**Supplementary Digital Content 1: studies included in the fasting hunger analyses (*n* = 192)**

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| **Reference** | **Participants (all healthy males)** | **Exercise** | **Fasting hunger (mm)** |
| **Broom et al (Unpublished)**  Data available on request | *n* = 9; age 23.2 ± 2.1 y; BMI 22.8 ± 1.5 kg/m2; V̇O2 peak 63.4 ± 5.8 mL/kg/min | Treadmill running; 90 min; 69.7 ± 2.2 % V̇O2 peak; Net EE 5473 ± 699 kJ | CON: 50 ± 22  EX: 50 ± 24  *P* = 0.923 |
| **Broom et al (2006) *J Sports Sci (abstract)***  *Control & high-intensity trial used only* | *n* = 9; age 21.4 ± 1.7 y; BMI 24.5 ± 2.4 kg/m2; V̇O2 peak 58.2 ± 5.6 mL/kg/min | Treadmill running; 30 min; 74.9 ± 4.4 % V̇O2 peak; Net EE 2172 ± 453 kJ | CON: 38 ± 20  EX: 34 ± 25  *P* = 0.522 |
| **Broom et al (2007) *J Appl Physiol***  doi:10.1152/japplphysiol.00759.2006. | *n* = 9; age 21.2 ± 2.1 y; BMI 22.2 ± 2.4 kg/m2; V̇O2 peak 63.3 ± 6.7 mL/kg/min | Treadmill running; 60 mins; 71.9 ± 6.2 % V̇O2 peak; Net EE 3603 ± 618 kJ | CON: 49 ± 21  EX: 42 ± 15  *P* = 0.116 |
| **Broom et al (2009) *Am J Physiol Reg-I***  doi: 10.1152/ajpregu.90706.2008 | *n* = 12; age 21.2 ± 1.1 y; BMI 23.4 ± 1.6 kg/m2; V̇O2 peak 61.2 ± 6.1 mL/kg/min | Treadmill running; 60 mins; 68.5 ± 5.6 % V̇O2 peak; Net EE 3488 ± 268 kJ | CON: 48 ± 30  EX: 37 ± 22  *P* = 0.190 |
| **King et al (2010) *Appetite***  doi: 10.1016/j.appet.2010.02.002 | *n* = 9; age 22.2 ± 2.5 y; BMI 23.6 ± 1.1 kg/m2; V̇O2 peak 60.5 ± 4.5 mL/kg/min | Treadmill running; 90 min; 68.8 ± 2.3% V̇O2 peak; Net EE 5324 ± 559 kJ | CON: 65 ± 24  EX: 74 ± 14  *P* = 0.169 |
| **King et al (2010) *Med Sci Sports Exerc***  doi:10.1249/MSS.0b013e3181ba10c4 | *n* = 14; age 22.0 ± 2.1 y; BMI 23.4 ± 2.1 kg/m2; V̇O2 peak 55.9 ± 6.7 mL/kg/min | Treadmill brisk walking; 60 min; 45.2 ± 7.4% V̇O2 peak; Net EE 2006 ± 278 kJ | CON:55 ± 25  EX:58 ± 20  *P* = 0.718 |
| **King et al (2011) *J Clin Endocrinol Metab***  *Control & exercise trial used only*  doi: 10.1210/jc.2010-2735 | *n* = 12; age 23.4 ± 3.4; BMI 22.8 ± 1.2; V̇O2 peak 57.3 ± 4.1 mL/kg/min | Treadmill running; 90 min; 69.8 ± 3.1 % V̇O2 peak; Net EE 4716 ± 391 kJ | CON:62 ± 21  EX: 59 ± 17  *P* = 0.773 |
| **King et al (2011) *J Obes***  doi: 10.1155/2011/351628 | *n* = 14; age 21.7 ± 2.2 y; BMI 23.2 ± 2.3 kg/m2 | Swimming; 42 min (6 x 7 min bouts); HR 155 ± 5 beat/min; Net EE 1921 ± 309 kJ | CON: 66 ± 15  EX:63 ± 19  *P* = 0.547 |
| **Deighton et al (2012) *Appetite***  *Control & fasted exercise trial used only*  doi: 10.1016/j.appet.2012.02.041 | *n* = 12; age 23.1 ± 3.0 y; BMI 23.7 ± 2.7; V̇O2 peak 53.5 ± 12.4 mL/kg/min | Treadmill running; 60 min; 71.1 ± 2.1% V̇O2 peak; Net EE 3247 ± 465 kJ | CON: 63 ± 16  EX: 62 ± 18  *P* = 0.881 |
