The Effects of a 16-week Aerobic Exercise and Mindfulness-based Intervention on Chronic Psychosocial Stress: A Nonrandomized Pilot and Feasibility Trial

Supplementary Results

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Table 1
Summarized results for gains (T1-T0) at multiple confidence limits for psychosocial stress factors, mindfulness, emotion regulation factors, and maximal aerobic capacity

		Gain	80% CI	95% CI	p
PSS	M	-4.24	[-6.51, -1.96]	[-7.84, -0.63]	.024
	d_{av}	-0.68	[-1.05, -0.29]	[-1.25, -0.09]	
DASS-21 (Stress)	M	-4.59	[-5.94, -3.24]	[-6.73, -2.44]	<.001
	d_{av}	-0.77	[-1.03, -0.48]	[-1.18, -0.34]	
DASS-21 (Anxiety)	M	0.12	[-1.36, 1.59]	[-2.22, 2.46]	.916
	d_{av}	0.02	[-0.23, 0.27]	[-0.35, 0.39]	
DASS-21 (Depression)	M	-4.00	[-6.05, -1.95]	[-7.25, -0.75]	.019
	d_{av}	-0.66	[-1.01, -0.29]	[-1.20, -0.11]	
WHO-5	M	9.65	[4.54, 14.75]	[1.55, 17.75]	.023
	d_{av}	0.61	[0.26, 0.94]	[0.08, 1.12]	
MAAS	M	0.22	[-0.03, 0.46]	[-0.17, 0.60]	.256
	d_{av}	0.32	[-0.04, 0.67]	[-0.23, 0.85]	
ERQ-CR	M	0.86	[0.53, 1.20]	[0.33, 1.39]	.003
	d_{av}	0.65	[0.36, 0.93]	[0.21, 1.08]	
RRS-BR	M	-1.41	[-2.24, -0.58]	[-2.72, -0.10]	.037
	d_{av}	-0.37	[-0.60, -0.14]	[-0.72, -0.02]	
PSWQ	M	-6.18	[-9.44, -2.92]	[-11.34, -1.01]	.022
	d_{av}	-0.44	[-0.68, -0.19]	[-0.81, -0.06]	
$\dot{V}O_{2max}$	M	0.25	[-1.69, 2.19]	[-2.83, 3.32]	.868
	d_{av}	0.03	[-0.20, 0.26]	[-0.32, 0.38]	

Note. Sampling Units: $N = 17$ and observations = 34; M = mean; CI = confidence interval; d_{av} = Cohen's d with average standard deviation as standardizer, $p = p$ value.

Table 2
Summarized results for gains (T1-T0) at multiple confidence limits for psychosocial stress factors, mindfulness, emotion regulation factors, and maximal aerobic capacity

	Gain	80% CI	95% CI	p
Oxygen Cost				
Time contrast (T1-T0)	-0.14	[-0.20, -0.07]	[-0.24, -0.04]	.007
Relative Oxygen Cost				
Time contrast (T1-T0)	-4.37	[-5.77, -2.96]	[-6.53, -2.20]	<.001
6 km/h (T1-T0)	-1.42	[-4.23, 1.40]	[-5.75, 2.91]	.517
8 km/h (T1-T0)	-2.34	[-5.15, 0.48]	[-6.67, 1.99]	.286
10 km/h (T1-T0)	-5.91	[-8.72, -3.09]	[-10.24, -1.57]	.008
12 km/h (T1-T0)	-7.81	[-10.63, -5.00]	[-12.14, -3.48]	.001
Heart rate				
Time contrast (T1-T0)	-4.56	[-6.63, -2.50]	[-7.75, -1.38]	.005
Perceived Exertion (RPE)				
Time contrast (T1-T0)	-0.71	[-0.96, -0.47]	[-1.09, -0.33]	<.001

Note. Sampling Units: $N = 17$ and observations = 34; M = mean; CI = confidence interval; d_{av} = Cohen's d with average standard deviation as standardizer, $p = p$ value.

Table 3
Summarized results of the linear mixed model for absolute oxygen cost.

Random Effects	Log Likelihood	AIC	LRT	*df*	*p*
Participant	-38.17	96.34			
None	-78.74	175.48	81.14	1	<.001
	Estimate	*SE*	*df*	*t*	*p*
Intercept	2.10	0.11	12.00	18.90	<.001
Time1	0.07	0.02	84.00	2.75	.007
Velocity1	-0.90	0.04	84.00	-20.88	<.001
Velocity2	-0.20	0.04	84.00	-4.69	<.001
Velocity3	0.33	0.04	84.00	7.69	<.001
Time1 x Velocity1	-0.05	0.04	84.00	-1.28	.205
Time1 x Velocity2	-0.03	0.04	84.00	-0.79	.430
Time1 x Velocity3	0.03	0.04	84.00	0.60	.552
	Variance	*SD*			
Random effects	0.15	0.39			
Residual	0.06	0.25			

Note. Sampling Units: N total observations = 104; N participants = 13. Final model equation: $oxygen\ cost \sim time \times velocity + (1|participant)$; t statistics and p values calculated using Satterthwaite's method; AIC = Akaike Information Criterion; LRT = Likelihood Ratio Test; *df* = degrees of freedom; p = p value; SD = standard deviation. Factors: Time1 = T0, Velocity1 = 6 km/h, Velocity2 = 8 km/h, Velocity3 = 10 km/h.

