**(SDC2) Table S2.** Study characteristics: author and year, sample, experimental design, resistance training prescription and outcomes assessed.

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| Author, year | Sample | Experimental Design | Resistance training prescription | Resistance training volume | Outcomes |
| Anderson et al., 1982 (2) | n= 43  age: 20.7±1.8 yrs  Untrained men | Between-subject | 27 sessions (9wk, 3x.wk-1);  1 exercise;  High load: 3 sets of 6-8RM (n= 15)  Low load: 3 sets of 30-40RM (n= 16)  Low load: 3 sets of 100-150RM (n= 12) | NR | Bench press 1-RM |
| Stone & Coulter, 1994 (51) | n= 50  age: 23.1±3.5 yrs  Untrained women | Between-subject | 27 sessions (9wk, 3x.wk-1);  5 exercises;  High load: 3 sets of 6-8RM (n= 17)  Low load: 2 sets of 15-20RM (n= 16)  Low load: 1 set of 30-40RM (n= 17) | NR | Bench press 1-RM;  Squat 1-RM |
| Hisaeda et al., 1997 (37) | n= 11  age: 19.8±1.8 and 20.4±1.3 yrs  Untrained women | Between-subject | 24 sessions (8wk, 3x.wk-1);  1 exercise;  High load: 3-5 sets of 4.5RM (n= 6)  Moderate load: 3-5 sets of 8-20RM (n= 5) | Knee extension volumec  High load: range from 2.2±0.5 to 3.6±0.6 kJ Moderate load: range from 3.5±0.4 to 4.7±0.7 kJ | Quadriceps femoris CSA (MRI) |
| Campos et al., 2002 (3) | n= 32  age: 22.5±5.8 yrs  Untrained men | Between-subject | 16 sessions (8wk, 2x.wk-1);  3 exercises;  High load: 4 sets of 3-5RM (n= 9)  Moderate load: 3 sets 9-11RM (n= 11)  Low load: 3 sets of 20-28RM (n= 7) | NR | Squat 1-RM;  Leg press 1-RM;  Knee Extension 1-RM;  Vastus lateralis Biopsy |
| Rana et al., 2008 (46) | n= 34  age: 21.1±2.7 yrs  Untrained men | Between-subject | 17 sessions (6wk, 2-3x.wk-1);  3 exercises;  High load: 3 sets of 6-10RM (n= 9)  Low load: 3 sets of 20-30RM (n= 8) | NR | Squat 1-RM;  Leg press 1-RM;  Knee extension 1-RM;  Fat-free mass (BodPod) |
| Mikkola et al., 2011 (42) | n= 27  age: 34±9 and 36±6 yrs  Active untrained men | Between-subject | ? sessions (14wk, 1-2x.wk-1);  8 exercises;  High load: 3 sets of 4-6RM (n= 11)  Low load: 3 sets of 40-50RM (n= 6) | Leg press volumea  High load: range from 1,297±137 to 1,615±213 kg;  Low load: NR | Leg press 1-RM;  Fat-free mass (Skin fold) |
| Mitchell et al., 2012 (6) | n= 18  age: 21±1 yrs  Active untrained men | Within-subject | 30 sessions (10wk, 3x.wk-1);  1 exercise;  High load: 3 sets at 80% of 1-RM (n= 18)  Low load: 3 sets of 30% of 1-RM (n= 18) | NR | Knee extension 1-RM;  Quadriceps femoris volume (MRI);  Vastus lateralis Biopsy |
| Schuenke et al., 2012 (49) | n= 34  age: 21.1±2.7 yrs  Untrained women | Between-subject | 17 sessions (6wk, 2-3x.wk-1);  3 exercises;  High load: 3 sets of 6-10RM  Low load: 3 sets of 20-30RM | NR | Vastus lateralis Biopsy |
| Van Roie et al., 2013 (52) | n= 36  age: 21.4±1.8 and 22.2±2.7 yrs  Untrained men and women | Between-subject | 27 sessions (9wk, 3x.wk-1);  1 exercise;  Moderate load: 1 set of 10-12RM (n= 12)  Low-load: 1 set of 60 reps at 20-25% of 1-RM plus 10-12 reps at 40% of 1-RM (n= 12) | NR | Knee extension 1-RM |
| Schoenfeld et al., 2014 (48) | n= 20  age: 23.2±2.7 yrs  Men with experience in resistance training | Between-subject | 24 sessions (8wk, 3x.wk-1);  9 exercises;  High load: 7 sets of 3RM (n= 10)  Moderate load: 3 sets of 10RM (n= 10) | Bench press volumea  High load: 4,140±49 kg;  Moderate load: 3,693±47  Squat volumea  High volume: 5,751±68 kg;  Moderate volume: 6,625±85 kg | Bench press 1-RM;  Squat 1-RM;  Elbow flexor MT (Ultrasound) |
| Herman-Montemayor et al., 2015 (36) | n= 34  age: 21.1±2.7 yrs  Untrained women | Between-subject | 21 sessions (8wk, 2-3x wk-1);  3 exercises;  High load: 3 sets of 6-10RM (n= 9)  Low load: 3 sets of 20-30RM (n= 6) | NR | Vastus lateralis Biopsy |
