Correction to: Mental Fatigue and Sport-Specific Psychomotor Performance: A Systematic Review

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After publication it was noted that several reference numbers were incorrect in Tables 2 and 3 and Fig. 3. Corrected versions of Tables 2, 3 and 4 and Fig. 3 are reproduced below:

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Table 2 Overview of population characteristics, mental fatigue inducing interventions and manipulation checks

References	Sample	Characteristics	Intervention	Control	Duration	Outcome
Badin et al. [24]	20 Soccer players	Age: 17.80 ± 1.00 y Mass: 72.40 ± 6.80 kg Height: 179.00 ± 5.00 cm Level: Australian National Premier League soccer club	50% Incongruent Stroop task	Documentary	30 min	S: MF ↑ in I vs C (assessed using VAS) (MBI)
Coutinho et al. [26]	12 Soccer players	Age: 15.90 ± 0.80 y Mass: 59.50 ± 5.20 kg Height: 172.80 ± 5.20 cm Peak running speed: 23.30 ± 2.80 km/h Years of experience: 8.90 ± 2.40 y	Whole-body coordination task	Light general aerobic exercises	20 min	S: MF ↑ in I vs C (assessed using VAS) (MBI)
Coutinho et al. [44]	10 Soccer players	Age: 13.70 ± 0.50 y Mass: 56.20 ± 4.20 kg Height: 163.10 ± 6.10 cm Years of experience: 6.10 ± 0.90 y	50% Incongruent Stroop task	No previous intervention	30 min (only in I)	S: MF ↑ in I vs C (assessed using VAS) (MBI)
Englert et al. [49]	37 Sport students	Age: 22.00 ± 1.90 y Years of experience: 4.10 ± 3.90 y	Omitting the letters e and n while transcribing a neutral text	Transcribing a neutral text	6 min	S: MF ↑ in I vs C (assessed using 4-point Likert scale)
Englert et al. [50]	38 Soccer players	Age: 20.58 ± 2.10 y Sex: ♀ Years of experience: 14.13 ± 3.88y Level: Collegiate level, no prior track and field experience	Omitting the letters e and n while transcribing a neutral text	Transcribing a neutral text	6 min	S: MF ↑ in I vs C (assessed using 7-point Likert scale)
Filipas et al. [46]	12 Soccer players U14	Sex: ♂ Mass: 55.00 ± 8.00 kg Height: 1.68 ± 0.04 m Level: Local soccer team competing at national level (> 3 years of experience)	Computerised and modified version of an incongruent Stroop task	Reading a selection of emotionally neutral online magazines	I: 30 min C: 15 min	S: MF ↑ in I vs C (assessed using VAS) B: No differences between I and C on ACC and RT of the Stroop task
	12 Soccer players U16	Sex: ♂ Mass: 62.00 ± 8.00 kg Height: 1.70 ± 0.05 m Level: Local soccer team competing at national level (> 3 years of experience)				
	12 Soccer players U18	Sex: ♂ Mass: 69.00 ± 8.00 kg Height: 1.77 ± 0.07 m Level: Local soccer team competing at national level (> 3 years of experience)				
Fortes et al. [48]	20 Soccer players	Age: 24.70 ± 3.60 y Mass: 78.2 ± 6.90 kg Height: 1.70 ± 0.07 m Level: 3rd division Brazilian soccer league	Smartphone use (Social networking apps)	Watching coaching video	I: 15, 30, 45 min C: 30 min	B: ACC ↓ and RT ↑ Stroop in I (30, 45 min) vs C and I (15 min)
Fortes et al. [43]	25 Soccer players	Age: 23.40 ± 2.80 y Mass: 76.10 ± 5.60 kg Height: 1.70 ± 0.08 m Level: Professional Years of experience: 8.70 ± 3.30 y	1. Smartphone use (Social networking apps) 2. Playing video games (FIFA 2018)	Watching advertising videos	30 min	B: ACC ↓ and RT ↑ in Stroop in I (SMA, VID) vs C

Table 2 (continued)

