**Supplemental Digital Content 1.** Metabolic data by activities for indirect calorimetry

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Activity** | ***n*** | **kcal/min** | **Min - Max** | **L/min** | **Min - Max** | **ml/kg/min** | **Min - Max** | **METs** | **Min - Max** |
| *REE* |  |  |  |  |  |  |  |  |
|  5-12y | 56 | 1.19 ± 0.24 | 0.81 - 2.15 | 0.24 ± 0.05 | 0.17 - 0.42 | 7.89 ± 1.80 | 3.59 - 12.09 | - | - |
|  5-9y  | 31 | 1.06 ± 0.13 | 0.81 - 1.31 | 0.22 ± 0.03 | 0.17 - 0.27 | 8.57 ± 1.71 | 5.78 - 12.09 | - | - |
|  10-12y | 25 | 1.35 ± 0.26 | 0.91 - 2.15 | 0.28 ± 0.05 | 0.19 - 0.42 | 7.05 ± 1.57 | 3.59 - 10.18 | - | - |
| *TV viewing* |  |  |  |  |  |  |  |  |
|  5-12y | 56 | 1.24 ± 0.25 | 0.83 - 2.08 | 0.26 ± 0.05 | 0.17 - 0.43 | 8.29 ± 1.73 | 5.68 - 12.98 | 1.09 ± 0.16 | 0.84 - 1.81 |
|  5-9y | 31 | 1.12 ± 0.16 | 0.83 - 1.50 | 0.23 ± 0.03 | 0.17 - 0.31 | 9.10 ± 1.61 | 5.95 - 12.98 | 1.10 ± 0.14 | 0.84 - 1.56 |
|  10-12y | 25 | 1.39 ± 0.27 | 0.92 - 2.08 | 0.29 ± 0.06 | 0.19 - 0.43 | 7.28 ± 1.31 | 5.68 - 10.87 | 1.08 ± 0.18 | 0.90 - 1.81 |
| *Computer game* |  |  |  |  |  |  |  |  |
|  5-12y | 56 | 1.28 ± 0.25 | 0.67 - 1.78 | 0.27 ± 0.05 | 0.14 - 0.38 | 8.55 ± 1.80 | 5.39 - 12.10 | 1.13 ± 0.18 | 0.75 - 1.83 |
|  5-9y | 31 | 1.17 ± 0.19 | 0.67 - 1.50 | 0.24 ± 0.04 | 0.14 - 0.31 | 9.50 ± 1.64 | 5.70 - 12.10 | 1.15 ± 0.17 | 0.75 - 1.54 |
|  10-12y | 25 | 1.41 ± 0.26 | 0.96 - 1.78 | 0.29 ± 0.06 | 0.19 - 0.38 | 7.38 ± 1.23 | 5.39 - 9.56 | 1.10 ± 0.20 | 0.75 - 1.83 |
| *Handheld e-game* |  |  |  |  |  |  |  |  |
|  5-12y | 55 | 1.36 ± 0.25 | 0.85 - 2.24 | 0.28 ± 0.05 | 0.18 - 0.46 | 9.12 ± 2.18 | 5.93 - 14.17 | 1.19 ± 0.18 | 0.93 - 1.90 |
|  5-9y | 30 | 1.25 ± 0.17 | 0.85 - 1.70 | 0.26 ± 0.04 | 0.18 - 0.35 | 10.27 ± 2.10 | 5.99 - 14.17 | 1.22 ± 0.16 | 0.94 - 1.50 |
|  10-12y | 25 | 1.49 ± 0.28 | 0.94 - 2.24 | 0.31 ± 0.06 | 0.19 - 0.46 | 7.79 ± 1.37 | 5.93 - 11.07 | 1.16 ± 0.20 | 0.93 - 1.90 |
| *Writing/Coloring* |  |  |  |  |  |  |  |  |
|  5-12y | 55 | 1.44 ± 0.28 | 0.91 - 2.18 | 0.30 ± 0.06 | 0.19 - 0.45 | 9.71 ± 2.25 | 5.41 - 15.99 | 1.27 ± 0.22 | 0.94 - 2.26 |
|  5-9y | 30 | 1.33 ± 0.20 | 0.91 - 1.82 | 0.28 ± 0.04 | 0.19 - 0.38 | 10.86 ± 2.11 | 7.12 - 15.99 | 1.30 ± 0.17 | 1.01 - 1.78 |
|  10-12y | 25 | 1.58 ± 0.30 | 1.08 - 2.18 | 0.33 ± 0.06 | 0.22 - 0.45 | 8.28 ± 1.47 | 5.41 - 12.07 | 1.24 ± 0.26 | 0.94 - 2.26 |