| Mangine et al., 2015 (41) | n= 29  age: 24.0±2.7 and 24.7±3.4 yrs  Men with experience in resistance training | Between-subject | 38 sessions (10wk, 2-4x.wk-1);  17 exercises;  High load: 4 sets of 3-5RM (n= 15)  Moderate load: 4 sets of 10-12RM (n= 14) | Bench press volumea  High load: 2,757±696 kg;  Moderate load: 4,412±729 kg | Bench press 1-RM |
| Schoenfeld et al., 2015 (47) | n= 24  age: 23.3±? yrs  Men with experience in resistance training | Between-subject | 24 sessions (8wk, 3x.wk-1);  7 exercises;  Moderate load: 3 sets of 8-12RM (n= 12)  Low load: 3 sets of 25-35RM (n= 12) | NR | Bench press 1-RM;  Squat 1-RM;  Elbow flexor MT (Ultrasound);  Elbow extensor MT (Ultrasound) |
| Fink et al., 2016 (34) | n= 21  age: 23.1±2.4 and 23.4±3.0 yrs  Untrained men athletes | Between-subject | 24 sessions (8wk, 3x.wk-1);  1 exercise;  High load: 3 sets at 80% of 1-RM (n= 7)  Low load: 3 sets at 30% of 1-RM (n= 7) | Biceps curl volumeb  High load: 15.3±1.6 repetitions;  Low load: 75.3±12.6 repetitions | Arm CSA (MRI) |
| Morton et al., 2016 (43) | n= 49  age: 23±1 yrs  Men with experience in resistance training | Between-subject | 48 sessions (12wk, 4x.wk-1);  10 exercises;  High load: 3 sets of 8-12RM\* (n= 27)  Low load: 3 sets of 20-25RM (n= 29) | Total volume per sessiona  High load: 14,805±592 kg;  Low load: 23,969±901 kg | Bench press 1-RM;  Leg press 1-RM;  Knee extension 1-RM;  Vastus lateralis Biopsy |
| Schoenfeld et al., 2016 (7) | n= 19  age: 23.2±4.2 yrs  Men with experience in resistance training | Between-subject | 24 sessions (8wk, 3x.wk-1);  7 exercises;  High load: 7 sets of 3RM (n= 10)  Moderate load: 3 sets of 8-12RM (n= 9) | Total volumea  High load: 25,867±3,731 kg;  Moderate load: 56,049±11,101 kg | Bench press 1-RM;  Squat 1-RM;  Elbow flexor MT (Ultrasound);  Elbow extensor MT (Ultrasound);  Vastus lateralis MT (Ultrasound) |
| Cholewa et al., 2017 (32) | n= 20  age: 20.3±1.5 yrs  Untrained women | Between-subject | 33 sessions (11wk, 3x.wk-1);  13 exercises;  High load: 4 sets at 5-7 RM (n= 10)  Moderate load: 2 sets at 10-14RM (n= 10) | Squat total volumea  High load: range from 1,234 to 1,600 kg;  Moderate load: range from 947 to 1,262kg. | Squat 1-RM;  Arm and thigh CSA (Skinfold circumference) |
| Jenkins et al., 2017 (38) | n= 26  age: 23.1±4.7 yrs  Untrained men | Between-subject | 18 sessions (6wk, 3x.wk-1);  1 exercise;  High load: 3 sets at 80% of 1-RM (n= 13)  Low load: 3 sets at 30% of 1-RM (n= 13) | Knee extension volumea  High load: 38,825±3,003 kg;  Low load: 41,170±4,327 kg | Knee extension 1-RM;  Quadriceps femoris MT (Ultrasound) |
| Lopes et al., 2017 (40) | n= 16  age: 24.6±5.8 and 28.6±6 yrs  Men with experience in resistance training | Between-subject | 24 sessions (6wk, 4x.wk-1);  15 exercises;  Moderate load: 6 sets of 10RM (n= 8)  Low load: 3 sets of 20RM (n= 8) | Total volumea  Moderate load: range from 89,029±15,297 to 106,802±14,903 kg;  Low load: range from 80,460±10,721 to 97,131±11,109 kg | Bench press 1-RM;  Squat 1-RM;  Fat-free mass (Skin fold) |
| Ozaki et al., 2017 (45) | n= 9  age: 26±1 yrs  Untrained men | Within-subject | 22 sessions (8wk, 2-3x.wk-1);  1 exercise;  High load: 3 sets of 80% of 1-RM (n= 6)  Low load: 3 sets of 30% of 1-RM (n= 6) | Elbow flexion volume per setb  High load: range from 8.8±1.3 to 5.1±1.2 repetitions;  Low load: range from 104.3±22.3 to 31.8±5.6 repetitions | Elbow flexors 1-RM;  Arm CSA (MRI) |
