Author (Year)	Outcome	Group Size	Sex (0=F, 1=M)	Age (years)	BMI (kg/m^2)	Study Length (weeks)	RT Freq.	RT Ex No.	RT Sets	RT Reps	Energy Deficit (kcal)	Effect Sizes
Villareal 2017[45]	LM	25	0	68.4	37	26	3	9	1-3	8-12	451	LM: -0.06 (-0.19, 0.06)
Leenders 2013[46]	LM	24	0	71	24.6	24	3	6	3-4	8	51	LM: 0.24 (0.12, 0.37)
Villareal 2017[45]	LM	15	1	71.3	36.3	26	3	9	1-3	8-12	373	LM: -0.26 (-0.42, -0.09)
Leenders 2013[46]	LM	29	1	70	27	24	3	6	3-4	8	67	LM: 0.22 (0.10, 0.33)
Hunter 2015[47]	Both	45	0	33.9	28.1	16	3	10	2	10	1012	LM: 0.08 (-0.02, 0.17) STR1: 0.19 (0.06, 0.32) STR2: 0.17 (0.04, 0.30)
Schroeder 2004[48]	Both	14	0	24.4	21	16	2	6	3	10	-25	LM: 0.35 (0.17, 0.52) STR1: 1.23 (0.91, 1.55) STR2: 0.77 (0.50, 1.05)
Beavers 2017[49]	LM	60	0.33	67	34.6	26	3	8	3	10	405	LM: -0.10 (-0.18, -0.02)
Vincent 2000[50]	LM	22	NR	66.6	26.5	26	3	14	1	8	-26	LM: 0.02 (-0.12, 0.15)
Dunstan 2002[51]	Both	14	0.63	67.6	31.5	26	3	8-10	3	9	124	LM: 0.12 (-0.04, 0.29) STR1: 0.53 (0.28, 0.78) STR2: 0.64 (0.38, 0.90)
Tarnopolsky 2007[52]	Both	18	0.55	71.2	25.5	26	2	12	3	12	23	LM: 0.09 (0.02, 0.16) STR1: 2.78 (2.28, 3.29) STR2: 1.06 (0.80, 1.33)
Verreijen 2015[53]	LM	30	0.47	63	33.3	13	3	10	3	12-20	259	LM: -0.20 (-0.31, -0.08)
Rogers 2006[54]	LM	15	0.47	55-84	NR	12	3	6	3	8-12	169	LM: 0.07 (-0.09, 0.23)
Dudgeon 2016[55]	STR	8	1	23.5	NR	8	4	8	3-4	4-11	236	STR1: -0.22 (-0.54, 0.09) STR2: 0.37 (0.04, 0.69)
Wilson 2017[56]	STR	12	1	21.3	NR	10	3	3-11	3-4	1-15	309	STR1: 0.37 (0.10, 0.63) STR2: 0.55 (0.28, 0.83)
Jo 2019[57]	LM	6	0.55	58	NR	12	3	10	1-5	4-12	1697	LM: -0.05 (-0.30, 0.21)
Rosenbaum 2018[58]	LM	15	0.33	40.1	32.5	12	3	8	2-3	10	79	LM: 0.16 (0.00, 0.32)
Normandin 2015[17]	Both	22	0	57.6	32.6	26	3	7	2-4	8-15	290	LM: -0.07 (-0.21, 0.06)

Author (Year)	Outcome	Group Size	Sex (0=F, 1=M)	Age (years)	BMI (kg/m^2)	Study Length (weeks)	RT Freq.	RT Ex No.	RT Sets	RT Reps	Energy Deficit (kcal)	Effect Sizes
												STR1: 0.89 (0.66, 1.11) STR2: 0.42 (0.22, 0.61)
Holm 2008[18]	LM	16	0	55	27	24	2-3	5	1-5	10-20	34	LM: 0.15 (-0.01, 0.30)
Vanni 2010[19]	STR	27	0	55	23.3	28	3	8	3	6-20	NR	STR1: 0.48 (0.30, 0.66) STR2: 0.66 (0.48, 0.85)