| **Wasse et al (2012) *J Appl Physiol***  *Sea-level control and sea-level exercise trials used only*  doi: 10.1152/japplphysiol.00090.2011 | *n* = 10; age 23.8 ± 2.6 y; BMI 24.8 ± 2.4; V̇O2 peak 56.9 ± 6.5 mL/kg/min | Treadmill running; 60 min; 71.21 ± 5.7% V̇O2 peak; Net EE 3278 ± 428 kJ | CON: 71 ± 19  EX: 51 ± 31  *P* = 0.020 |
| **Deighton et al (2013) *Eur J Appl Physiol***  *Control & endurance exercise trial used only*  doi: 10.1007/s00421-012-2535-1 | *n* = 12; age 23.0 ± 3.0 y; BMI 24.2 ± 2.9; V̇O2 peak 46.3 ± 10.2 mL/kg/min | Stationary cycling; 60 min; 68.1 ± 4.3% V̇O2 peak; Net EE 2640 ± 418 kJ | CON: 68 ± 17  EX: 61 ± 22  *P* = 0.444 |
| **Deighton et al (2013) *Appl Physiol Nutr Metab***  *Control & steady-state exercise trial used only*  doi: 10.1139/apnm-2012-0484 | *n* = 12; age 22.0 ± 3.0 y; BMI 23.7 ± 3.0; V̇O2 peak 52.4 ± 7.1 mL/kg/min | Stationary cycling; 60 min; 59.5 ± 1.6% V̇O2 peak; Net EE 2451 ± 208 kJ | CON: 69 ± 20  EX: 73 ± 13  *P* = 0.507 |
| **King et al (2013) *Appetite***  doi: 10.1016/j.appet.2012.10.018 | *n* = 10; age 21.3 ± 2.1 y; BMI 23.9 ± 2.3; V̇O2 peak 61.5 ± 4.8 mL/kg/min | Treadmill running; 60 min; 71.8 ± 4.8% V̇O2 peak; Net EE 4117 ± 369 kJ | CON: 59 ± 29  EX: 52 ± 28  *P* = 0.197 |
| **Wasse et al (2013) *Appl Physiol Nutr Metab***  *Control & running trial used only*  doi: 10.1139/apnm-2012-0154 | *n* = 11; age 22.7 ± 2.2 y; BMI 23.4 ± 2.4; V̇O2 peak 57.8 ± 10.0 mL/kg/min | Treadmill running; 60 min; 70.1 ± 4.0% V̇O2 peak; Net EE 2940 ± 786 kJ | CON: 41 ± 32  EX: 48 ± 35  *P* = 0.206 |
| **Deighton et al (2014) *Appetite***  *Control & exercise-deficit trial used only*  [doi:10.1016/j.appet.2014.06.003](http://dx.doi.org/10.1016/j.appet.2014.06.003) | *n* = 12; age 23.8 ± 4.7 y; BMI 23.8 ± 2.7; V̇O2 peak 55.4 ± 9.1 mL/kg/min | Stationary cycling; 30 min; 64.5 ± 3.2% V̇O2 peak; Net EE 1469 ± 256 kJ | CON: 68 ± 17  EX: 71 ± 15  *P* = 0.511 |
| **Douglas et al (2015) *Appetite***  *Day one data used only*  doi: 10.1016/j.appet.2015.05.006 | *n* = 15; age 21.1 ± 1.7 y; BMI 23.0 ± 1.9; V̇O2 peak 57.9 ± 4.2 mL/kg/min | Treadmill running; 60 min; 70.1 ± 2.5% V̇O2 peak; Net EE 3779 ± 327 kJ | CON: 60 ± 23  EX: 56 ± 24  *P* = 0.570 |
| **Alajmi et al (2016) *Med Sci Sports Exerc***  *Data from men only*  doi: 10.1249/MSS.0000000000000793 | *n* = 10; age 23.4 ± 3.5 y; BMI 23.4 ± 2.1; V̇O2 peak 61.3 ± 9.6 mL/kg/min | Treadmill running; 60 min; 71.9 ± 4.3% V̇O2 peak; Net EE 3682 ± 690 kJ | CON: 63 ± 12  EX: 53 ± 19  *P* = 0.100 |

Data = Mean ± SD; participants all healthy males