**S2 Table. WT, SB, and PA intensity levels by activity cut-point and epoch length using the NHANES WT algorithm.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Activity Cut-point | Epoch Length | WT | SB | LPA | MPA | VPA | MVPA  |
|  | Second | Minutes/Day  | Minutes/Day (% Time) | Minutes/Day (% Time) | Minutes/Day (% Time) | Minutes/Day (% Time) | Minutes/Day (% Time) |
| Evenson (12) | ANOVA | F(5,1335)=56.41 p<.0001 | F(5,1335)=2394.18 p<.0001 F(5,1335)=5233.46 p<.0001 | F(5,1335)=4902.00 p<.0001F(5,1335)=9276.75 p<.0001 | F(5,1335)=39.79 p<.0001F(5,1335)=28.53 p<.0001 | F(5,1335)=686.55 p<.0001 F(5,1335)=648.15 p<.0001 | F(5,1335)=205.18 p<.0001F(5,1335)=158.40 p<.0001 |
|  | 1 | 1030.33 | 824.56 ^^^^(80.02%) ^^^^ | 135.94 ^^^^(13.21%) ^^^^ | 39.03 ^^^^ (3.79%) ^^^^ | 30.74 ^^^^(2.99%) ^^^^ | 69.77 ^^^^(6.78%) ^^^^ |
|  | 5 | 1023.60 | 730.62 ^^^^(71.39%) ^^^^ | 226.35 ^^^^(22.09%) ^^^^ | 42.46(4.15%) | 24.12 ^^^^(2.36%) ^^^^ | 66.57 ^^^^(6.51%) ^^^^ |
|  | 10 | 1016.82 | 675.50 ^^^^(66.47%) ^^^^ | 278.47 ^^^^(27.34%) ^^^^ | 43.10(4.24%) | 19.70 ^^^^(1.95%) ^^^^ | 62.80 ^^^^(6.18%) ^^^ |
|  | 15 \*  | 1009.17 | 640.74(63.54%) | 308.92(30.55%) | 42.39(4.20%) | 17.06(1.70%) | 59.46(5.90%) |
|  | 30 | 991.96 | 570.25 ^^^^(57.56%) ^^^^ | 367.81 ^^^^(37.00%) ^^^^ | 40.30 ^^^^(4.07%) ^^ | 13.54 ^^^^(1.37%) ^^^^ | 53.84 ^^^^(5.44%) ^^^^ |
|  | 60 | 966.44 | 492.59 ^^^^(51.07%) ^^^^ | 426.40 ^^^^(44.02%) ^^^^ | 37.21 ^^^^(3.85%) ^^^^ | 10.19 ^^^^(1.06%) ^^^^ | 47.40 ^^^^(4.91%) ^^^^ |
| Treuth (13) | ANOVA | F(5,1335)=56.41 p<.0001 | F(5,1335)=2394.18 p<.0001 F(5,1335)=5233.46 p<.0001 | F(5,1335)=4281.59 p<.0001F(5,1335)=8038.57 p<.0001 | F(5,1335)=138.78 p<.0001F(5,1335)=104.02 p<.0001 | F(5,1335)=914.34 p<.0001 F(5,1335)=874.86 p<.0001 | F(5,1335)=405.76 p <.0001F(5,1335)=361.90p<.0001 |
|  | 1 | 1030.33 | 824.56 ^^^^(80.02%) ^^^^ | 155.86 ^^^^(15.14%) ^^^^ | 31.35 ^^^^(3.04%) ^^^^ | 18.50 ^^^^(1.80%) ^^^^ | 49.85 ^^^^(4.84%) ^^^^ |
|  | 5 | 1023.60 | 730.62 ^^^^(71.39%) ^^^^ | 249.17 ^^^^(24.32%) ^^^^ | 31.02 ^^^^(3.03%) ^^^^ | 12.74 ^^^^(1.25%) ^^^^ | 43.76 ^^^^(4.28%) ^^^^ |
|  | 10 | 1016.82 | 675.50 ^^^^(66.47%) ^^^^ | 302.31 ^^^^(29.69%) ^^^^ | 29.67 ^^^^(2.92%) ^^^^ | 9.29 ^^^^(0.92%) ^^^^ | 38.96 ^^^^(3.84%) ^^^^ |
