

Supplementary file 14. Simple meta-regression results for changes in percent body fat.

Variable	Aerobic			Strength			Both		
	β_1			β_1			β_1		
	($\bar{X} \pm SE$)	z(p)	95% CI	($\bar{X} \pm SE$)	z(p)	95% CI	($\bar{X} \pm SE$)	z(p)	95% CI
<i>Study characteristics</i>									
- Year	-0.003±0.07	-0.04(.97)	-0.1,0.1	0.03±0.20	0.16(.87)	-0.38,0.44	-0.26±0.15	-1.8(.08)	-0.6, 0.03
- Impact factor	0.04±0.05	0.86(.39)	-0.05,0.1	-0.07±0.22	-0.34(.73)	-0.5,0.4	0.12±0.14	0.83(.41)	-0.2,0.4
- Country (other vs usa)	-0.68±0.72	-0.94(.35)	-2.1,0.74	-0.34±1.3	-0.27(.79)	-2.8,2.2	ID	ID	ID
- Sequence generation	ID	ID	ID	ID	ID	ID	ID	ID	ID
- Allocation conceal (unclear vs low)	-0.43±0.70	-0.62(.54)	-1.8,0.9	-0.24±1.3	-0.19(.85)	-2.7,2.2	-1.3±1.2	-1.1(.27)	-2.7,2.2
- Blinding (P & P)	NA	NA	NA	NA	NA	NA	NA	NA	NA
- Blinding (OA) (ref = low)									
-- High	-0.23±1.4	-0.17(.87)	-2.9,2.5	ID	ID	ID	ID	ID	ID
-- Unclear	-0.97±0.96	-1.0(.31)	-2.8,0.91	-2.0±2.1	-0.96(.34)	-6.1,2.1	0.06±1.9	0.03(.98)	-3.8,3.9
- Incomplete data (ref = low)									
-- High	0.21±0.96	0.22(.83)	-1.7,2.1	-0.31±2.1	-0.14(.88)	-4.5,3.9	-0.35±1.4	-0.25(.80)	-3.1,2.4
-- Unclear	-0.66±0.71	-0.93(.35)	-2.0,0.7	1.6±1.5	1.07(.28)	-1.4,4.6	-0.35(1.4)	-0.25(.80)	-3.1,2.4
- Selective reporting (unclear vs. low)	-1.6±0.66	-2.4(.01)*	-2.9,-0.30	-1.0±1.5	-0.66(.51)	-4.0,2.0	-0.19±1.1	-0.17(.86)	-2.4,2.0
- Inactive (ref = low)									
-- High	0.82±1.9	0.44(.66)	-2.8,4.5	ID	ID	ID	1.6±2.1	0.75(.45)	-2.5,5.6
-- Unclear	-0.04±0.67	-0.07(.95)	-1.4,1.3	2.7±1.3	2.2(.03)*	0.25,5.2	0.05±1.2	0.75(.45)	-2.5,5.6
- Funding (yes vs no)	2.1±0.70	3.0(0.003)*	0.7,3.5	4.1±1.3	3.07(.002)*	1.5,6.8	4.4±1.2	3.6(<0.001)*	2.0,6.8

