Supplemental Digital Content 2 Agreement analysis of accelerometry-based estimations of sedentary behavior for the dominant wrist compared to direct observation.

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|  | **Cut-point** | **Mean bias (%)** | **95% LoA** | **Slope p-value** |
| **ActiGraph wrist(vertical axis)** | CrouterVA/ROC |  |  |  |
| 5-8y | 10.3 | -19.8 - 40.5 | 0.090 |
| 9-12y |  3.8\* | -18.8 - 26.5 | 0.260 |
| CrouterVA/REG |  |  |  |
| 5-8y | -6.4 | -30.1 - 17.4 | 0.284 |
| 9-12y | -10.2 | -31.0 - 10.6 | 0.494 |
| ChandlerVA/2015 |  |  |  |
| 5-8y | -14.4 | -36.1 - 7.2 | 0.443 |
| 9-12y | -18.5 | -40.0 - 3.0 | 0.575 |
| ChandlerVA/2016 |  |  |  |
| 5-8y | -19.8 | -40.1 - 0.4 | 0.541 |
| 9-12y | -25.6 | -50.2 - -1.1 | 0.781 |
| KimVA |  |  |  |
| 5-8y | 7.3 | -16.5 - 31.0 | 0.503 |
| 9-12y |  2.5\* | -20.5 - 25.5 | 0.776 |
| **ActiGraph wrist (vector magnitude)** | CrouterVM/ROC |  |  |  |
| 5-8y | 17.1 | -15.3 - 49.4 | 0.05 |
| 9-12y | 3.9 | -18.1 - 35.9 | 0.316 |
| CrouterVM/REG |  |  |  |
| 5-8y | -9.1 | -35.1 - 16.8 | 0.143 |
| 9-12y | -16.4 | -43.4 - 10.7 | 0.228 |
| ChandlerVM |  |  |  |
| 5-8y | -12.7 | -38.2 - 12.9 | 0.144 |
| 9-12y | -20.0 | -47.3 - 7.3 | 0.299 |
| KimVM |  |  |  |
| 5-8y |  -2.6\* | -28.3 - 23.2 | 0.106 |
| 9-12y | -11.3 | -39.8 - 17.2 | 0.570 |
| **GENEActiv wrist(signal vector magnitude)** | PhillipsSVM |  |  |  |
| 5-8y | -8.1 | -40.1 - 24.0 | 0.124 |
| 9-12y | -8.2 | -35.0 - 18.6 | 0.562 |
| SchaeferSVM |  |  |  |
| 5-8y | -6.5 | -29.1 - 16.1 | 0.656 |
| 9-12y | -10.5 | -34.6 - 13.6 | 0.918 |
| **activPAL3TM** | 5-8y | 12.6 | -14.7 - 39.8 | 0.122 |
|   | 9-12y |  1.4\* | -11.0 - 13.9 | 0.442 |
| **ActiGraph hip (vertical axis)** | 5-8y | -15.8 | -37.2 - 5.7 | 0.204 |
| 9-12y | -17.8 | -39.5 - 3.9 | 0.260 |

Notes Supplemental Digital Content 2: LoA: limits of agreement; VA: vertical axis; VM: vector magnitude; SVM: gravity-subtracted signal vector magnitude. Mean bias was calculated as: measured SB time – estimated SB time; a positive value indicates underestimation; a negative value indicates overestimation. \*Significantly equivalent to direct observation (p < 0.05).