Hudson 2017[59]	LM	20	NR	33	30.8	16	3	9-11	3	8-10	598	LM: -0.29 (-0.43, -0.14)
Arciero 2014[60]	LM	22	0.23	47	29	16	4	8-10	2	10-12	72	LM: 0.01 (-0.13, 0.14)
Wycherley 2010[61]	LM	18	NR	56.6	34.6	16	3	8	2	8-12	792	LM: -0.13 (-0.28, 0.01)
Karelis 2015[62]	LM	34	0.24	69.9	24.9	18	3	6	3	10	37	LM: 0.05 (-0.05, 0.16)
Wycherley 2010[61]	LM	16	NR	56.6	36.2	16	3	8	2	8-12	894	LM: -0.18 (-0.33, -0.02)
Karelis 2015[62]	LM	33	0.21	71	25.4	18	3	6	3	10	7	LM: 0.03 (-0.08, 0.13)
Demling RH 2000[63]	STR	14	1	34	NR	12	4	NR	NR	NR	NR	STR1: -0.04 (-0.27, 0.20) STR2: 2.94 (2.37, 3.51)
Sakashita 2019[64]	STR	10	1	40.1	23.3	12	2	3	12	5	11	STR1: 0.98 (0.63, 1.32) STR2: 1.56 (1.12, 2.00)
Cardoso 2013[65]	STR	9	0	20-40	31.8	8	3	10	3	10	NR	STR1: 0.86 (0.51, 1.22) STR2: 1.53 (1.07, 1.99)
Tibana 2013[66]	STR	14	0	33.9	29.6	8	3	12	3	8-12	NR	STR1: 0.74 (0.47, 1.01) STR2: 0.68 (0.42, 0.94)
Amamou 2017[67]	LM	14	0.55	65.4	32.3	16	3	2	8-15	8	278	LM: 0.07 (-0.10, 0.23)
Bacchi 2012[68]	LM	20	0.7	55.6	29.2	16	3	3	10	9	144	LM: 0.07 (-0.07, 0.21)
Marsh 2013[20]	LM	11	1	69.5	33.2	16	3	NR	3	8-10	303	LM: -0.30 (-0.49, -0.11)
Treuth 1994[21]	LM	13	1	68	NR	16	3	14	1-2	15	169	LM: 0.26 (0.08, 0.44)
Marsh 2013[20]	Both	9	0	71.3	31.1	16	3	NR	3	8-10	425	LM: -0.34 (-0.56, -0.13) STR: 2.90 (2.16, 3.63)
Tibana 2017[22]	Both	26	0	66.5	30.9	16	2	10	3	10	67	LM: 0.07 (-0.05, 0.20) STR: 0.93 (0.72, 1.13)

Author (Year)	Outcome	Group Size	Sex (0=F, 1=M)	Age (years)	BMI (kg/m^2)	Study Length (weeks)	RT Freq.	RT Ex No.	RT Sets	RT Reps	Energy Deficit (kcal)	Effect Sizes
Donnelly 1993[69]	STR	7	0	44.4	NR	13	3	8	3-4	4-8	1179	STR: 0.65 (0.27, 1.02)
Ring-Dimitriou 2008[70]	STR	7	0	49.1	27.5	12	3	7	3	8-12	101	STR: 0.30 (-0.04, 0.64)
Campbell 2009[71]	STR	10	0	70	29.5	16	3	5	3	8-12	400	STR1: 0.48 (0.19, 0.78) STR2: 0.61 (0.30, 0.91)
de Oliveira Silva 2018[72]	STR	41	0	66	27.8	16	2	10	3	6-14	51	STR1: 0.49 (0.35, 0.64) STR2: 1.07 (0.90, 1.24)
Andersen 1997[73]	LM	11	0	41.1	33.6	24	3	12	1-2	8-12	849	LM: -0.29 (-0.48, -0.09)
Boyden 1993[74]	LM	45	0	34.1	22.1	24	3	12	3	8	-34	LM: 0.21 (0.12, 0.31)
Gornall 1996[75]	LM	10	0	32.2	28.6	4	3	7	3	10	1190	LM: -0.28 (-0.48, -0.08)
Fernandez-del-Valle 2018[76]	LM	6	0	22.7	34.2	3	3	7	3	10	13	LM: 0.15 (-0.11, 0.40)
