



Supplementary File

Table S1. Models describing the association between time spent ≥ 20 %HRR and overall musculoskeletal pain (scale 0–27); stratified by VO₂max, BMI, control of work pacing, and occupational sector. Associations with $p < 0.05$ are marked in bold.

20% HRR	VO ₂ max < 34.8 n = 36			VO ₂ max \geq 34.8 n = 36		
	mean	β	(95% CI)	mean	β	(95% CI)
Intercept		3.60	(-0.89 – 8.04)		3.91	(1.42 – 6.41)
Time		0.23	(-0.11 – 0.58)		-0.24	(-0.52 – 0.04)
Awake/Sleep (<i>ilr</i> ₁)	-0.60	-1.98	(-9.54 – 5.51)	-0.54	-1.53	(-5.65 – 2.59)
Work/Leisure (<i>ilr</i> ₂)	-0.37	-3.77	(-9.13 – 1.55)	-0.41	-0.16	(-1.96 – 1.65)
≥ 20 %HRR Work/<20 %HRR Work (<i>ilr</i> ₃)	0.91	0.19	(-2.87 – 3.25)	0.66	0.45	(-0.96 – 1.87)
$\geq 20\%$ HRR Leisure/<20 %HRR Leisure (<i>ilr</i> ₄)	0.11	-0.81	(-3.24 – 1.58)	0.07	-2.54	(-4.83 – -0.27)

20% HRR	BMI [†] < 25 n = 35			BMI [†] \geq 25 n = 37		
	mean	β	(95% CI)	mean	β	(95% CI)
Intercept		3.36	(0.48 – 6.23)		4.48	(0.68 – 8.27)
Time		0.07	(-0.24 – 0.37)		-0.05	(-0.38 – 0.27)
Awake/Sleep (<i>ilr</i> ₁)	-0.56	-1.14	(-5.59 – 3.28)	-0.57	-1.34	(-7.66 – 4.98)
Work/Leisure (<i>ilr</i> ₂)	-0.51	-0.85	(-3.58 – 1.88)	-0.29	-1.39	(-3.99 – 1.22)
≥ 20 %HRR Work/<20 %HRR Work (<i>ilr</i> ₃)	0.79	0.16	(-1.54 – 1.86)	0.77	1.58	(-0.39 – 3.58)
$\geq 20\%$ HRR Leisure/<20 %HRR Leisure (<i>ilr</i> ₄)	0.06	-2.85	(-5.40 – -0.33)	0.12	-1.39	(-3.76 – 0.97)

20% HRR	Control of work pacing < 2.75 n = 32			Control of work pacing \geq 2.75 n = 38		
	mean	β	(95% CI)	mean	β	(95% CI)
Intercept		4.77	(-0.44 – 9.97)		3.35	(0.43 – 6.28)
Time		-0.14	(-0.45 – 0.16)		0.23	(-0.08 – 0.54)
Awake/Sleep (<i>ilr</i> ₁)	-0.61	-2.67	(-11.33 – 6.01)	-0.53	-0.69	(-5.05 – 3.66)
Work/Leisure (<i>ilr</i> ₂)	-0.48	-1.40	(-4.81 – 2.01)	-0.32	-0.94	(-3.99 – 2.12)
≥ 20 %HRR Work/<20 %HRR Work (<i>ilr</i> ₃)	1.09	0.13	(-2.40 – 2.68)	0.49	1.10	(-0.67 – 2.87)
$\geq 20\%$ HRR Leisure/<20 %HRR Leisure (<i>ilr</i> ₄)	0.15	-3.62	(-7.67 – 0.40)	0.06	-1.08	(-3.02 – 0.85)

20% HRR	Construction n = 35			Healthcare n = 37		
	mean	β	(95% CI)	mean	β	(95% CI)
Intercept		3.56	(0.65 – 6.47)		4.66	(0.63 – 8.69)
Time		0.07	(-0.22 – 0.37)		-0.07	(-0.42 – 0.27)
Awake/Sleep (<i>ilr</i> ₁)	0.54	-0.76	(-6.11 – 4.58)	-0.59	-0.04	(-6.25 – 6.19)
Work/Leisure (<i>ilr</i> ₂)	-0.30	0.90	(-1.60 – 3.41)	-0.48	-2.20	(-5.49 – 1.09)
≥ 20 %HRR Work/<20 %HRR Work (<i>ilr</i> ₃)	0.87	1.20	(-0.88 – 3.27)	0.69	1.11	(-0.72 – 2.96)
$\geq 20\%$ HRR Leisure/<20 %HRR Leisure (<i>ilr</i> ₄)	0.22	-0.86	(-3.17 – 1.43)	-0.04	-1.52	(-4.47 – 1.40)

¥ BMI (Body mass index)

Table S2. Models describing the association between time spent ≥ 30 %HRR and overall musculoskeletal pain (scale 0–27); stratified by VO₂max, BMI, control of work pacing, and occupational sector. Associations with $p < 0.05$ are marked in bold.

