

## The Effects of Repeated-Sprint Training on Field-Based Fitness Measures: A Meta-Analysis of Controlled and Non-Controlled Trials

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Study name	Statistics for each study			Standardised mean difference and 95% CL
	Pre-training	Post-training		
	(cm)	(cm)	difference; ±95% (	L.
Buchheit et al. [35]	47.1	49.3	$2.2; \pm 2.7$	<del> </del>
Buchheit et al. [13]	35.5	38.0	$2.5; \pm 4.8$	<del></del>
Fernandez-Fernandez et al. [11]	38.4	38.0	$-0.4; \pm 2.1$	<del></del>
Ferrari-Bravo et al. [14]	46.1	46.1	$0.0; \pm 1.8$	<del></del>
Lockie et al. [26]	36.1	38.1	2.0; 3.6	<del>                                     </del>
Markovic et al. [8]	47.3	50.6	$3.3; \pm 1.7$	<del>-</del>
Combined	41.8	43.4	1.4; ±1.5	
				-2.00 -1.00 0.00 1.00 2.00
				Harmful Beneficial

Figure 2. Effects of repeated-sprint training on counter-movement jump performance in non-controlled trials. CL confidence limits

Study name	Statistics for each study			Standardised mean difference and 959					
	Pre-training	Post-training	Mean						
	(s)	(s)	difference; ±95% (	CL					
Buchheit et al. [35]	1.88	1.86	$-0.02; \pm 0.07$			-			
Buchheit et al. [13]	1.96	1.93	$-0.03; \pm 0.05$		-				
Dawson et al. [37]	1.87	1.81	$-0.06; \pm 0.05$		_	■			
Ferrari-Bravo et al. [14]	1.77	1.76	$-0.01; \pm 0.03$			-			
Galvin et al. [34]	1.82	1.80	$-0.02; \pm 0.04$			-			
Lockie et al. [26]	2.08	1.99	$-0.09; \pm 0.07$			-			
Lockie et al. [25]	2.07	1.96	$-0.11; \pm 0.07$						
Nebil et al. [23]	2.44	2.42	$-0.02; \pm 0.12$			_			
Combined	1.99	1.94	$-0.04; \pm 0.02$			<b>◆</b>			
				-4.00	-2.00	0.00	2.00	4.00	
					Benefici	al	Harmful		

Figure 3. Effects of repeated-sprint training on 10 m sprint performance in non-controlled trials. CL confidence limits

Study name	Statistics for each study			Standardised mean difference and 95% C					
	Pre-training	Post-training	Mean						
	(s)	(s)	difference; ±95%	CL					
Fernandez-Fernandez et al. [11]	3.20	3.20	$0.00; \pm 0.06$	<del>_</del>					
Galvin et al. [34]	3.12	3.09	$-0.03; \pm 0.06$	_ <del>_</del> _					
Markovic et al. [8]	3.23	3.14	$-0.09; \pm 0.04$	<b>-</b>					
Nebil et al. [23]	3.46	2.96	$-0.50; \pm 0.28$	<b></b> ■					
Combined	3.25	3.10	$-0.07; \pm 0.08$	•					
				-4.00 -2.00 0.00 2.00 4.00					
				Beneficial Harmful					

Figure 4. Effects of repeated-sprint training on 20 m sprint performance in non-controlled trials. CL confidence limits

Study name		Statistics for each study				Standardised mean difference and 95% C				
	Pre-training	Post-training	Mean							
	(s)	(s)	difference; ±95% (	CL						
Buchheit et al. [13]	4.70	4.60	$-0.10; \pm 0.12$		_	<b>=</b> +				
Nebil et al. [23]	5.90	5.38	$-0.52; \pm 0.25$			— I				
Combined	5.30	4.99	$-0.30; \pm 0.41$							
				-4.00	-2.00	0.00	2.00	4.00		
					Beneficia	al	Harmful			

Figure 5. Effects of repeated-sprint training on 30 m sprint performance in non-controlled trials. CL confidence limits

Study name	Statistics for each study			Standardised mean difference and 95% Cl					
	Pre-training	Post-training	Mean						
	(s)	(s)	difference; ±95%	CL					
Buchheit et al. [35]	5.93	5.87	$-0.06; \pm 1.12$	<del></del>					
Buchheit et al. [13]	6.35	6.18	$-0.17; \pm 0.13$	<del></del>					
Dawson et al. [37]	5.94	5.81	$-0.13; \pm 0.19$	<del></del>					
Fernandez-Fernandez et al. [11]	5.30	5.10	$-0.20; \pm 0.11$	<del></del>					
Ferrari-Bravo et al. [14]	7.53	7.37	$-0.16; \pm 0.10$	<del></del>					
Galvin et al. [34]	3.27	3.23	$-0.04; \pm 0.06$	<del></del>					
Mohr et al. [36]	4.78	4.58	$-0.20; \pm 0.21$	<del></del>					
Suarez-Arrones et al. [24]	8.00	7.80	$-0.20; \pm 0.14$						
Combined	5.89	5.74	$-0.14; \pm 0.06$	•					
				-2.00 -1.00 0.00 1.00 2.00					
				Beneficial Harmful					

Figure 6. Effects of repeated-sprint training on repeated-sprint ability in non-controlled trials. CL confidence limits

Study name		Standardised mean difference and 95% C						
	Pre-training	Post-training	Mean					
	(m)	(m)	difference; ±95%	CL				
Ferrari Bravo et al. [14]	1917	2455	538; ±253					
Galvin et al. [34]	1374	1594	$220;\pm 187$			上		
Serpiello et al. [27]	1305	1400	$95; \pm 441$			<del></del>	_	
Combined	1532	1816	309; ±248			<b>-</b>		
				-2.00	-1.00	0.00	1.00	2.00
					Harmful		Benefic	ial

Figure 7. Effects of repeated-sprint training on high-intensity intermittent running performance in non-controlled trials. CL confidence limits