References	Sample	Characteristics	Intervention	Control	Duration	Outcome
Gantois et al. [41]	20 Soccer players	Age: 22.60 ± 3.30 y Sex: ♂ Mass: 78.20 ± 5.40 kg Height: 1.70 ± 0.09 m Level: Professional	Stroop task (congruent, incongruent, neutral)	Watching advertising videos	I: 15, 30 min C: 30 min	B: ACC Stroop = in I and C RT Stroop ↑ in I (30 min) vs C and I (15 min)
Head et al. [23]	20 Soldiers	Sex: ♂ Level: Trained	Sustained Attention to Response Task	Documentary	49 min	P: ↓ HRV in I vs C B: ↑ errors of omission (incorrectly withholding to distractor) as a function of time
Kosack et al. [53]	19 Badminton players	Age: 20.00 ± 2.80 y Sex: ♂ Mass: 74.95 ± 8.70 kg (<i>n</i> = 17) Years of experience: 12.50 ± 3.50 Level: National elite (national Danish ranking: 67.00 ± 58.60; <i>n</i> = 9)	Modified Stroop task	Documentary	60 min	S: MF ↑ in I vs C (assessed using VAS) B: RT ↓ in time in I
Le Mansec et al. [22]	22 Table tennis players	Age: 26.90 ± 8.90 y Sex: ♂ Mass: 72.20 ± 10.30 kg Height: 1.79 ± 0.07 m Level: Regional-national	AX-CPT	Movie	90 min	S: F ↑ in I vs C (assessed using VAS)
McEwan et al. [51]	62 Participants	Age: 22.8 ± 3.95 y Sex: 31♂/31♀ Level: Novices/recreational players	Modified Stroop (incongruent)	Modified Stroop (congruent)	5 min	S: No differences between I and C (Borg CR-10, VAS, Brief mood inspection scale)
Moreira et al. [54]	32 Basketball players	Age: 15.20 ± 1.20 y Sex: ♂ Mass: 72.00 ± 15.00 kg Height: 1.80 ± 0.11 m Level: High level youth Brazil	Incongruent Stroop task	Focus on black cross on screen + relaxation	30 min	B: ACC Stroop ↑ over time (for both groups) RT Stroop ↓ over time (for both groups)
Shin et al. [55]	51 College students	Age: 23.60 ± 2.40 y Sex: ♀ Mass: 73.90 ± 12.20 kg Height: 1.76 ± 0.08 m Level: No golf putting experience	Transcription task: the letters e and t while transcribing a neutral text	Browsing shopping magazines	7 min	S: MF ↑ in I vs C (assessed using 4-point Likert scale)
Smith et al. [25]	14 Soccer players	Age: 19.60 ± 3.50 y Sex: ♂ Mass: 67.80 ± 8.30 kg Height: 1.77 ± 0.06 m Level: Competitive Belgian (13.60 ± 3.20 y player experience)	Modified Stroop task (paper version)	Reading emotionally neutral magazines	30 min	S: MF ↑ in I vs C (assessed using VAS)
Smith et al. [47]	12 Soccer players	Age: 19.30 ± 1.50 y Sex: ♂ Level: Well-trained Belgian	Modified Stroop task (paper version)	Reading emotionally neutral magazines	30 min	S: MF ↑ in I vs C (assessed using VAS) (MBI)
Treccroci et al. [45]	9 Soccer players	Age: 17.60 ± 0.50 y Mass: 68.50 ± 6.20 kg Height: 1.81 ± 4.40 m Level: Sub-elite players from the same U19 team from a semi professional soccer academy	Stroop task	Documentary	30 min	S: MF ↑ in I vs C with a significant increase over time in I (assessed using VAS)

Table 2 (continued)

References	Sample	Characteristics	Intervention	Control	Duration	Outcome
Van Cutsem et al. [52]	11 Participants	Age: 25.00 ± 4.00 y Sex: 6 ♀/5 ♂ Mass: 70.20 ± 13.80 kg Height: 1.69 ± 0.07 m Level: Healthy, not engaged in regular PA	Modified Stroop task	Documentary	90 min	S: MF ↑ in I vs C (assessed using VAS) B: ACC ↓ in time in I (Stroop task)
	9 Badminton players	Age: 23.00 ± 3.00 y Sex: 4 ♀/5 ♂ Mass: 67.00 ± 12.80 kg; Height: 1.73 ± 0.11 m; Level: Competitive Belgian				
Veness et al. [21]	10 Cricket players	Age: 21.00 ± 8.00 y Sex: ♂ Mass: 77.10 ± 9.90 kg Height: 1.85 ± 0.08 m Level: elite	Modified Stroop task	Reading emotionally neutral magazines	30 × 60 s Stroop	S: MF ↑ in I vs C (assessed using VAS)
Vogt et al. [42]	33 Soccer players	Age: 13.50 ± 1.00 y Sex: ♂ Mass: 77.10 ± 9.90 kg Height: 1.67 ± 0.08 m Level: Highest regional or national youth level in their respective age in Germany	Incongruent Stroop task (10 min), determination test (10 min)	Reading emotionally neutral magazines, watching non-arousing football highlights, talking to other participants	20 min	S: MF ↑ in I vs C (assessed using VAS)

