

Supplementary file 8. Simple meta-regression results for changes in BMI (kg·m<sup>2</sup>).

Variable	Aerobic			Strength			Both		
	$\beta_1$ ( $\bar{X} \pm SE$ )	z(p)	95% CI	$\beta_1$ ( $\bar{X} \pm SE$ )	z(p)	95% CI	$\beta_1$ ( $\bar{X} \pm SE$ )	z(p)	95% CI
<i>Study characteristics</i>									
- Year	0.02±0.56	0.32(.75)	-0.9,0.1	-0.007±0.13	-0.06(.95)	-0.3,0.2	-0.02 ± .10	-0.17(.87)	-0.2,0.18
- Impact factor	0.07±0.09	0.85(.39)	-0.1,0.2	-0.18±0.14	-1.30(.19)	-0.5,.0.1	0.001±0.09	0.02(.99)	-1.7,1.7
- Country (other vs USA)	<b>-1.06±0.51</b>	<b>-2.1(.04)*</b>	<b>-2.1,-0.05</b>	-0.36±0.79	0.46(.64)	-1.9,1.2	ID	ID	ID
- Sequence generation	ID	ID	ID	ID	ID	ID	ID	ID	ID
- Allocation conceal (unclear vs low)	-0.81±0.46	-1.8(.08)	-1.7,0.09	-0.07±0.78	-.08(.93)	-1.6,1.5	-0.69±0.73	-0.95(.34)	-2.1,0.7
- Blinding (P & P)	NA	NA	NA	NA	NA	NA	NA	NA	NA
- Blinding (OA) (ref = low)									
-- High	0.44±1.1	0.42(.68)	-1.6,2.5	ID	ID	ID	ID	ID	ID
-- Unclear	-0.32±0.69	-0.48(.63)	-2.9,2.3	-0.30±1.3	-0.22(.82)	-2.9,2.3	-0.41± 1.2	-0.34(.74)	-2.8,2.0
- Incomplete data (ref = low)									
-- High	-0.93±0.63	-1.5(.14)	-2.2,0.3	0.01±1.3	0.01(.99)	-2.6, 2.6	0.004±0.88	0(1.0)	-1.7,1.7
-- Unclear	-0.84±0.44	-1.9(.06)	-1.7,0.03	0.28±0.95	0.29(0.77)	-1.6,2.1	-0.39±0.77	-0.51(.61)	-1.9,1.1
- Selective reporting	-0.58±0.44	-1.3(0.18)	-1.4,0.3	-0.70±0.83	-0.85(0.4)	-2.3,0.9	-0.02±0.73	-0.02(.98)	-1.5,1.4

(unclear vs. low)

- Inactive (ref = low)

-- High	1.0±0.93	1.1(0.28)	-0.8,2.8	ID	ID	ID	0.35±1.3	0.27(.78)	-2.2,2.9
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-- Unclear	0.81±0.43	1.9(.06)	-0.04,1.7	<b>1.83±0.77</b>	<b>2.4(.02)*</b>	<b>0.3,3.3</b>	0.02±0.73	0.02(.98)	-1.4,1.5
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- Funding (yes vs no)	<b>1.06±0.40</b>	<b>2.6(.008)*</b>	<b>0.3,1.8</b>	0.56±0.89	0.63(.53)	-1.2,2.3	-0.09±0.72	-0.13(.90)	-1.5,1.3
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- Matching	-0.76±0.64	1.2(.23)	-0.5,2.0	0.39±0.98	0.40(.69)	-1.5,2.3	-0.26±0.80	-0.32(.75)	-1.8,1.3
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- Crossover trial	ID	ID	ID	ID	ID	ID	ID	ID	ID
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- Control type (other vs none)	0.41±0.53	0.76(.44)	-0.6,1.4	-0.82±1.13	-0.72(.47)	-3.5,1.4	-0.81±0.75	-1.07(.28)	-2.3,0.7
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none)

- Analysis type (abp vs itt)	-0.51±0.43	-1.2(.22)	-1.3,0.3	0.34±0.78	0.43(.66)	-1.2,1.9	-0.27±0.77	-0.35(.73)	-1.8,0.8
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- Fidelity (design)	ID	ID	ID	ID	ID	ID	ID	ID	ID
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- Fidelity (training)	ID	ID	ID	ID	ID	ID	ID	ID	ID
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- Fidelity (delivery)	ID	ID	ID	ID	ID	ID	ID	ID	ID
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- Fidelity (receipt)	ID	ID	ID	ID	ID	ID	ID	ID	ID
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- Fidelity (enactment)	-0.22±0.64	-0.35(.73)	-1.5,1.0	-0.10±0.73	-0.13(.90)	1.5,1.3	0.92±0.79	1.2(.24)	-0.6,2.5
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(yes vs no)