|  | 15 | 1009.17 | 640.74 ^^^^(63.54%) ^^^^ | 332.84 ^^^^(32.92%) ^^^^ | 27.97 ^^^^(2.77%) ^^^^ | 7.57 ^^^^(0.76%) ^^^^ | 35.54 ^^^^(3.53%) ^^^^ |
|  | 30\*  | 991.96 | 570.25(57.56%) | 390.81(39.32%) | 25.45(2.57%) | 5.39(0.55%) | 30.84(3.12%) |
|  | 60 | 966.44 | 492.59 ^^^^(51.07%) ^^^^ | 448.23 ^^^^(46.28%) ^^^^ | 21.98 ^^^^(2.27%) ^^^^ | 3.59 ^^^^(0.38%) ^^^^ | 25.57 ^^^^(2.65%) ^^^^ |
| Puyau (14) | ANOVA | F(5,1335)=56.41 p<.0001 | F(5,1335)=197.43 p<.0001 F(5,1335)=394.59 p<.0001 | F(5,1335)=819.11 p<.0001F(5,1335)=1256.38 p<.0001 | F(5,1335)=323.71 p<.0001F(5,1335)=281.95 p<.0001 | F(5,1335)=749.37 p<.0001 F(5,1335)=716.86 p<.0001 | F(5,1335)=441.29 p <.0001 F(5,1335)=398.75 p<.0001 |
|  | 1 | 1030.33 | 888.72^^^^(86.25%) ^^^^ | 97.19 ^^^^(9.43%) ^^^^ | 37.81 ^^^^(3.67%) ^^^^ | 6.58 ^^^^(0.64%) ^^^^ | 44.39 ^^^^(4.31%) ^^^^ |
|  | 5 | 1023.60 | 863.09 ^^^^(84.32%) ^^^^ | 121.70 ^^^^(11.88%) ^^^^ | 35.75 ^^^^(3.49%) ^^^^ | 3.04 ^^^^ (0.30%) ^^^^ | 38.79 ^^^^(3.80%) ^^^^ |
|  | 10 | 1016.82 | 847.26 ^^^^(83.33%) ^^^^ | 135.58 ^^^^(13.32%) ^^^^ | 32.09 ^^^^(3.16%) ^^^^ | 1.86 ^^^^(0.19%) ^^^^ | 33.95 ^^^^(3.35%) ^^^^ |
|  | 15 | 1009.17 | 833.82 ^^^^(82.63%) ^^^^ | 144.58 ^^^^(14.31%) ^^^^ | 29.33 ^^^^(2.91%) ^^^^ | 1.42 ^^^^(0.14%) ^^^^ | 30.74 ^^^^ (3.06%) ^^^^ |
|  | 30 | 991.96 | 809.22 ^^^^(81.59%) ^^^^ | 156.54 ^^^^(15.76%) ^^^^ | 25.19 ^^^^(2.54%) ^^^^ | 0.98 ^(0.10%) ^ | 26.17 ^^^^(2.64%) ^^^^ |
|  | 60\*  | 966.44 | 780.22(80.75%) | 164.79(17.03%) | 20.70(2.14%) | 0.70(0.07%) | 21.40(2.22%) |
| Mattocks (15) \*\*  | ANOVA | F(5,1335)=56.41 p<.0001 | F(5,1335)=28.46 p<.0001F(5,1335)=527.07 p<.0001 | F(5,1335)=283.58 p<.0001F(5,1335)=246.38 p<.0001 | F(5,1335)=947.29 p<.0001 F(5,1335)=906.34 p<.0001 | F(5,1335)=566.35 p <.0001 F(5,1335)=527.08 p<.0001 |
|  | 1 | 1030.33 | 992.96 ^^^^(96.37%) ^^^^ | 24.38 ^^^^(2.36%) ^^^^ | 12.98 ^^^^(1.26%) ^^^^ | 37.36 ^^^^(3.63%) ^^^^ |
|  | 5 | 1023.60 | 992.65 ^^^^(96.97%) ^^^^ | 22.87 ^^^^(2.23%) ^^^^ | 8.08 ^^^^(0.80%) ^^^^ | 30.95 ^^^^(3.03%) ^^^^ |
|  | 10 | 1016.82 | 990.51 ^^^^(97.41%) ^^^^ | 20.86 ^^^^(2.05%) ^^^^ | 5.44 ^^^^(0.54%) ^^^^ | 26.30 ^^^^(2.59%) ^^^^ |