ACC accuracy, AX-CPT AX-continuous performance test, B behavioural, BRUMS Brunel mood scale, C control, cm centimetre, CRI0 CRI0 scale ratings of perceived exertion, HRV heart rate variability, I intervention, kg kilograms, km/h kilometre per hour, m meter(s), ME mental exertion, MF mental fatigue, min minutes, NASA-TLX 6 item workload measure, P physiological, RPE rate of perceived exertion, RT reaction time, S subjective, sec seconds, VAS visual analogue scale, y years, ♂ male, ♀ female, ↑ higher, ↓ lower

Table 3 Overview of the effect of MF on sport-specific psychomotor performance

References	Task	Time	SSPP outcomes	Results	<i>p</i>	ES (95% CI)	Secondary outcomes	Remarks
Soccer								
Badin et al. [24]	5 vs 5 small-sided games	Post	Involvements (<i>n</i>) Passes (<i>n</i>) Pass accuracy (%) Tackles (<i>n</i>) Tackles success (%) Control errors (<i>n</i>) Possessions (<i>n</i>) Possessions (%) Possession time (min)	Likely + effect of MF compared to CON Very likely—effect of MF compared to CON Possibly + effect of MF compared to CON Possibly—effect of MF compared to CON Unclear effect of MF compared to CON Likely—effect of MF compared to CON Very likely + effect of MF compared to CON Unclear effect of MF compared to CON Very likely—effect of MF compared to CON Unclear effect of MF compared to CON		$d = 0.42$ (0.04; 0.81) $d = -0.73$ (−1.19; −0.28) $d = 0.23$ (−0.15; 0.38) $d = -0.25$ (−0.63; 0.13) $d = 0.18$ (−0.28; 0.64) $d = -0.76$ (−1.32; −0.20) $d = 0.61$ (0.23; 0.99) $d = 0.11$ (−0.25; 0.47) $d = -0.63$ (−1.01; −0.26) $d = -0.32$ (−1.09; 1.36)	HR: Possibly lower RPE: Likely increase	MBI
Coutinho et al. [26]	6 vs 6 small sided games (excl. GK)	Post	Accuracy (m/s ²) Distance covered (m/min) Space Exploration Index (m) Longitudinal Sync (%) Lateral Sync (%) Length (m) Width (m) Dispersion Speed (m/s) Contraction speed (m/s)	Possible ↓ of MF compared to CON Unclear effect of MF compared to CON Unclear effect of MF compared to CON Possibly ↓ of MF compared to CON Unclear effect of MF compared to CON Unclear effect of MF compared to CON Possibly ↓ of MF compared to CON	0.001	$d = -2.50$; ± 3.30 $d = -0.70$; ± 8.30 $d = -0.30$; ± 5.60 $d = -13.40$; ± 7.90 $d = 2.10$; ± 9.40 $d = 0.60$; ± 7.30 $d = -5.60$; ± 9.30	No effect on neuromuscular performance (CMJ)	MBI
Coutinho et al. [44]	5 vs 5 small-sided games (excl. GK)	Post	Muscular variables Total distance (m) High ratio distance (m) Moderate ratio distance (m) Low ratio distance (m) Number of accelerations Number of decelerations Positional variables Distance between dyads (m) Entropy distance dyads (au) Stretch index (m) Longitudinal sync (%) Lateral sync (%)	Likely ↓ in MF vs CON Possibly ↓ in MF vs CON Possibly ↓ in MF vs CON Likely trivial in MF vs CON Unclear effect Unclear effect Likely trivial in MF vs CON Possibly ↓ in MF vs CON Possibly ↓ in MF vs CON Likely ↓ in MF vs CON Unclear effect	0.004	$d = -14.20$; ± 10.20		MBI

Table 3 (continued)

