1.26)	6.27 (1.37)	6.84 (0.70)	0.7 04	1.6 88	2.629
UFI (%)	20.46 (2.04)	20.81 (2.39)	20.92 (2.33)	21.64 (0.48)	14.86 (3.45)	18.35 (4.92)	5.1 85*	3.6 65*	4.301 *	21.14 (2.34)	20.20 (3.05)	20.21 (1.68)	22.06 (0.25)	20.12 (1.03)	14.05 (2.11)	12.75 (3.56)	17.70 (4.98)	22. 356 †	4.4 74†	2.306
TCA (cm²)	90.37 (18.00)	76.07 (29.79)	70.45 (8.85)	85.02 (9.93)	94.12 (6.96)	68.91 (7.28)	0.2 72	2.2 24	1.368	76.64 (23.29)	81.59 (15.27)	70.30 (16.98)	101.05 (31.89)	90.25 (1.64)	98.61 (9.39)	92.10 (6.89)	77.51 (12.65)	1.0 46	0.3 80	1.790
CMA (cm²)	68.51 (15.75)	56.94 (25.19)	48.64 (6.66)	63.64 (6.59)	60.38 (5.51)	46.4 (1.29)	0.0 42	2.6 19	0.214	55.3 (19.79)	60.02 (9.85)	50.30 (15.54)	80.49 (27.86)	66.53 (2.04)	62.25 (5.14)	55.76 (0.25)	51.32 (6.15)	0.1 91	0.7 24	2.104
CFA (cm²)	21.86 (5.09)	19.12 (5.88)	21.81 (6.60)	21.38 (3.33)	33.74 (7.79)	22.51 (6.00)	3.6 89	1.8 72	4.761 *	21.34 (6.39)	21.57 (6.71)	20.00 (6.04)	20.55 (4.02)	23.72 (1.87)	36.37 (6.45)	36.34 (7.14)	26.19 (10.42)	14. 958 †	1.8 48	2.032
CFI (%)	24.41 (4.57)	26.34 (5.96)	30.65 (7.10)	25.08 (0.99)	35.64 (6.69)	32.39 (5.28)	2.4 50	2.6 66	1.582	28.18 (6.31)	26.16 (4.31)	29.33 (8.02)	20.75 (2.57)	26.28 (1.98)	36.75 (3.79)	39.28 (4.81)	33.09 (8.31)	10. 357 †	2.1 54	2.219
TTA (cm²)	145.85 (38.14)	128.84 (19.66)	130.58 (13.17)	151.82 (12.29)	188.17 (22.61)	141.37 (32.16)	7.0 96*	2.2 59	4.297 *	130.05 (19.92)	154.78 (22.18)	135.52 (15.61)	99.10 (45.45)	161.79 (9.05)	202.67 (14.01)	177.77 (4.79)	160.7 (41.85)	28. 164 †	5.4 17†	0.523
TMA (cm²)	130.81 (36.13)	115.10 (18.06)	117.80 (12.54)	136.65 (11.66)	174.73 (24.09)	128.22 (33.30)	7.4 66†	2.3 24	4.642 *	116.56 (18.64)	139.79 (20.66)	121.88 (13.98)	87.27 (43.99)	145.67 (9.23)	189.51 (15.29)	166.03 (7.20)	147.5 (42.97)	29. 712 †	5.5 86†	0.647
TFA (cm²)	15.04 (2.16)	13.74 (1.76)	12.78 (1.12)	15.17 (0.63)	13.44 (2.28)	13.14 (1.14)	0.0 08	2.5 62	0.098	13.49 (1.70)	14.99 (1.90)	13.64 (1.80)	11.83 (1.46)	16.12 (0.48)	13.17 (1.52)	11.74 (2.41)	13.20 (1.36)	0.0 13	3.1 61*	3.629 *
TFI (%)	10.83 (2.43)	10.74 (0.74)	9.83 (0.87)	10.01 (0.39)	7.32 (2.00)	9.64 (3.00)	5.2 11*	1.8 32	3.126	10.46 (1.06)	9.72 (0.81)	10.06 (0.54)	12.96 (4.47)	9.99 (0.73)	6.55 (1.19)	6.62 (1.53)	8.75 (2.82)	25. 376 †	5.6 96†	2.462

%F	13.36 (1.97)	12.64 (2.24)	13.78 (1.78)	12.43 (0.36)	20.92 (5.43)	17.79 (5.82)	8.6 16‡	3.3 84*	4.961 ‡	13.07 (1.90)	13.63 (2.41)	13.64 (2.23)	12.43 (0.36)	13.67 (0.99)	22.47 (5.58)	23.64 (4.27)	18.02 (6.01)	28. 945 ‡	5.2 13‡	3.953 *
FM (kg)	6.75 (1.59)	5.52 (1.31)	5.58 (1.11)	5.92 (1.05)	10.97 (3.49)	6.58 (3.70)	5.0 04*	3.6 10*	6.409 ‡	5.60 (1.22)	6.59 (1.95)	5.95 (1.34)	5.27 (0.29)	6.67 (0.02)	12.88 (3.58)	11.54 (2.91)	7.75 (3.97)	25. 255 ‡	5.6 86‡	3.030 *
FFM (kg)	43.39 (5.48)	37.92 (3.43)	34.69 (2.97)	41.58 (6.02)	40.91 (3.91)	28.92 (5.49)	0.8 84	12. 793 ‡	3.049	36.98 (3.81)	41.41 (7.26)	37.67 (5.77)	37.23 (3.25)	42.33 (3.5)	44.28 (4.05)	36.96 (0.63)	33.63 (6.35)	0.2 57	2.6 11	1.058