| Lasevicius et al., 2018 (4) | n= 30  age: 24.5±2.4 yrs  Active untrained men | Within-subject | 24 sessions (12wk, 2x.wk-1);  2 exercises;  High load: 4 sets at 80% of 1-RM (n= 10)  Moderate load: 5 sets at 60% of 1-RM (n= 10)  Low load: 4 sets at 40% of 1-RM (n= 10)  Low load: 3 sets at 20% of 1-RM (n= 30) | Leg press volumea  High load: 160,005±36,054 kg;  Moderate load: 160,900±30,997 kg;  Low load: 153,946±28,285 and 163,043±34,695 kg  Elbow flexion volumea  High load: 20,543±3,480  Moderate load: 20,822±3,644  Low load: 21,919±3,028 and 21,674±2953 kg | Leg press 1-RM;  Elbow flexors 1-RM;  Vastus lateralis CSA (Ultrasound);  Elbow flexor CSA (Ultrasound) |
| Nobrega et al., 2018 (44) | n= 32  age: 23.0±3.6 yrs  Untrained men | Within-subject | 24 sessions (12wk, 2x.wk-1);  1 exercise;  High load: 3 sets at 80% of 1-RM (n= 14)  Low load: 3 sets at 30% of 1-RM (n= 13) | Knee extension volumea  High load: range from 12,795±3,654 to 13,899±3,236 kg;  Low load: range from 9,923±3,144 to 11,191±3,346 kg | Knee extension 1-RM;  Vastus lateralis CSA (Ultrasound) |
| Dinyer et al., 2019 (33) | n= 23  age: 21.2±2.2 yrs  Untrained women | Between-subject | 24 sessions (12wk, 2x.wk-1);  4 exercises;  High load: 2-3 sets at 80% of 1-RM (n= 12)  Low load: 2-3 sets at 30% of 1-RM (n= 11) | Knee extension volumea  High load: 14,845 kg;  Low load: 11,755 kg  Seated military pressa  High load: 4,366 kg;  Low load: 4,030 kg | Knee extension 1-RM;  Seated military press 1-RM;  Bone- and fat-free mass (DXA) |
| Franco et al., 2019 (35) | n= 32  age: 23.0±3.3 and 24.3±4.8 yrs  Untrained women | Between-subject | 18 sessions (9wk, 2x.wk-1);  3 exercises;  Moderate Load: 3 sets of 8-10RM (n= 18)  Low load: 3 sets of 30-35RM (n=14) | Total volumea  High load: 2,993±561 kg;  Low load: 5,190±731 kg | Knee extension 1-RM;  Leg bone- and fat-free mass (DXA) |
| Lasevicius et al., 2019 (39) | n= 32  age: 23.8±4.9 and 24.3±4.8 yrs  Active untrained men | Within-subject | 16 sessions (8wk, 2x.wk-1);  1 exercise;  High load: 3 sets at 80% of 1-RM (n= 13)  Low load: 3 sets at 30% of 1-RM (n= 12) | Knee extension volumea  High load: 34,853±8,020 kg  Low load: 34,576±16,372 kg | Knee extension 1-RM;  Quadriceps femoris CSA (Ultrasound) |
| Lim et al., 2019 (5) | n= 21  age: 23±1 and 24±2 yrs  Untrained men | Between-subject | 30 sessions (10wk, 3x.wk-1);  3 exercises;  High load: 3 sets at 80% of 1-RM (n= 7)  Low load: 3 sets at 30% of 1-RM (n= 7) | Knee extension volumea  High load: 1,117±463 kg  Low load: 1,571±476 kg | Knee extension 1-RM;  Vastus lateralis Biopsy |
| Stefanaki et al., 2019 (50) | n= 13  age: 29.7±4.7 yrs  Untrained women | Within-subject | 12 sessions (6wk, 2x.wk-1);  2 exercises;  High load: 1 set at 80% of 1-RM (n= 13)  Low load: 1 set at 30% of 1-RM (n=13) | Elbow flexors volumea  High load: range from 274 to 459 kg;  Low load: range from 459 to 874 kg  Knee extensiona  High load: 97 – 123 kg;  Low load: 199 – 255 kg | Elbow flexors 1-RM;  Knee extension 1-RM;  Elbow flexor MT (Ultrasound);  Vastus lateralis MT (Ultrasound) |
| Vargas et al., 2019 (53) | n= 25  age:28.4±6.4 yrs  Men with experience in resistance training | Between-subject | 32 sessions (8wk, 4x.wk-1);  16 exercises;  High load: 3 sets of 6-8RM (n= 10)  Low load: 3 sets of 20-25RM (n= 10) | NR | Lean body mass (DXA) |

\*, Corresponding 75-90% of 1-RM as reported by authors; a, Product of sets, repetitions and load; b, Average total number of repetitions; c, Product of training load, distance and repetitions; 1-RM, one repetition maximum; CSA, cross-sectional area; DXA, dual-energy X-ray absorptiometry; MRI, magnetic resonance imaging; MT, muscle thickness; wk, weeks.