References	Task	Time	SSPP outcomes	Results	<i>p</i>	ES (95% CI)	Secondary outcomes	Remarks
Filipas et al. [46]	Loughborough soccer passing and shooting tests	Post	LSPT Original time (s) Penalty time (s) Performance time (s)	U14: No effect between MF and CON U16: No effect between MF and CON U18: Negative effect († in MF vs CON) U14: No effect between MF and CON U16: No effect between MF and CON U18: Negative effect († in MF vs CON) U14: No effect between MF and CON U16: No effect between MF and CON U18: Negative effect († in MF vs CON)	0.177 0.962 0.013 0.107 0.135 <0.001 0.075 0.260 <0.001		Motivation: No difference	
			LSST Shot accuracy (points) Shot speed (km/h) Shot sequence time (s):	U14: No effect between MF and CON U16: No effect between MF and CON U18: No effect between MF and CON U14: No effect between MF and CON U16: No effect between MF and CON U18: No effect between MF and CON U14: No effect between MF and CON U16: No effect between MF and CON U18: No effect between MF and CON	0.159 0.661 0.907 0.053 0.342 0.148 0.103 0.420 0.115			
Fortes et al. [48]	Simulated soccer game (excl. GK)	Post	Decision making index (%):	Negative effect in 30 sma (↓ in MF) Negative effect in 45 sma (↓ in MF) No effect in 15 sma	0.01 0.01	$h^2 = 0.60$ $h^2 = 0.60$	Internal load (RPE)no effect	
Fortes et al. [43]	Simulated soccer game	Post	Decision making index (%)	Negative effect in SMA (↓ in MF) Negative effect in VID (↓ in MF)	0.01 0.01	$d = 0.05$ $d = 0.05$	Lactate: No effect Internal load (RPE)no effect	
Gantois et al. [41]	Training match (Excl. GK)	Pre-post	Decision making index (%)	Negative effect in ST30vsST15 (↓ in MF) Negative effect in ST30vsCON (↓ in MF) No effect in ST15vsCON	0.02 0.05	$d = 0.31$ $d = 0.30$	Internal load (RPE)no effect	

Table 3 (continued)

References	Task	Time	SSPP outcomes	Results	<i>p</i>	ES (95% CI)	Secondary outcomes	Remarks
Smith et al. [25]	Loughborough Soccer Passing and Shooting Tests	Post	LSPT					
			Original time (s)	No effect between MF and CON	0.893	$d=0.04$		
			Penalty time (s)	Negative effect (↑ in MF vs CON)	0.012	$d=0.76$		
			Performance time (s)	No effect between MF and CON	0.061	$d=0.55$		
			LSST					
Smith et al. [47]	Soccer-specific decision-making task	Post	Shot accuracy (points)	Negative effect (↓ in MF vs CON)	0.006	$d=0.75$		
			Shot speed (km/h)	Negative effect (↓ in MF vs CON)	0.024	$d=0.75$		
			Shot sequence time (s)	No effect between MF and CON	0.080	$d=0.48$		
			Overall accuracy (%)	Very likely ↓ in MF compared to CON		$d=-0.89 \pm 0.73$		MBI
			Overall response time (ms)	Likely ↓ in MF compared to CON		$d=-0.49 \pm 0.47$		
			Overall visual search data					
			Mean number of fixations per second	No effect between MF and CON		$d=0.41 \pm 0.79$		
			Mean fixation duration (ms)					
			Overall fixation (%)	No effect between MF and CON		$d=0.05 \pm 0.54$		
			Overall time fixating on YP, A/D, K or U (%)	Likely ↓ in MF compared to CON No effect between MF and CON		$d=-0.81 \pm 1.00$		

Table 3 (continued)

