

Table 1. Studies examining the effects of mental fatigue on exercise performance. Studies not included in quantitative meta-analysis are marked with \*. TTE: Time to exhaustion test; TT: Time-trial; MVC: Maximal voluntary contraction; LSPT: Loughborough soccer passing test.

Reference	Participants	N	Experimental task	Control task	Type of exercise	Test	Measure	↓Performance	↑RPE	Mental fatigue
Marcora et al. (2009)	Recreational	18	90min-AX-CPT	90min-documentary	Externally-paced	Cycling TTE 80%	Time	Yes	Yes	Yes
Brownsberger et al. (2013) *	Recreational	12	90min-AX-CPT	90min-documentary	Self-paced	Cycling TT-10min RPE 15	Power output	Yes	-	Yes
Pageaux et al. (2013)	Recreational	8	90min-AX-CPT	90min-documentary	Strength	TTE MVC	Time	Yes	Yes	Yes
MacMahon et al. (2014)	Well-trained	16	90min-AX-CPT	90min-documentary	Self-paced	Running TT-3km	Time	Yes	No	No
Pageaux et al. (2014)	Recreational	20	30min-Stroop	30min-Stroop-control	Self-paced	Running TT-5km	Time	Yes	Yes	No
Duncan et al. (2015)	Well-trained	8	40min-Sustained Attention	40min-documentary	Maximal Effort	Cycling 30seg Wingate	Power output	No	No	Na
Martin et al. (2015)	Well-trained	16	90min-AX-CPT	90min-documentary	Maximal Effort	Cycling 3min all-out	Power output	No	No	No

<b>Smith et al. (2015)</b>	<b>Well-trained</b>	<b>10</b>	<b>90min-AX-CPT</b>	<b>90min-documentary</b>	<b>Self-paced</b>	<b>Running TT-45min</b>	<b>Distance</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>Azevedo et al. (2016)</b>	<b>Recreational</b>	<b>12</b>	<b>90min-AX-CPT</b>	<b>90min-documentary</b>	<b>Externally-paced</b>	<b>Cycling TTE 80%</b>	<b>Time</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Badin et al. (2016)</b>	<b>Elite</b>	<b>12</b>	<b>30min-Stroop</b>	<b>30min-documentary</b>	<b>Soccer Specific</b>	<b>Small side game</b>	<b>Distance</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Head et al. (2016)</b>	<b>Recreational</b>	<b>17</b>	<b>52min-Go/NoGo</b>	<b>52min-documentary</b>	<b>Strength</b>	<b>20min Body resistance exercise</b>	<b>Repetitions</b>	<b>Yes</b>	<b>-</b>	<b>Yes</b>
<b>Martin et al. (2016)</b>	<b>Elite</b>	<b>11</b>	<b>30min-Stroop</b>	<b>10 min seated</b>	<b>Self-paced</b>	<b>Cycling TT-20min</b>	<b>Power output</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Martin et al. (2016)</b>	<b>Recreational</b>	<b>9</b>	<b>30min-Stroop</b>	<b>10 min seated</b>	<b>Self-paced</b>	<b>Cycling TT-20min</b>	<b>Power output</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>
<b>Smith et al. Exp1 (2016)</b>	<b>Recreational</b>	<b>12</b>	<b>30min-Stroop</b>	<b>30min-seated</b>	<b>Externally-paced</b>	<b>Running (Yo-Yo test)</b>	<b>Distance</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>Smith et al. Exp2 (2016)</b>	<b>Well-trained</b>	<b>14</b>	<b>30min-Stroop</b>	<b>30min-seated</b>	<b>Soccer Specific</b>	<b>LSPT</b>	<b>Time</b>	<b>No</b>	<b>-</b>	<b>Yes</b>

