



EFEITOS DA LOCALIZAÇÃO DO JOGO, RESULTADO DO JOGO E QUALIDADE DO ADVERSÁRIO, NA CARGA DE TREINO EM SEMANAS COM 2 JOGOS NUMA EQUIPA DE FUTEBOL ELITE EUROPEIA DE ALTO NÍVEL

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Quantificar a carga



fadiga

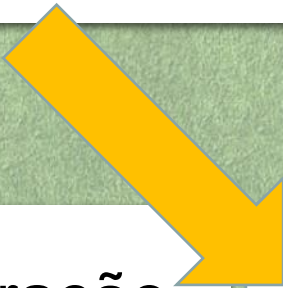
lesão

doença

(Anderson et al., 2016; Jones et al., 2017; Morgans et al., 2016; Thorpe et al., 2016)



Treinadores



> Performance e > recuperação
(Morgans et al., 2014; Nédélec, 2012).

PERIODIZAÇÃO
(Malone et al., 2015; Wallace et al., 2014)

Factores Contextuais
(resultado, localização do jogo e nível dos oponentes)



Determinam



Performance desportiva



(Oliveira et al., 2020; Aquino, Manechini, Bedo, Puggina & Garganta, 2017; Lago-Penas, 2012; Lago, Casais, Dominguez & Sampaio, 2010; Lago, 2009)

INTRODUÇÃO

REVISÃO DE LITERATURA

OBJETIVO

METODOLOGIA

RESULTADOS/DISCUSSÃO

CONCLUSÕES

Objetivo

QUANTIFICAR CARGA
INTERNA + EXTERNA → EFEITOS



Localização do jogo

Nível dos oponentes

Resultado do jogo



MD+1 E MD+2
semanas com
2 jogos

Participantes

<i>n</i>	Idade (anos)	Altura (cm)	Peso (kg)
9	28,0 ± 2,8	183,6 ± 6,54	80,0 ± 6,4

Critérios de inclusão:

➤ 100% - treinos; 90 min – num jogo; mín 60min

Table 1. Match duration (minutes) for each player in all matches.

Player	BLO		TLO		CHO3		CHO1	
	Home/Defeat	Away/win	Home/defeat	Away/win	Home/defeat	Away/win	Home/win	Away/defeat
1	90	90	90	90	90	90	90	90
2	90	68	45	90	90	90	90	66
3	24	90	90	90	75	90	85	90
4	90	90	90	90	90	90	90	90
5	90	90	90	78	61	80	80	90
6	86	90	13	67	45	8	73	9
7	66	86	23	73	90	10	10	24
8	4	12	90	23	29	72	90	90
9	12	78	90	90	90	73	90	90

BLO= bottom level opponent; TLO= top level opponent; CHO3= champions league opponent (third place in their league); CHO1= champions league opponent (first place in their league).

8 jogos



2 jogos cada adversário

16 unidades de treino

2 oponentes - BLO 16^o e 3^o - Campeonato nacional

2 oponentes – “UEFA Champions league” (1^o e 3^o)

Vitória/ Derrota + Casa / Fora

Carga Externa - treinos + jogos



Duração (treino + jogos, distância total,

Zonas de intensidade:

- 1 (0–10.9Km/h)
- 2 (11–13.9Km/h)
- 3 (14–18.9Km /h)
- 4 (19–23.9Km/h)
- 5 (>24Km/h)

GPS - (Viper pod 2, STATSports, Belfast, UK) (Beato et al., 2018)
and Tracking system (DatatracX®)



Carga Interna - treinos

Percepção Subjectiva de Esforço – RPE

30 min após o treino

session-RPE (s-RPE):

RPE x duração da sessão



Rating	Descriptor
0	Rest
1	Very, Very Easy
2	Easy
3	Moderate
4	Somewhat Hard
5	Hard
6	*
7	Very Hard
8	*
9	*
10	Maximal

(Foster et al., 1995; 1998; 2001)

Carga Interna - treinos

30 min antes do treino - Índice de Hooper (HI)

Subjective ratings of quality of sleep, fatigue, stress and muscle soreness
(Hooper & Mackinnon, 1995)