R (Ω)	563.35 (34.04)	577.82 (55.01)	615.18 (69.45)	557.90 (75.24)	565.53 (42.42)	689.80 (40.02)	0.7 06	6.0 62‡	1.553	592.98 (63.14)	612.65 (79.13)	576.49 (58.93)	584.6 (13.44)	532.27 (70.14)	570.83 (8.88)	580.35 (49.14)	637.40 (68.18)	0.2 34	0.7 77	1.125
Xc (Ω)	62.70 (7.64)	71.04 (11.28)	69.84 (7.18)	56.60 (7.35)	58.61 (5.81)	75.15 (4.17)	1.7 55	4.0 82*	2.871	73.78 (10.19)	63.85 (6.51)	64.59 (5.76)	63.15 (1.34)	52.80 (3.99)	62.37 (2.35)	58.50 (10.04)	67.48 (9.33)	3.8 86	0.2 17	3.593 *
PA	6.42 (0.80)	7.06 (1.20)	6.54 (0.84)	5.80 (0.65)	5.90 (0.40)	6.20 (0.50)	4.1 67*	0.4 24	0.646	7.19 (1.16)	6.00 (0.9)	6.40 (0.23)	6.2 (0.28)	5.63 (0.29)	6.23 (0.23)	5.75 (0.49)	6.03 (0.21)	3.2 02	0.3 40	1.984
R/H ((Ω/cm)	346.12 (29.89)	369.04 (37.22)	414.14 (49.43)	344.15 (62.36)	364.72 (35.75)	497.02 (6.36)	2.3 78	14. 728 ‡	2.967	383.93 (44.64)	392.72 (83.47)	376.74 (49.09)	380.82 (12.46)	328.23 (57.00)	363.35 (11.99)	384.62 (38.31)	439.03 (67.32)	0.0 56	1.2 34	1.505
Xc/H ((Ω/cm)	38.46 (4.48)	45.29 (6.71)	46.96 (4.45)	34.91 (6.15)	37.78 (4.29)	54.15 (0.83)	0.3 86	12. 735 ‡	5.064 ‡	47.66 (6.09)	40.69 (5.62)	42.22 (5.30)	41.19 (3.17)	32.51 (3.78)	39.68 (1.25)	38.80 (7.23)	46.56 (8.79)	2.4 95	0.5 66	4.119 *
CMJ (cm)	28.66 (6.77)	29.84 (2.84)	27.64 (2.72)	28.20 (7.92)	23.46 (4.55)	23.40 (2.55)	4.4 08*	0.7 35	1.038	27.73 (4.60)	30.12 (3.38)	28.58 (1.49)	29.95 (6.15)	30.13 (3.56)	24.90 (2.45)	19.55 (2.47)	21.68 (3.29)	11. 936 ‡	2.2 19	3.787 *
Sprint 15 meters (s)	2.82 (0.18)	2.83 (0.07)	2.84 (0.08)	2.80 (0.21)	3.12 (0.14)	3.11 (0.16)	12. 082 ‡	4.1 94*	3.507 *	2.85 (0.08)	2.85 (0.18)	2.82 (0.10)	2.76 (0.01)	2.89 (0.24)	3.09 (0.07)	3.19 (0.09)	3.13 (0.19)	24. 896 ‡	1.4 94	2.659
RSA (s)	6.65 (0.34)	6.56 (0.13)	6.55 (0.12)	6.40 (0.30)	7.04 (0.34)	6.98 (0.23)	5.1 99*	3.0 78	5.548 ‡	6.61 (0.21)	6.58 (0.27)	6.50 (0.10)	6.59 (0.13)	6.54 (0.38)	7.14 (0.16)	7.41 (0.12)	6.94 (0.28)	16. 242 ‡	2.8 42	4.301‡

Note: E, early; OT, on time; L, late; Q1, quartile one; Q2, quartile two; Q3, quartile three; Q4, quartile four; Bo, Bologna F.C.; Ru, Russi; S. U.; MS, maturity status; RAE, relative age effect; SD, standard deviation; F, Snedecor-Fischer statistic test; BMI, body mass index; circ., circumference; SK, skinfold thickness; TUA, total upper area; UMA, upper muscle area; UFA, upper-fat area; UFI, upper-fat index; TCA, total calf area; CMA, calf mass area; CFA, calf fat area; CFI, calf fat index; TTA, total thigh area; TMA, thigh mass area; TFA, thigh fat area; TFI, thigh fat index; %F, fat percentage; FM, fat mass; FFM, fat-free mass; R, resistance; Xc, reactance; PA, phase angle; CMJ, counter-movement jump; RSA, repeated sprint ability; \*, p-value ≤ 0.05; ‡, p-value ≤ 0.01; †, p-value ≤ 0.001.