

S8 Table. Studies reporting beneficial, non-significant and detrimental associations of activity patterns with fitness.

<i>Very Hard Physical Activity patterns</i>						
<u>Frequency of bouts</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
≥4 s		VO2-peak [55] ^A		0	1	0
<u>Time spent in bouts</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
≥4 s		VO2-peak [55] ^A		0	1	0
<u>Intensity of bouts</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
≥4 s	VO2-peak [55] ^A			1	0	0
<i>Vigorous Physical Activity patterns</i>						
<u>Frequency of bouts</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
≥4 s	VO2-peak [55] ^A			1	0	0
<u>Time spent in bouts</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
≥4 s		VO2-peak [55] ^A		0	1	0
<u>Intensity of bouts</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
≥4 s		VO2-peak [55] ^A		0	1	0

<i>Moderate-to-Vigorous Physical Activity patterns</i>						
Pattern types		Cardiovascular endurance ‘Most vs. Sporadic’, ‘Most’ vs. ‘Medium’, ‘Medium’ vs. ‘Sporadic’ [58] ^B		0	3	0
<i>Moderate Physical Activity patterns</i>						
<u>Frequency of bouts</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
≥4 s	VO2-peak [55] ^A			1	0	0
≥5 min	VO2-peak [55] ^A			1	0	0
<u>Time spent in bouts</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
≥4 s		VO2-peak [55] ^A		0	1	0
≥5 min	VO2-peak [55] ^A			1	0	0
<u>Intensity of bouts</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
≥4 s		VO2-peak [55] ^A		0	1	0
≥5 min	VO2-peak [55] ^A			1	0	0
<i>Light Physical Activity patterns</i>						
<u>Frequency of bouts</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
≥4 s		VO2-peak [55] ^A		0	1	0
≥5 min		VO2-peak [55] ^A		0	1	0

<u>Time spent in bouts</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
≥4 s		VO2-peak [55] ^A		0	1	0
≥5 min		VO2-peak [55] ^A		0	1	0
<u>Intensity of bouts</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
≥4 s	VO2-peak [55] ^A			1	0	0
≥5 min	VO2-peak [55] ^A			1	0	0
<i>Sedentary patterns</i>						
<u>Frequency of bouts/breaks</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
<30 min	Fitness composite score [60]			1	0	0
≥20 min		Cardio-respiratory fitness [34]		0	1	0
≥30 min		Fitness composite score [60]		0	1	0
Breaks	Fitness composite score [60]	Cardio-respiratory fitness [34]		1	1	0
<u>Duration of bouts/breaks</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
≥20 min		Cardio-respiratory fitness [34]		0	1	0
Breaks		Cardio-respiratory fitness [34]		0	1	0

<i>Combined intensity patterns</i>						
<u>Activity Fragmentation</u>	Beneficial (B)	Non-significant (NS)	Detrimental (D)	B	NS	D
Intradaily Variability (indication of changes between high and low activity)			VO ₂ -peak [43]	0	0	1

Abbreviations; *B* Beneficial, *D* Detrimental, *NS* Non significant, *min* Minutes, *s* Seconds, *VO₂-peak* Maximal oxygen uptake.

^A Only minimum borders for intensities were used to classify \geq light, \geq moderate, \geq vigorous and \geq very hard physical activity bouts; ^B Latent profile analyses divided sample in ‘Sporadic’, ‘Medium’, and ‘Most bouts’ pattern types. The percentage of MVPA accumulated in sporadic bouts (<5 min) was progressively lower, while the percentage MVPA in both short (5<10min) and medium-to-long bouts (\geq 10 min) was progressively higher moving from ‘Sporadic’, to ‘Medium’, and ‘Most bouts’.

The bold numbers in the right hand columns tables represent that specific activity patterns which were examined at least four times.

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