Sleep	Stress
1 - Very Very bad	1 – Very, very low
2 - Very bad	2 – Very low
3 - Bad	3 – Low
4 - Average	4 – Average
5 - Good	5 – High
6 - Very good	6 – Very high
7 - Very, very good	7 – Very, very high

Fatigue	Muscle soreness
1 – Very, very low	1 – Very, very low
2 – Very low	2 – Very low
3 – Low	3 – Low
4 – Average	4 – Average
5 – High	5 – High
6 – Very high	6 – Very high
7 – Very, very high	7 – Very, very high

Análise Estatística

- Teste *Shapiro-Wilk* e *Levene* para determinar normalidade e homogeneidade, respetivamente.
- Com distribuição normal (*Shapiro-Wilk* $> 0,05$), *ANOVA* com medidas repetidas e *Bonferroni post-hoc*.
- Sem distribuição normal (*Shapiro-Wilk* $< 0,05$), *ANOVA Friedman* e *Mann-Whitney*.

Effect size (Hopkins, 2006).



Table 3. Internal and external training load (squad average) on MD+1 and MD+2.

MD+1	Match Location and Match Result							
	BLO (n=7)		TLO (n=6)		CHO3 (n=6)		CHO1 (n=7)	
	Home/Defeat	Away/Win	Home/Defeat	Away/Win	Home/Defeat	Away/Win	Home/Win	Away/Defeat
DOMS (au)	4.86±1.46	2.71±1.50*	4.33±1.03	5.17±1.47	4.33±2.16	5.17±1.33	4.14±1.77	4.57±1.51
Sleep (au)	3.42±0.98a	3.00±1.53	2.83±0.75	4.00±0.63a,*	4.50±1.05	4.00±0.89a	3.43±1.40	4.42±0.79b
Fatigue (au)	4.71±1.50	2.71±1.70*	4.17±0.75	4.83±1.47	4.50±2.07	5.67±1.51	4.43±1.81	5.29±1.11b
Stress (au)	2.00±1.00	3.14±1.21	3.50±1.64	2.33±1.21	3.33±1.03	2.83±0.75	2.57±1.40	2.86±1.07
HI (au)	15.00±3.70	11.57±4.50	14.83±2.64	16.33±2.94	16.66±4.13	17.67±2.94	14.57±5.32	17.14±3.24b
Duration (min)	30.71±26.84a	39.19±30.99a	69.17±11.91	15.00±0.00*	25.50±25.72b	15.00±0.00b	74.00±0.00b	15.00±0.00*
s-RPE (au)	59.29±56.75a	179.71±206.01a	245.83±91.56	17.50±6.12b,*	106.00±215.64	27.50±6.12b	243.14±102.13	21.43±8.02b
Total Distance (m)	6100.20±1019.74b	7422.09±2195.66a	6387.11±464.61b	6934.32±570.35b	4584.71±1195.13	4009.90±470.97	4177.74±1130.10a	4362.19±787.11
Zone1 (m)	4433.61±737.91b	4972.01±1048.30	4349.66±126.94a	4898.05±125.14b,*	3701.38±648.46	3489.74±343.61	3234.43±746.22	3393.47±450.81
Zone2 (m)	812.57±296.53a	1205.87±623.66	1132.22±352.82b	1035.94±563.24b	537.90±313.90	339.93±123.50	649.48±355.27	627.55±336.61
Zone3 (m)	640.41±289.46b	908.47±568.39	649.80±82.19a	705.28±111.37b	274.12±260.35	155.43±74.52	575.46±167.14b	291.35±164.24*
Zone4 (m)	176.75±100.27a	246.91±142.29	228.60±51.26b	241.91±70.54b	82.10±60.00	29.43±18.86	61.75±65.94a	48.34±27.25
Zone5 (m)	40.16±61.02	103.76±159.45	26.83±12.84	53.14±22.58	9.81±5.03 (n=2)	5.16±4.43 (n=2)
AvS (m/min)	302.02±148.43b	333.74±229.83a	95.15±19.99b	462.29±38.02b,*	243.15±77.39b	267.33±31.40b	56.46±15.27b	290.81±52.47b,*

Table 3. Internal and external training load (squad average) on MD+1 and MD+2.