Nakata 2008[77]	Both	21	0	42.3	27.5	14	3	5	3	8-15	665	LM: -0.46 (-0.60, -0.31) STR: 0.42 (0.25, 0.59)
Singh 2009[78]	Both	26	0	40.8	25	15	2	9	3	8-10	84	LM: 0.32 (0.19, 0.44) STR: 0.73 (0.53, 0.92)
Wood 2012[79]	Both	9	1	58.8	34	12	3	11	1-2	8-15	719	LM: -0.13 (-0.34, 0.08) STR: 0.93 (0.56, 1.29)
Holwerda 2018[80]	Both	20	1	71	25.1	12	3	4	2-4	8-10	56	LM: 0.26 (0.12, 0.40) STR: 0.85 (0.62, 1.09)
Wood 2012[79]	Both	7	1	58.3	34.5	12	3	11	1-2	8-15	892	LM: -0.32 (-0.56, -0.07) STR: 0.64 (0.27, 1.02)
Holwerda 2018[80]	Both	21	1	69	25.5	12	3	4	2-4	8-10	67	LM: 0.18 (0.05, 0.32) STR: 0.87 (0.65, 1.10)
Pronk 1992[81]	STR	23	0	36.3	NR	13	4	NR	2-3	6-8	1657	STR: 0.13 (-0.05, 0.31)
Yoshizawa 2009[82]	STR	11	0	47	24.8	12	2	6	3	10	NR	STR: 0.66 (0.37, 0.96)
Kreider 2011[83]	LM	129	0	44.7	34.8	10	3	14	2	NR	459	LM: -0.11 (-0.17, -0.06)
Ferreira 2010[84]	LM	14	0	40.2	21.5	10	3	9	2	8-12	553	LM: 0.61 (0.42, 0.79)

Author (Year)	Outcome	Group Size	Sex (0=F, 1=M)	Age (years)	BMI (kg/m^2)	Study Length (weeks)	RT Freq.	RT Ex No.	RT Sets	RT Reps	Energy Deficit (kcal)	Effect Sizes
Thomas 2011[85]	Both	14	0	36.8	28.7	16	3	5	2-3	8-12	194	LM: 0.39 (0.22, 0.56) STR: 2.47 (1.97, 2.96)
Schmitz 2003[86]	Both	28	0	41.6	25.7	15	2	9	3	8-10	72	LM: 0.39 (0.27, 0.52) STR: 1.01 (0.81, 1.22)
Galedari 2017[87]	LM	10	1	31.7	29	12	3	6	3	8-12	438	LM: 0.07 (-0.13, 0.27)
Bird 2006[88]	LM	8	1	20.3	24.1	12	2	8	3	8-10	170	LM: 0.63 (0.38, 0.88)
Reljic 2021[89]	STR	23	0.31	53.9	40.2	12	3	5	3	failure	NR	STR: 0.66 (0.45, 0.86)
Polito 2021[90]	STR	12	0.5	57.9	25.4	12	3	4	3	12-15	NR	STR: 0.32 (0.06, 0.58)

Supplementary Table 2. Analysis B participant and intervention characteristics. Each line represents one group included in the meta-analysis. Resistance Training in Energy Deficit (RT+ED) studies are in dark rows; resistance training without energy deficit (RT+CON) studies are in white rows below their paired RT+ED study. Studies listed twice included two distinct paired groups. Abbreviations used: Ex = Exercise, F = Female, Freq. = Frequency, LM = Lean Mass, M = Male, No. = Number, NR = Not Reported, RT = Resistance Training, STR = Strength.