*Participant**characteristics*

- Age (years)	-0.04±0.08	-0.51(.61)	-0.2, 0.1	-0.06±0.23	-0.26(.79)	-0.5,0.4	-0.20±0.17	-1.2(.23)	-0.5,0.1
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- Gender (females vs males)	-0.51±0.98	0.52(.60)	-1.4,2.4	-0.55±1.6	-0.34(.74)	-3.8,2.7	-0.45±0.48	-0.92(.35)	-1.4,0.5
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males)

- Race ethnicity	ID	ID	ID	ID	ID	ID	ID	ID	ID
- Maturation stage	ID	ID	ID	ID	ID	ID	ID	ID	ID
<i>Exercise characteristics</i>									
- Length (weeks)	-0.02±0.03	0.77(0.44)	-0.04,0.09	-0.03±0.07	-0.39(.70)	-0.2,0.1	-0.03±0.04	-0.77(.44)	-0.1, 0.05
- Frequency (days/week)	-0.18±0.17	1.06(.29)	-0.1,0.5	-0.67±0.63	-1.06(.29)	-1.9,0.6	-0.31±0.37	-0.84(.40)	-1.0,0.4
- Intensity (high vs moderate)	-0.88±0.45	-1.9(.05)	-1.8,0.01	ID	ID	ID	ID	ID	ID
- Duration (min/session)	-0.01±0.01	-1.8(.07)	-0.03,0.001	-0.01±0.02	-0.53(.59)	-	-0.01±0.02	-	-
- Compliance (%)	<b>-0.02±0.01</b>	<b>-2.1(.03)*</b>	<b>-0.4,-.002*</b>	-	-0.25(.80)	-	0.03±0.06	0.46(.64)	-0.08,0.1
- Minutes per week (total) <sup>a</sup>	<b>-0.01±.002</b>	<b>-2.6(.01)*</b>	<b>-0.009,-.001</b>	0.008±0.03	NA	NA	0.08,0.06	NA	NA
- Minutes per week (adjusted total) <sup>a</sup>	<b>-.01±.0004</b>	<b>13.3(&lt;0.001)*</b>	<b>-0.007,-0.005</b>	NA	NA	NA	NA	NA	NA
- Sets <sup>b</sup>	NA	NA	NA	-0.03±0.05	-0.55(.58)	-0.1,0.07	NA	NA	NA
- Repetitions <sup>b</sup>	NA	NA	NA	ID	ID	ID	NA	NA	NA
- Rest between sets <sup>b</sup>	NA	NA	NA	ID	ID	ID	NA	NA	NA
- Number of exercises <sup>b</sup>	NA	NA	NA	-0.21±0.80	-0.27(.79)	-1.8,1.3	NA	NA	NA
- Type of resistance <sup>b</sup>	NA	NA	NA	ID	ID	ID	NA	NA	NA

- Type of strength program <sup>b</sup> (c vs t)	NA	NA	NA	0.01±0.75	0.01(.99)	-2.2,2.2	NA	NA	NA
- Type of strength equipment <sup>b</sup>	NA	NA	NA	ID	ID	ID	NA	NA	NA
- Supervision (no vs yes)	0.94±0.67	1.4(.16)	-0.4,2.3	<b>5.1±2.2</b>	<b>2.4(.02)*</b>	<b>0.9,9.4</b>	ID	ID	ID
- Location (home versus facility)	-0.77±0.44	1.7(.08)	-0.1,1.6	<b>5.1±2.0</b>	<b>2.6(.01)*</b>	<b>1.2,9.0</b>	ID	ID	ID
<i>Outcome characteristics</i>									
- Baseline BMI (kg·m <sup>2</sup> )	-0.08±0.05	-1.7(.10)	-0.2,0.01	-0.09±0.0	-0.99(.32)	-0.3,.08	-0.07±0.10	-0.67(.50)	-0.3,0.1
- Assessment method	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: <sup>a</sup>, limited to aerobic exercise studies; <sup>b</sup>, limited to studies that included only strength training; NA, not applicable; ID, insufficient data to conduct analysis; P & P, participants and personnel; OA, outcome assessment; abp vs. itt, analysis-by-protocol vs intention-to-treat; BMI, body mass index; c vs t, circuit versus traditional; **boldface** items indicate statistically significant findings; \*, statistically significant (two-tailed  $p \leq 0.05$ ); total number of observations for statistically significant results from multivariate models were 53 for country, 53 for funding, 16 for compliance, 32 for total minutes per week of exercise, 12 for compliance-adjusted minutes per week of exercise, 51 for supervision, and 51 for location.