MD+1	Match Location and Match Result							
	BLO (n=7)		TLO (n=6)		CHO3 (n=6)		CHO1 (n=7)	
	Home/Defeat	Away/Win	Home/Defeat	Away/Win	Home/Defeat	Away/Win	Home/Win	Away/Defeat
MD+2								
DOMS (au)	4.57±1.61	2.57±1.13*	3.67±1.21	4.83±1.17	3.83±0.75	4.17±1.72	3.57±1.90	4.00±2.16
Sleep (au)	2.71±0.76	2.85±0.90	2.50±1.05	3.00±0.63	3.17±0.75	2.33±0.82*	3.14±0.69	2.86±0.38
Fatigue (au)	4.43±1.72	2.57±1.13	3.67±1.03	4.67±1.21	3.83±0.75	4.50±1.38	3.86±1.68	4.43±1.39
Stress (au)	2.29±0.95	3.14±0.69	3.17±1.47	2.33±1.21	3.17±0.98	2.83±0.75	2.71±1.25	2.71±0.95
HI (au)	14.00±4.28	11.14±2.41	13.00±3.85	14.83±2.86	14.00±2.28	13.83±3.97	13.29±4.49	14.00±4.16
Duration (min)	67.00±0.00	89.57±7.37*	79.50±10.58	65.00±0.00	61.00±18.59	56.00±12.39	50.43±17.00	57.00±0.00
s-RPE (au)	277.57±146.94	404.14±201.97	291.00±92.07	173.33±53.07	166.67±71.85	112.00±24.79	183.29±198.42	138.42±30.47
Total Distance (m)	3918.57±516.95	5597.49±1643.15*	4933.24±893.16	4810.65±849.34	4430.99±531.92	4001.71±658.58	5433.90±498.11	4437.63±902.56*
Zone1 (m)	2976.44±197.07	4168.81±792.73*	3764.36±580.46	3858.89±208.62	3625.51±542.67	3393.48±368.08	3879.20±217.34	3578.31±444.93
Zone2 (m)	508.92±190.81	663.73±347.48	587.90±149.22	612.14±437.60	429.67±49.99	342.39±252.98	837.41±252.04	455.80±288.95*
Zone3 (m)	340.08±145.44	527.17±360.77	431.06±135.04	305.00±256.51	291.98±92.27	197.23±72.30*	575.46±167.13	320.89±184.07*
Zone4 (m)	76.43±36.58	179.50±181.54	109.72±56.27	29.55±35.70	65.23±26.92	49.75±45.65	123.56±28.71	60.61±38.91*
Zone5 (m)	15.56±14.15	81.60±91.45	54.35±5.09	15.22±18.65	32.35±8.48 (n=6)	7.99±10.35 (n=6)*	18.40±5.81(n=4)	33.18±30.34(n=4)
AvS (m/min)	58.48±7.72	61.84±14.62	62.65±11.76	74.00±13.07	76.32±15.26	72.25±5.94	113.57±22.27	77.85±15.83*

BLO= bottom level opponent; TLO= top level opponent; CHO3= champions league opponent (third place in their league); CHO1= champions league opponent (first place in their league); MD+= matchday plus (1, 2); AU= arbitrary units; m= meters; RPE= rating of perceived effort exertion; s-RPE= session rating of perceived effort; HI= Hooper Index. * denotes difference between home vs away and win vs defeat, respectively, all P < 0.05; a denotes difference between MD+1 vs MD+2, P < 0.05 and b denotes difference between MD+1 vs MD+2, P < 0.01, respectively for each situational variable and opponent.