| *Standing activity* |  |  |  |  |  |  |  |  |
|  5-12y | 56 | 1.70 ± 0.34 | 1.15 - 2.77 | 0.35 ± 0.07 | 0.24 - 0.57 | 11.34 ± 2.25 | 7.66 - 16.45 | 1.50 – 0.23 | 1.11 - 2.58 |
|  5-9y | 31 | 1.53 ± 0.24 | 1.15 - 2.06 | 0.32 ± 0.05 | 0.24 - 0.43 | 12.41 ± 2.07 | 8.85 - 16.45 | 1.50 ± 0.19 | 1.20 - 1.85 |
|  10-12y | 25 | 1.90 ± 0.34 | 1.32 - 2.77 | 0.40 ± 0.07 | 0.28 - 0.57 | 10.02 ± 1.71 | 7.66 - 13.03 | 1.49 ± 0.27 | 1.11 - 2.58 |
| *Getting ready* |  |  |  |  |  |  |  |  |
|  5-12y | 56 | 2.81 ± 0.63 | 1.64 - 4.32 | 0.59 ± 0.13 | 0.33 - 0.92 | 18.64 ± 3.07 | 13.06 - 24.90 | 2.49 ± 0.45 | 1.67 - 4.01 |
|  5-9y | 31 | 2.52 ± 0.48 | 1.64 - 3.42 | 0.53 ± 0.10 | 0.33 - 0.71 | 20.17 ± 2.04 | 15.09 - 24.35 | 2.48 ± 0.44 | 1.67 - 3.23 |
|  10-12y | 25 | 3.18 ± 0.59 | 1.98 - 4.32 | 0.66 ± 0.13 | 0.42 - 0.92 | 16.75 ± 3.11 | 13.06 - 24.90 | 2.50 ± 0.48 | 1.73 - 4.01 |
| *Slow Walk* |  |  |  |  |  |  |  |  |
|  5-12y | 56 | 3.26 ± 0.66 | 2.28 - 4.93 | 0.68 ± 0.14 | 0.46 - 1.04 | 21.80 ± 3.86 | 15.05 - 33.44 | 2.90 ± 0.50 | 1.92 - 4.45 |
|  5-9y | 31 | 2.97 ± 0.47 | 2.28 - 4.61 | 0.62 ± 0.10 | 0.46 - 0.97 | 24.04 ± 3.24 | 16.40 - 33.44 | 2.92 ± 0.42 | 2.31 - 3.95 |
|  10-12y | 25 | 3.62 ± 0.70 | 2.43 - 4.93 | 0.76 ± 0.15 | 0.51 - 1.04 | 19.02 ± 2.55 | 15.05 - 25.17 | 2.87 ± 0.60 | 1.92 - 4.45 |
| *Dancing* |  |  |  |  |  |  |  |  |
|  5-12y | 55 | 3.53 ± 1.22 | 1.85 - 6.78 | 0.73 ± 0.25 | 0.39 - 1.39 | 22.77 ± 3.85 | 15.22 - 32.12 | 3.09 ± 0.85 | 1.70 - 5.26 |
|  5-9y | 31 | 2.98 ± 0.93 | 1.85 - 5.78 | 0.62 ± 0.19 | 0.39 - 1.22 | 23.45 ± 3.94 | 15.22 - 31.45 | 2.91 ± 0.82 | 1.70 - 5.15 |
|  10-12y | 24 | 4.24 ± 1.21 | 2.43 - 6.78 | 0.88 ± 0.25 | 0.50 - 1.39 | 21.90 ± 3.62 | 16.27 - 32.12 | 3.32 ± 0.86 | 2.12 - 5.26 |
| *Brisk Walk* |  |  |  |  |  |  |  |  |
|  5-12y | 56 | 3.88 ± 0.95 | 2.51 - 6.45 | 0.80 ± 0.19 | 0.51 - 1.30 | 25.34 ± 4.05 | 17.62 - 37.96 | 3.38 ± 0.63 | 2.26 - 5.83 |
|  5-9y | 31 | 3.41 ± 0.61 | 2.51 - 5.12 | 0.70 ± 0.12 | 0.51 - 1.05 | 27.13 ± 3.66 | 21.12 - 37.96 | 3.29 ± 0.44 | 2.63 - 4.42 |
|  10-12y | 25 | 4.47 ± 0.99 | 2.99 - 6.45 | 0.92 ± 0.20 | 0.63 - 1.30 | 23.12 ± 3.41 | 17.62 - 29.10 | 3.49 ± 0.81 | 2.26 - 5.83 |
| *Tidy up* |  |  |  |  |  |  |  |  |