References	Task	Time	SSPP outcomes	Results	<i>p</i>	ES (95% CI)	Secondary outcomes	Remarks	
Trecroci et al. [45]	4 vs 4 Small sided games (excl. GK and one wildcard)	Post	Technical variables						
			Possessions (<i>n</i>)	Unclear effect of MF compared to CON		<i>d</i> = 0.08 (–0.54; 0.69)	RPE: No difference Motivation: trivial difference	MBI	
			Negative passes (<i>n</i>)	Likely—effect of MF compared to CON	<i>d</i> = 0.67 (0.01; 1.32)				
			Positive passes (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = –0.44 (–1.25; 0.37)				
			Total passes (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = –0.25 (–1.11; –0.61)				
			Passes Accuracy (%)	Likely—effect of MF compared to CON	<i>d</i> = –0.49 (–1.16; 0.17)				
			Negative shots (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = 0.25 (–1.21; 1.71)				
			Positive shots (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = –0.26 (–1.14; 0.63)				
			Total shots (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = –0.31 (–1.09; 0.48)				
			Shot accuracy (%)	Likely—effect of MF compared to CON	<i>d</i> = 0.01 (–1.01; 1.03)				
			Control error (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = 0.27 (–0.35; 0.89)				
			Negative tackles (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = 0.25 (–0.50; 1.00)				
			Positive tackles (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = –0.48 (–1.35; 0.39)				
			Total tackles (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = 0.10 (–0.50; 0.69)				
Tackle success (%)	Unclear effect of MF compared to CON	<i>d</i> = –0.43 (–1.12; 0.26)							
Decision making variables									
Vogt et al. [42]	Footballer ball control task	Pre-post	Negative passes (<i>n</i>)	Likely—effect of MF compared to CON		<i>d</i> = 0.74 (0.05; 1.44)	HR: No effect		
			Positive passes (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = –0.48 (–1.31; 0.35)				
			Total passes (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = –0.25 (–1.11; 0.61)				
			Passes accuracy (%)	Likely—effect of MF compared to CON	<i>d</i> = –0.53 (–1.23; 0.16)				
			Negative shots (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = –0.32 (–1.11; 0.48)				
			Positive shots (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = –0.86 (–1.38; –0.30)				
			Total shots (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = –0.31 (–1.09; 0.48)				
			Shots accuracy (%)	Unclear effect of MF compared to CON	<i>d</i> = 0.00 (–1.33; 1.33)				
			Negative dribbling (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = –0.23 (–0.24; 0.78)				
			Positive dribbling (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = –0.34 (–1.16; 0.48)				
			Total dribbling (<i>n</i>)	Unclear effect of MF compared to CON	<i>d</i> = –0.09 (–0.76; 0.58)				
			Dribbling accuracy (%);	Likely—effect of MF compared to CON	<i>d</i> = –0.69 (–1.52; 0.13)				
			Speed of action (s)	No effect between MF and CON	0.85				
			Ball control (points)	No effect between MF and CON	0.88				
Sprint	Sprint start reaction time	Pre-post	False starts (<i>n</i>)	No effect between MF and CON		η^2 = 0.18	Self-efficacy: No difference Affect: No difference		
			Reaction time (ms)	Negative effect († in MF not in CON)	0.01				
		Pre-post	False starts (<i>n</i>)	Negative effect († in MF, not in CON)		η^2 = 0.50			
			Reaction time (ms)	No effect within MF and CON	<0.001				
Shooting/aiming	Marksmanship task	Post	Target accuracy						
			Hit proportion (%)	No effect between MF and CON	0.57				
			DCSG (cm)	No effect between MF and CON	0.34				
			SGP (cm)	No effect between MF and CON	0.86				
Head et al. [23]			Response time (ms)	No effect between MF and CON	0.81				
			Marksmanship decision accuracy						
			Errors of commission (%)	Negative effect (in MF vs CON)	0.001				
			Errors of omission (%)	No effect between MF and CON	0.51				
			Workload score	No effect between MF and CON	0.10				

Table 3 (continued)

References	Task	Time	SSPP outcomes	Results	<i>p</i>	ES (95% CI)	Secondary outcomes	Remarks
Racket sports								
Kosack et al. [53]	Badminton-specific test	Post	Time to completion (s)	No effect between MF and CON	0.99		CMJ: No effect on height HR: No difference Lactate: No difference RPE: No difference Motivation: No difference	
Le Mansec et al. [22]	Specific table tennis performance test	Pre-Post	Ball speed (km/h)	Negative effect (↓ in MF; PRE vs POST)	0.035	<i>d</i> _z = 0.669	RPE: Tendency of ↑ in (<i>p</i> = 0.067)	
			Accuracy (%)	No effect (tended ↓ in MF; PRE vs POST)	0.057	<i>d</i> _z = 0.553	MVC: no effect	
			Number of faults (%)	Negative effect (↑ in MF; PRE vs POST)	0.014	<i>d</i> _z = 0.850		
			Total performance (points)	Negative effect (↓ in MF; PRE vs POST)	0.015	<i>d</i> _z = 0.759		
Van Cutsem et al. [52]	Badminton-specific visuomotor task	Pre-Post	Accuracy (%)	No effect between MF and CON	0.040	<i>d</i> = 0.49	Motivation: no difference	
			Response time (ms)	Negative effect (↑ in MF vs CON)			Blood glucose: no difference	
Golf								
Shin et al. [55]	Putting performance	Pre-post	Putting performance (cm)	Negative effect (↓ in MF vs CON)				HLM analysis
Cricket								
Veness et al. [21]	(a) Run-two test (b) Batak Lite test	Post	Completion time (s)	Negative effect (↑ in MF vs CON)	0.002	<i>d</i> = −0.51 (−0.72; 0.30)	RPE: ↑ in MF compared to CON	MBI (partial)
			Average score	No effect between MF and CON	0.137	<i>d</i> = 0.41 (−0.05; 0.87)	Motivation: no difference	