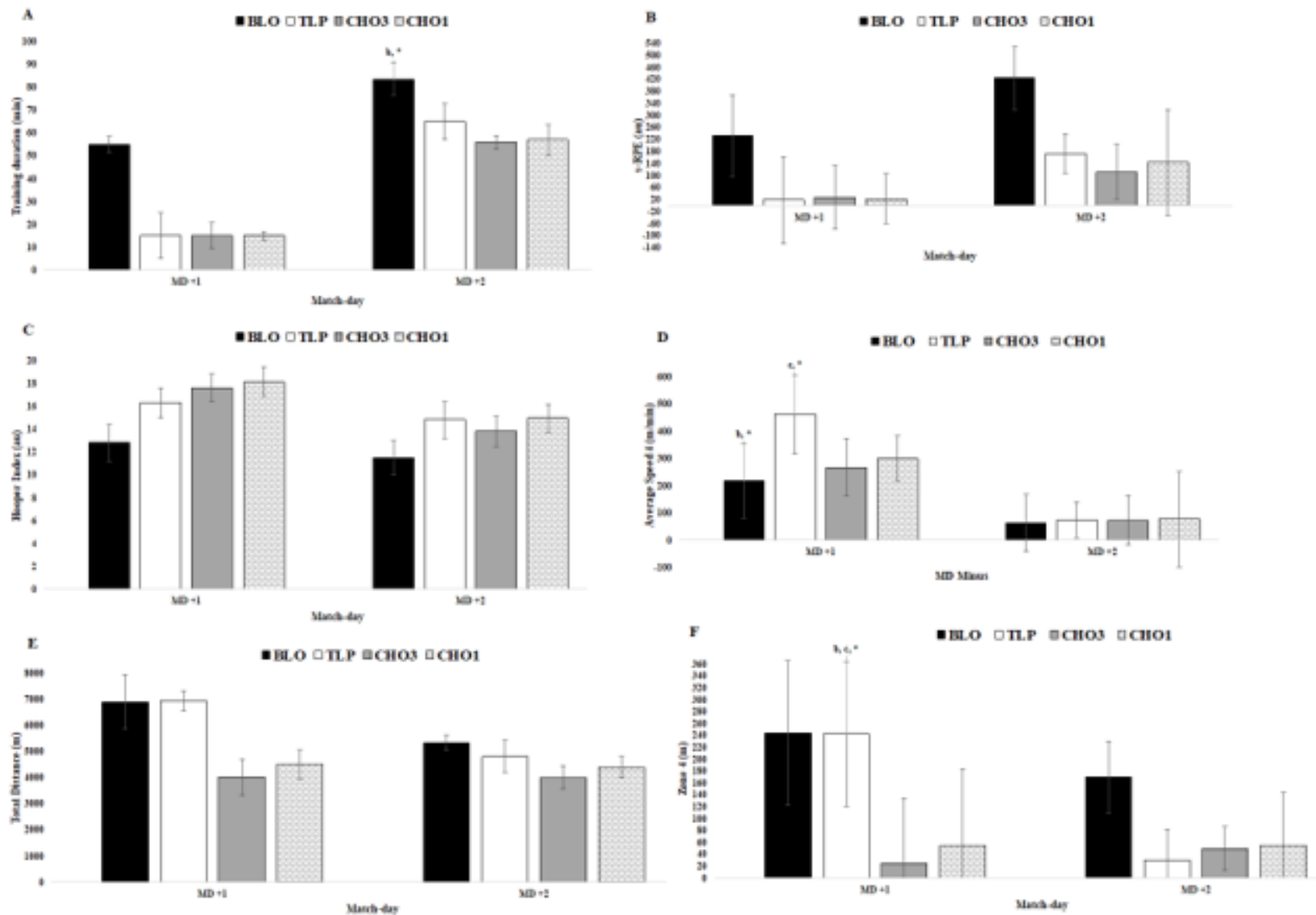


Fig 1. Comparisons between 4 opponents following away match situation for A) training duration, B) s-RPE, C) HI, D) AvS, E) total distance and F) zone 4 in MD+1 and MD+2, respectively. a denotes difference from TLP, b denotes difference from CHO3, c denotes difference from CHO1, all $P < .01$. * very large effect size.

Conclusões Finais



MD+1



MD+2



Com valores superiores de carga



**Índice de Hooper +
elevado quanto > for
a qualidade dos
adversários**



**S-RPE > depois de
jogar com um
oponente de baixo
nível**



**TD, Z1 e Z4 > depois
de jogar com
oponentes nacionais
do que da *UEFA
Champions League***