			VO ₂ max < 34.8		VO ₂ max ≥ 34.8	
			n = 36		n = 36	
30% HRR	mean	β	(95% CI)	mean	β	(95% CI)
Intercept		5.44	(-0.71 – 11.50)		1.45	(-2.11 – 4.99)
Time		0.23	(-0.11 – 0.58)		-0.24	(-0.52 – 0.04)
Awake/Sleep (<i>ilr</i> ₁)	-0.65	-0.89	(-10.35 – 8.44)	-0.64	-1.57	(-5.74 – 2.61)
Work/Leisure (<i>ilr</i> ₂)	-0.10	-3.32	(-9.83 – 3.14)	-0.15	-0.38	(-2.11 – 1.36)
≥30 %HRR Work/<30 %HRR Work (<i>ilr</i> ₃)	-0.65	2.06	(-1.51 – 5.68)	-0.72	0.67	(-0.85 – 2.19)
≥30% HRR Leisure/<30 %HRR Leisure (<i>ilr</i> ₄)	-1.01	-1.28	(-4.75 – 2.17)	-1.12	-2.57	(-5.19 – 0.03)
			BMI [‡] <25		BMI [‡] ≥25	
			n = 35		n = 37	
30% HRR	mean	β	(95% CI)	mean	β	(95% CI)
Intercept		2.12	(-1.85 – 6.06)		7.50	(3.30 – 11.70)
Time		0.07	(-0.23 – 0.38)		-0.06	(-0.38 – 0.27)
Awake/Sleep (<i>ilr</i> ₁)	-0.64	-1.19	(-5.97 – 3.57)	-0.66	0.33	(-7.19 – 7.85)
Work/Leisure (<i>ilr</i> ₂)	-0.24	-0.49	(-3.12 – 2.14)	-0.02	-1.07	(-3.95 – 1.81)
≥30 %HRR Work/<30 %HRR Work (<i>ilr</i> ₃)	-0.63	0.45	(-1.39 – 2.30)	-0.74	1.68	(-0.80 – 4.18)
≥30% HRR Leisure/<30 %HRR Leisure (<i>ilr</i> ₄)	-1.00	-1.68	(-4.60 – 1.22)	-1.12	-0.59	(-3.39 – 2.19)
			Control of work pacing <2.75		Control of work pacing ≥2.75	
			n = 32		n = 38	
30% HRR	mean	β	(95% CI)	mean	β	(95% CI)
Intercept		7.29	(1.02 – 13.53)		3.99	(0.46 – 7.48)
Time		-0.14	(-0.45 – 0.16)		0.22	(-0.09 – 0.53)
Awake/Sleep (<i>ilr</i> ₁)	-0.60	0.14	(-9.58 – 9.83)	-0.70	-0.51	(-5.43 – 4.39)
Work/Leisure (<i>ilr</i> ₂)	-0.07	-0.12	(-3.45 – 3.20)	-0.20	-0.77	(-3.89 – 2.35)
≥30 %HRR Work/<30 %HRR Work (<i>ilr</i> ₃)	-0.39	-0.19	(-3.07 – 2.71)	-0.98	1.31	(-0.96 – 3.58)
≥30% HRR Leisure/<30 %HRR Leisure (<i>ilr</i> ₄)	-0.98	0.63	(-4.60 – 5.83)	-1.13	-1.13	(-3.35 – 1.07)
			Construction		Healthcare	
			n = 35		n = 37	
30% HRR	mean	β	(95% CI)	mean	β	(95% CI)
Intercept		4.65	(1.02 – 8.26)		6.15	(1.45 – 10.81)
Time		0.07	(-0.22 – 0.37)		-0.07	(-0.41 – 0.27)
Awake/Sleep (<i>ilr</i> ₁)	-0.58	0.09	(-5.16 – 5.32)	-0.71	-1.21	(-8.75 – 6.31)
Work/Leisure (<i>ilr</i> ₂)	0.01	0.82	(-1.59 – 3.25)	-0.25	-2.57	(-6.55 – 1.39)
≥30 %HRR Work/<30 %HRR Work (<i>ilr</i> ₃)	-0.51	0.64	(-1.11 – 2.39)	-0.85	2.56	(-0.57 – 5.74)
≥30% HRR Leisure/<30 %HRR Leisure (<i>ilr</i> ₄)	-1.04	-0.27	(-2.63 – 2.09)	-1.09	-1.01	(-4.68 – 2.61)

¥ BMI (Body mass index)

Table S3. Models describing the association between time spent ≥ 40 %HRR and overall musculoskeletal pain (scale 0–27); stratified by VO₂max, BMI, control of work pacing, and sector. Associations with $p < 0.05$ are marked in bold.