- Matching	1.1±0.77	1.4(.16)	-0.4,2.6	-0.21±1.7	-0.12(.90)	-3.6,3.2	0.41±1.2	0.34(.73)	-1.9,2.7
- Crossover trial	ID	ID	ID	ID	ID	ID	ID	ID	ID
- Control type (other vs none)	-0.03±0.82	-0.03(.97)	-1.6,1.6	-1.2±1.7	-0.72(.47)	-4.6,2.1	0.78±1.1	0.71(.48)	-1.4,2.9
- Analysis type (abp vs itt)	0.22±0.70	0.32(.75)	-1.1,1.6	0.09±1.3	0.07(.94)	-2.4,2.6	-1.1±1.1	-1.02(.31)	-3.3,1.1
- Fidelity (design)	ID	ID	ID	ID	ID	ID	ID	ID	ID
- Fidelity (training)	ID	ID	ID	ID	ID	ID	ID	ID	ID
- Fidelity (delivery)	ID	ID	ID	ID	ID	ID	ID	ID	ID
- Fidelity (receipt)	ID	ID	ID	ID	ID	ID	ID	ID	ID
- Fidelity (enactment) (yes vs no)	-0.59±0.43	-1.4(.17)	-1.4,0.26	-1.5±0.84	-1.7(.08)	-3.1,0.17	-0.78±0.87	-0.89(.37)	-2.5,0.93
<i>Participant characteristics</i>									
- Age (years)	-0.12±0.11	-1.05(.29)	-0.34,0.10	-0.64±0.35	-1.83(.07)	-1.3,0.05	-0.31±0.2	-1.5(.12)	-0.7,0.08
- 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	ID	ID	ID
- Race ethnicity	ID	ID	ID	ID	ID	ID	ID	ID	ID
- Maturational stage	ID	ID	ID	ID	ID	ID	ID	ID	ID
<i>Exercise characteristics</i>									
- Length (weeks)	0.13±0.06	2.2(.03)*	0.01,0.25	0.03±0.11	0.29(0.77)	-0.19,0.26	0.07±0.07	1.0(.31)	-0.06,0.20
- Frequency (days/week)	0.20±0.28	0.73(.47)	-0.3,0.7	-1.4,0.96	-1.5(.14)	-3.3,0.5	-0.40±0.58	-0.70(.49)	-1.5,0.7
- Intensity (high vs moderate)	0.33±0.81	0.41(.68)	-1.3,1.9	ID	ID	ID	-1.3±2.0	-0.62(.53)	-5.3,2.7
- Duration (min/session)	-0.006±0.01	-0.47(.64)	-0.03,0.02	-0.06±0.04	-1.6(.12)	-0.14,0.02	0.03±0.02	1.06(.29)	-0.02,0.07
- Compliance (%)	-0.03±0.02	-1.7(.10)	-0.07,0.006	-0.05±0.05	-0.92(.36)	-0.16,0.06	0.03±0.04	0.91(.36)	-0.04,0.1
- Minutes per week (total) ^a	-0.002±0.004	-0.48(.63)	-0.01,0.006	NA	NA	NA	NA	NA	NA
- Minutes per week (adjusted total) ^a	-0.005±0.004	-1.1(.26)	-0.01,0.003	NA	NA	NA	NA	NA	NA

- Sets ^b	NA	NA	NA	0.13±0.09	1.3(.18)	-0.06,0.31	NA	NA	NA
- Repetitions ^b	NA	NA	NA	ID	ID	ID	NA	NA	NA
- Rest between sets ^b	NA	NA	NA	ID	ID	ID	NA	NA	NA
- Number of exercises ^b	NA	NA	NA	0.03±0.97	0.03(.97)	-1.9,1.9	NA	NA	NA
- Type of resistance ^b	NA	NA	NA	ID	ID	ID	NA	NA	NA
- Type of strength program ^b (c vs t)	NA	NA	NA	ID	ID	ID	NA	NA	NA
- Type of strength equipment ^b	NA	NA	NA	ID	ID	ID	NA	NA	NA
- Supervision (no vs yes)	1.5±1.2	1.3(.18)	-0.7,3.8	2.5±2.3	1.1(.27)	-1.9,7.0	ID	ID	ID
- Location	1.5±1.1	1.4(.17)	-0.67,3.7	2.6±2.2	1.2(.24)	-1.7,6.9	ID	ID	ID
<i>Outcome characteristics</i>									
- Baseline percent fat	0.06±0.05	1.3(.21)	-0.03,0.16	0.03±0.08	.39(.69)	-0.13,0.19	0.12±0.07	1.7(.08)	-0.02,0.27
- Assessment method (ref = DEXA)	NA	NA	NA	NA	NA	NA	NA	NA	NA
-- MRI	-0.38±1.2	-0.31(.76)	-2.8,2.1	-1.5±1.5	-0.99(.32)	-4.4,1.4	0.42±1.7	0.24(.81)	-3.0,3.8
-- BI	-1.2±0.73	-1.7(.09)	-2.7,0.2	ID	ID	ID	-0.22±1.5	-0.15(.88)	-3.1,2.6
-- Skinfolds	0.65±1.1	0.61(.54)	-1.4,2.7	-1.1±1.7	-0.67(.51)	-4.4,2.2	1.2±1.9	0.62(.53)	-2.5,4.9
-- Plethysmography	1.3±316.2	0.00(1.0)	-618,621	ID	ID	ID	-3.6±316	-0.01(.99)	-623,616

Notes: ^a, limited to aerobic exercise studies; ^b, 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; DEXA, dual-energy x-ray absorptiometry; MRI, magnet resonance imaging; BI, bioelectrical impedance; **boldface** items indicate statistically significant findings; *, statistically significant (two-tailed $p \leq 0.05$); total number of observations for statistically significant results for multivariate models were 50 for selective reporting, being physically inactive, funding, and length of training.