Range of effect sizes (Cohen's d) < 0.2 = trivial; 0.2 – 0.6 = small; 0.6 – 1.2 = moderate; 1.2 – 2.0 = large; > 2.0 = very large

Range of effect size (Cohen's d_z) < 0.2 = trivial; 0.2 – 0.5 = small; 0.5 – 0.8 = moderate; > 0.8 = large

Range of effect size (h^2) < 0.25 = trivial; 0.25 – 0.5 = small; 0.5 – 1.0 = moderate; ≥ 1.0 = large

Range of effect size (η^2) < 0.02 = trivial; 0.02 – 0.13 = small; 0.13 – 0.26 = moderate; > 0.26 = large

Range of effect size (SMD) < 0.2 = trivial; 0.2 – 0.5 = small; 0.5 – 0.8 = moderate; > 0.8 = large

A/D closely marked attacker, *CMJ* counter movement jump, *CON* control condition, *d* Cohen's d , *DCSG* distance to the center of the shot group, *d_z* Cohen's d_z , *EMG* electromyography, *ES* effect size, *GK* goal keeper, *h²* special magnitude of Cohen's d , *HLM* hierarchical linear model, *HR* heart rate, *K* goal keeper, *m* meter, *MBI* magnitude based interferences, *MEP* motor evoked potential, *MF* mental fatigue, *MVC* maximal voluntary contraction, *n* number, *RPE* rate of perceived exertion, *SAA* salivary alpha amylase, *SC* salivary cortisol, *SGP* shot group precision, *SMA* smartphone, *SMD* standardized mean differences, *SSPP* sport-specific psychomotor performance, *S-RPE* session RPE, *ST* salivary testosterone, *ST/5* 15 min Stroop task, *ST/30* 30 min Stroop task, *U* unspecified category, *YP* yellow player, η^2 partial eta squared, $\uparrow$ increase, $\downarrow$ decrease

The original article has been updated.

	Bias arising from the randomization process	Bias due to deviations from intended interventions	Bias due to missing outcome data	Bias in measurement of the outcome	Bias in selection of the reported result
Badin et al. 2016 [24]	?	?	+	?	-
Coutinho et al. 2017 [26]	-	?	+	?	-
Coutinho et al. 2018 [44]	-	?	+	?	+
Englert et al. 2014 [49]	?	+	+	?	?
Englert et al. 2015 [50]	?	+	+	?	?
Filipas et al. 2020 [46]	?	+	+	?	+
Fortes et al. 2019 [48]	-	+	+	?	+
Fortes et al. 2020 [43]	-	+	+	?	+
Gantois et al. 2020 [41]	+	+	+	?	+
Head et al. 2017 [23]	?	?	+	?	?
Kosack et al. 2020 [53]	?	+	+	?	+
Le Mansec et al. 2018 [22]	?	?	+	?	+
McEwan et al. 2013 [51]	?	+	+	?	+
Moreira et al. 2018 [54]	?	+	+	?	-
Shin et al. 2019 [55]	?	+	+	?	-
Smith et al. 2016 [25]	?	+	+	?	+
Smith et al. 2016 [47]	?	+	+	?	-
Trecroci et al. 2020 [45]	?	?	+	?	?
Van Cutsem et al. 2019 [52]	?	+	+	?	+
Veness et al. 2017 [21]	?	?	+	?	+
Vogt et al. 2018 [42]	?	?	+	?	+

Fig. 3 Risk of bias within studies (+ = low risk of bias; ? = unclear risk of bias; - = high risk of bias)