Table 4
Summarized results of the linear mixed model for relative oxygen cost.

Random Effects	Log Likelihood	AIC	LRT	*df*	*p*
Participant	-327.68	675.36			
None	-341.19	700.38	27.02	1	<.001
	Estimate	*SE*	*df*	*t*	*p*
Intercept	61.31	1.37	12.00	44.66	<.001
Time1	2.18	0.54	84.00	4.01	<.001
Velocity1	-26.54	0.94	84.00	-28.14	<.001
Velocity2	-6.12	0.94	84.00	-6.49	<.001
Velocity3	9.86	0.94	84.00	10.46	<.001
Time1 x Velocity1	-1.48	0.94	84.00	-1.56	.121
Time1 x Velocity2	-1.02	0.94	84.00	-1.08	.284
Time1 x Velocity3	0.77	0.94	84.00	0.82	.417
	Variance	*SD*			
Random effects	20.65	4.54			
Residual	30.82	5.55			

Note. Sampling Units: N total observations = 104; N participants = 13. Final model equation: $relative\ oxygen\ cost \sim time \times velocity + (1|participant)$; t statistics and p values calculated using Satterthwaite's method; AIC = Akaike Information Criterion; LRT = Likelihood Ratio Test; df = degrees of freedom; p = p value; SD = standard deviation. Factors: Time1 = T0, Velocity1 = 6 km/h, Velocity2 = 8 km/h, Velocity3 = 10 km/h.

Table 5
Summarized results of the linear mixed model for heart rate.

Random Effects	Log Likelihood	AIC	LRT	*df*	*p*
Participant	-369.37	758.75			
None	-399.71	817.42	60.67	1	<.001
	Estimate	*SE*	*df*	*t*	*p*
Intercept	154.93	2.99	12.00	51.89	<.001
Time1	2.28	0.80	84.00	2.85	.005
Velocity1	-31.73	1.39	84.00	-22.89	<.001
Velocity2	-5.78	1.39	84.00	-4.17	<.001
Velocity3	12.07	1.39	84.00	8.70	<.001
Time1 x Velocity1	-0.94	1.39	84.00	-0.68	.498
Time1 x Velocity2	-0.13	1.39	84.00	-0.09	.926
Time1 x Velocity3	0.03	1.39	84.00	0.02	.982
	Variance	*SD*			
Random effects	107.56	10.37			
Residual	66.62	8.16			

Note. Sampling Units: N total observations = 104; N participants = 13. Final model equation: $heart\ rate \sim time \times velocity + (1|participant)$; t statistics and p values calculated using Satterthwaite's method; AIC = Akaike Information Criterion; LRT = Likelihood Ratio Test; *df* = degrees of freedom; p = p value; SD = standard deviation. Factors: Time1 = T0, Velocity1 = 6 km/h, Velocity2 = 8 km/h, Velocity3 = 10 km/h.

Table 6
Summarized results of the linear mixed model for perceived exertion (RPE).

Random Effects	Log Likelihood	AIC	LRT	*df*	*p*
Participant	-160.46	340.92			
None	-174.08	366.16	27.24	1	<.001
	Estimate	*SE*	*df*	*t*	*p*
Intercept	10.91	0.24	12.00	45.25	<.001
Time1	0.36	0.10	84.00	3.73	<.001
Velocity1	-3.53	0.17	84.00	-21.37	<.001
Velocity2	-0.91	0.17	84.00	-5.53	<.001
Velocity3	1.05	0.17	84.00	6.35	<.001
Time1 x Velocity1	-0.20	0.17	84.00	-1.22	.225
Time1 x Velocity2	0.11	0.17	84.00	0.64	.524
Time1 x Velocity3	0.07	0.17	84.00	0.41	.685
	Variance	*SD*			
Random effects	0.64	0.80			
Residual	0.95	0.97			

Note. Sampling Units: N total observations = 104; N participants = 13. Final model equation: $RPE \sim time \times velocity + (1|participant)$; t statistics and p values calculated using Satterthwaite's method; AIC = Akaike Information Criterion; LRT = Likelihood Ratio Test; *df* = degrees of freedom; p = p value; SD = standard deviation. Factors: Time1 = T0, Velocity1 = 6 km/h, Velocity2 = 8 km/h, Velocity3 = 10 km/h.