|  | 15 | 1009.17 | 985.94 ^^^^(97.69%) ^^^^ | 18.96 ^^^^(1.88%) ^^^^ | 4.26 ^^^^(0.43%) ^^^^ | 23.23 ^^^^(2.31%) ^^^^ |
|  | 30 | 991.96 | 972.77 ^^^^(98.06%) ^^^^ | 16.35 ^^^^(1.65%) ^^^^ | 2.84 ^^^^(0.29%) ^^^^ | 19.19 ^^^^(1.94%) ^^^^ |
|  | 60\*  | 966.44 | 951.30(98.43%) | 13.31(1.38%) | 1.83(0.19%) | 15.14 (1.57%) |
| Romanzini (16) | ANOVA | F(5,1335)=56.41 p<.0001 | F(5,1335)=644.65 p<.0001F(5,1335)=1168.16 p<.0001 | F(5,1335)=2684.53 p<.0001F(5,1335)=4782.63 p<.0001 | F(5,1335)=57.82 p<.0001F(5,1335)=56.69p<.0001 | F(5,1335)=877.61 p<.0001F(5,1335)=823.61p<.0001 | F(5,1335)=382.17 p<.0001F(5,1335)=315.59p<.0001 |
|  | 1 | 1030.33 | 779.41 ^^^^(75.66%) ^^^^ | 119.95 ^^^^(11.64%) ^^^^ | 52.25 ^^^^(5.07%) ^^^^ | 78.66 ^^^^(7.63%) ^^^^ | 130.91 ^^^^(12.70%) ^^^^ |
|  | 5 | 1023.60 | 736.88 ^^^^(72.02%) ^^^^ | 166.01 ^^^^(16.19%) ^^^^ | 56.14 ^^^^(5.48%) ^^^^ | 64.52 ^^^^(6.31%) ^^^^ | 120.65 ^^^^(11.79%) ^^^^ |
|  | 10 | 1016.82 | 709.14 ^^^^(69.78%) ^^^^ | 193.88 ^^^^(19.02%) ^^^^ | 58.16(5.72%) | 55.57 ^^^^(5.48%) ^^^^ | 113.74 ^^^^(11.19%) ^^^^ |
|  | 15\* | 1009.17 | 688.86 (68.31%) | 212.02(20.95%) | 58.19(5.77%) | 50.04(4.97%) | 108.23(10.74%) |
|  | 30 | 991.96 | 650.25 ^^^^(65.60%) ^^^^ | 244.56 ^^^^(24.59%) ^^^^ | 55.55 ^^^^(5.61%) ^^ | 41.53 ^^^^(4.20%) ^^^^ | 97.09 ^^^^(9.81%) ^^^^ |
|  | 60 | 966.44 | 603.91 ^^^^(62.55%) ^^^^ | 276.40 ^^^^(28.53%) ^^^^ | 51.48 ^^^^(5.33%) ^^^^ | 34.60 ^^^^(3.59%) ^^^^ | 86.08 ^^^^(8.92%) ^^^^ |

WT = Wear time, SB = Sedentary behavior, LPA = Light physical activity, MPA = Moderate physical activity, VPA = Vigorous physical activity

Minutes/day in SB, LPA, MPA, and VPA may not equal WT due to rounding. % Time spent in SB, LPA, MPA, and VPA may not equal 100% due to rounding. % Time spent in MPA and VPA may not equal MVPA due to rounding.

^ p < .05, ^^ p <.01, ^^^ p <.001, ^^^^ p <.0001 (significant pairwise difference in estimates of activity between the epoch length used to validate the activity cut-point and other epoch lengths).

\* The epoch length used to derive the activity cut-points in the original validation studies.

\*\* The Mattocks activity cut-point [14] does not provide separate activity cut-points for SB and LPA.