|  5-12y | 55 | 4.07 ± 1.16 | 2.21 - 7.05 | 0.85 ± 0.24 | 0.45 - 1.49 | 26.31 ± 3.84 | 19.72 - 36.75 | 3.57 ± 0.84 | 2.14 - 7.42 |
|  5-9y | 30 | 3.52 ± 0.85 | 2.21 - 6.01 | 0.73 ± 0.18 | 0.45 - 1.26 | 27.72 ± 3.84 | 20.73 - 36.75 | 3.42 ± 0.65 | 2.14 - 4.71 |
|  10-12y | 25 | 4.74 ± 1.15 | 2.73 - 7.05 | 0.99 ± 0.24 | 0.58 - 1.49 | 24.63 ± 3.16 | 19.72 - 30.61 | 3.75 ± 1.02 | 2.79 - 7.42 |
| *Running* |  |  |  |  |  |  |  |  |
|  5-12y | 56 | 6.66 ± 2.12 | 2.76 - 11.61 | 1.36 ± 0.44 | 0.57 - 2.46 | 42.18 ± 6.99 | 21.05 - 59.34 | 5.68 ± 1.34 | 2.85 - 10.41 |
|  5-9y | 31 | 5.28 ± 1.21 | 2.76 - 7.18 | 1.08 ± 0.25 | 0.57 - 1.46 | 41.59 ± 8.07 | 21.05 - 59.34 | 5.05 ± 1.01 | 2.85 - 6.96 |
|  10-12y | 25 | 8.37 ± 1.73 | 5.18 - 11.61 | 1.72 ± 0.36 | 1.06 - 2.46 | 42.92 ± 5.43 | 33.05 - 52.75 | 6.47 ± 1.30 | 4.09 - 10.41 |
| *Locomotor course* |  |  |  |  |  |  |  |  |
|  5-12y | 54 | 7.14 ± 2.28 | 2.68 - 12.17 | 1.47 ± 0.47 | 0.56 - 2.54 | 45.16 ± 7.63 | 10.08 - 62.81 | 6.05 ± 1.20 | 2.81 - 8.22 |
|  5-9y | 29 | 5.87 ± 1.34 | 3.88 - 9.62 | 1.20 ± 0.27 | 0.78 - 1.94 | 45.43 ± 5.68 | 37.06 - 60.59 | 5.58 ± 0.91 | 3.82 - 7.26 |
|  10-12y | 25 | 8.62 ± 2.26 | 2.68 - 12.17 | 1.78 ± 0.47 | 0.56 - 2.54 | 44.85 ± 9.52 | 10.08 - 62.81 | 6.59 ± 1.28 | 2.81 - 8.22 |
| *Soccer* |  |  |  |  |  |  |  |  |
|  5-12y | 55 | 7.21 ± 2.08 | 3.53 - 12.76 | 1.47 ± 0.44 | 0.73 - 2.73 | 46.23 ± 7.06 | 35.19 - 70.82 | 6.22 ± 1.42 | 3.48 - 12.28 |
|  5-9y | 31 | 6.05 ± 1.41 | 3.53 - 10.13 | 1.23 ± 0.29 | 0.73 - 2.04 | 47.03 ± 6.27 | 36.63 - 64.26 | 5.78 ± 1.18 | 3.48 - 7.67 |
|  10-12y | 24 | 8.70 ± 1.87 | 5.99 - 12.76 | 1.79 ± 0.40 | 1.20 - 2.73 | 45.19 ± 7.99 | 35.19 - 70.82 | 6.77 ± 1.53 | 4.29 - 12.28 |
| *Basketball* |  |  |  |  |  |  |  |  |
|  5-12y | 54 | 6.64 ± 2.15 | 3.27 - 11.65 | 1.36 ± 0.44 | 0.66 - 2.33 | 41.44 ± 5.99 | 28.83 - 54.42 | 5.65 ± 1.41 | 2.97 - 11.44 |
|  5-9y | 29 | 5.29 ± 1.36 | 3.27 - 7.90 | 1.08 ± 0.27 | 0.66 - 1.59 | 40.89 ± 6.10 | 28.83 - 54.42 | 5.06 ± 1.15 | 2.97 - 7.04 |
|  10-12y | 25 | 8.19 ± 1.81 | 5.24 - 11.65 | 1.69 ± 0.37 | 1.10 - 2.33 | 42.07 ± 5.93 | 30.68 - 52.00 | 6.33 ± 1.39 | 4.27 - 11.44 |

Notes: Mean volume of oxygen consumption and carbon dioxide production were converted into units of energy expenditure (kcal/min) using the Weir equation (42). METs, metabolic equivalents; REE, resting energy expenditure.