<b>Otani et al (2017)</b>	<b>Recreational</b>	<b>20</b>	<b>90min Stroop/ Sternberg/Rapid visual information</b>	<b>90min- documentary</b>	<b>Externally- paced</b>	<b>Cycling TTE 80%</b>	<b>Time</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>
<b>Van Cutsem et al. (2017) *</b>	<b>Well-trained</b>	<b>10</b>	<b>45min-Stroop</b>	<b>45min Documentary</b>	<b>Externally- paced</b>	<b>Cycling TTE- 15min 80%</b>	<b>Time</b>	<b>No</b>	<b>No</b>	<b>Yes</b>
<b>Veness et al. (2017)</b>	<b>Elite</b>	<b>10</b>	<b>30min-Stroop</b>	<b>30min reading</b>	<b>Externally- paced</b>	<b>Running (Yo- Yo test)</b>	<b>Distance</b>	<b>Yes</b>	<b>Yes</b>	
<b>Vrijkotte et al. (2018) *</b>	<b>Well-trained</b>	<b>9</b>	<b>90min-Stroop</b>	<b>90min-seated</b>	<b>Externally- paced</b>	<b>Cycling Incremental test</b>	<b>Power output</b>	<b>No</b>	<b>No</b>	<b>Yes</b>
<b>Brown et al. (2019)</b>	<b>Recreational</b>	<b>25</b>	<b>50min-AX-CPT</b>	<b>50min documentary</b>	<b>Self-paced</b>	<b>Cycling TT- 30min</b>	<b>Total work (Kj)</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>
<b>Clark et al. (2019)</b>	<b>Well-trained</b>	<b>10</b>	<b>30min-Stroop</b>	<b>30 min documentary</b>	<b>Self-paced</b>	<b>Cycling TT- 6min</b>	<b>Total work (Kj)</b>	<b>No</b>	<b>-</b>	<b>Na</b>
<b>Clark et al. (2019)</b>	<b>Recreational</b>	<b>10</b>	<b>30min-Stroop/n-back</b>	<b>30 min documentary</b>	<b>Self-paced</b>	<b>Cycling TT- 6min</b>	<b>Total work (Kj)</b>	<b>No</b>	<b>.</b>	<b>Na</b>
<b>Filipas et al. (2018)</b>	<b>Well-trained</b>	<b>8</b>	<b>60min-Stroop</b>	<b>60min- painting</b>	<b>Self-paced</b>	<b>Rowing TT- 1500m</b>	<b>Time</b>	<b>No</b>	<b>No</b>	<b>Yes</b>

<b>Penna et al. (2018)-a</b>	<b>Well-trained</b>	<b>8</b>	<b>30min-Stroop</b>	<b>30min-documentary</b>	<b>Self-paced</b>	<b>Swimming TT-1500m</b>	<b>Time</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>
<b>Penna et al. (2018)-b *</b>	<b>Well-trained</b>	<b>12</b>	<b>30min-Stroop</b>	<b>30min-documentary</b>	<b>Externally-paced</b>	<b>Running Yo-Yo test</b>	<b>Distance</b>	<b>Yes</b>	<b>-</b>	<b>Yes</b>
<b>Pires et al. (2018)</b>	<b>Recreational</b>	<b>12</b>	<b>30min Rapid Visual Information Processing (RVP) Test</b>	<b>30min-seated</b>	<b>Self-paced</b>	<b>Cycling TT-20km</b>	<b>Power output</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>Silva-Cavalcante et al. (2018)</b>	<b>Well-trained</b>	<b>8</b>	<b>90min-AX-CPT</b>	<b>90min-documentary</b>	<b>Self-paced</b>	<b>Cycling TT_4km</b>	<b>Time</b>	<b>No</b>	<b>No</b>	<b>Yes</b>
<b>Slimani et al. (2018) *</b>	<b>Well-trained</b>	<b>10</b>	<b>30min-Stroop</b>	<b>30min reading</b>	<b>Externally-paced</b>	<b>Running (shuttle test)</b>	<b>Distance</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>Staiano et al. (2018)]</b>	<b>Elite</b>	<b>13</b>	<b>60min-Stroop</b>	<b>60min-documentary</b>	<b>Self-paced</b>	<b>Kayaking TT-2000m</b>	<b>Time</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>
<b>Salam et al. (2018) *</b>	<b>Well-trained</b>	<b>10</b>	<b>30min-Stroop</b>	<b>30min-seated</b>	<b>Externally-paced</b>	<b>Cycling TTE</b>	<b>Time</b>	<b>Na</b>	<b>-</b>	<b>Yes</b>
<b>MacMahon et al. (2019)</b>	<b>Recreational</b>	<b>13</b>	<b>30min-Stroop</b>	<b>30min-Stroop-control</b>	<b>Externally-paced</b>	<b>Running shuttle test</b>	<b>Time</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>

<b>Holgado et al. (2020)</b>	<b>Recreational</b>	<b>30</b>	<b>90min-AX-CPT</b>	<b>90min- documentary</b>	<b>Externally- paced</b>	<b>Cycling TTE</b>	<b>Time</b>	<b>No</b>	<b>No</b>	<b>Yes</b>
<b>Lopes et al. (2020)</b>	<b>Elite</b>	<b>31</b>	<b>45min Stroop</b>	<b>45min- documentary</b>	<b>Externally- paced</b>	<b>Running TTE</b>	<b>Time</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>