40% HRR	VO ₂ max < 34.8 n = 36			VO ₂ max ≥ 34.8 n = 36		
	mean	β	(95% CI)	mean	β	(95% CI)
Intercept		7.49	(2.87 – 12.08)		0.60	(-4.41 – 5.57)
Time		0.24	(-0.11 – 0.58)		-0.23	(-0.52 – 0.04)
Awake/Sleep (<i>ilr</i> ₁)	-1.19	-0.47	(-9.64 – 8.59)	-1.27	-1.92	(-6.42 – 2.58)
Work/Leisure (<i>ilr</i> ₂)	-0.29	-2.15	(-8.77 – 4.45)	-0.13	-0.56	(-2.44 – 1.31)
≥ 40 %HRR Work/<40 %HRR Work (<i>ilr</i> ₃)	-2.16	1.90	(-3.99 – 7.85)	-2.20	0.83	(-1.26 – 2.90)
≥ 40 % HRR Leisure/<40 %HRR Leisure (<i>ilr</i> ₄)	-2.01	-0.86	(-4.97 – 3.25)	-2.36	-1.54	(-3.90 – 0.81)

40% HRR	BMI [‡] <25 n = 35			BMI [‡] ≥ 25 n = 37		
	mean	β	(95% CI)	mean	β	(95% CI)
Intercept		1.67	(-3.01 – 6.28)		9.57	(5.14 – 13.99)
Time		0.08	(-0.23 – 0.39)		-0.05	(-0.38 – 0.27)
Awake/Sleep (<i>ilr</i> ₁)	-1.19	-1.69	(-6.62 – 3.21)	-1.26	0.21	(-8.07 – 8.53)
Work/Leisure (<i>ilr</i> ₂)	-0.29	-0.30	(-3.15 – 2.54)	-0.13	-1.20	(-4.34 – 1.94)
≥ 40 %HRR Work/<40 %HRR Work (<i>ilr</i> ₃)	-2.08	0.64	(-2.03 – 3.32)	-2.27	1.77	(-2.04 – 5.57)
≥ 40 % HRR Leisure/<40 %HRR Leisure (<i>ilr</i> ₄)	-2.12	-0.93	(-3.57 – 1.69)	-2.25	-0.58	(-3.77 – 2.61)

40% HRR	Control of work pacing <2.75 n = 32			Control of work pacing ≥ 2.75 n = 38		
	mean	β	(95% CI)	mean	β	(95% CI)
Intercept		8.70	(1.65 – 15.74)		4.15	(0.25 – 8.00)
Time		-0.14	(-0.45 – 0.17)		0.22	(-0.09 – 0.53)
Awake/Sleep (<i>ilr</i> ₁)	-1.11	-0.70	(-10.54 – 9.11)	-1.34	-0.84	(-5.89 – 4.18)
Work/Leisure (<i>ilr</i> ₂)	0.02	0.43	(-2.94 – 3.79)	-0.44	-0.61	(-3.78 – 2.57)
≥ 40 %HRR Work/<40 %HRR Work (<i>ilr</i> ₃)	-1.80	-0.40	(-4.44 – 3.66)	-2.56	1.31	(-1.66 – 4.29)
≥ 40 % HRR Leisure/<40 %HRR Leisure (<i>ilr</i> ₄)	-2.11	1.67	(-2.88 – 6.22)	-2.24	-1.03	(-3.35 – 1.30)

40% HRR	Construction n = 35			Healthcare n = 37		
	mean	β	(95% CI)	mean	β	(95% CI)
Intercept		4.43	(0.09 – 8.76)		8.80	(3.92 – 13.66)
Time		0.07	(-0.22 – 0.37)		-0.07	(-0.41 – 0.27)
Awake/Sleep (<i>ilr</i> ₁)	-1.15	-0.33	(-6.10 – 5.42)	-1.30	-0.80	(-8.47 – 6.86)
Work/Leisure (<i>ilr</i> ₂)	0.06	0.54	(-2.05 – 3.13)	-0.46	-2.40	(-6.81 – 2.01)
≥ 40 %HRR Work/<40 %HRR Work (<i>ilr</i> ₃)	-1.98	0.31	(-2.30 – 2.92)	-2.37	2.95	(-1.63 – 7.57)
≥ 40 % HRR Leisure/<40 %HRR Leisure (<i>ilr</i> ₄)	-2.28	-0.14	(-2.58 – 2.31)	-2.09	-1.25	(-5.04 – 2.50)

[‡] BMI (Body mass index)