Supplemental Digital Content 5 Absolute number of accelerometry-based estimations of breaks in sedentary behavior and mean differences compared to direct observation.

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|  |  | **Non-dominant wrist** | | | | **Dominant wrist** | | | | | | | |
|  | **Cut-point** | **SB breaks (mean ± SD)** | | **Mean difference**  **(95% CI)** | | **SB breaks (mean ± SD)** | | | | | **Mean difference**  **(95% CI)** | | |
| **ActiGraph wrist (vertical axis)** | CrouterVA/ROC |  | |  | | |  |  | | |  |  | |
| 5-8y | 167.1 ± 48.8 | | 151.4  132.0 – 170.7 | | 168.1 ± 47.2 | | | | | 152.4  133.6 – 171.1 | | |
| 9-12y | 137.8 ± 48.3 | | 125.9  109.1 – 142.8 | | 137.0 ± 44.6 | | | | | 125.1  109.6 – 140.6 | | |
| CrouterVA/REG |  | |  | | |  | |  |  | | |  | |
| 5-8y | 164.7 ± 42.7 | | 148.9  131.9 – 148.9 | | 170.1 ± 46.1 | | | | | 154.3  135.8 – 172.8 | | |
| 9-12y | 134.3 ± 46.6 | | 122.4  106.2 – 138.7 | | 137.4 ± 45.5 | | | | | 125.5  109.7 – 141.4 | | |
| ChandlerVA/2015 |  | |  |  |  | | | | |  |  | |
| 5-8y | 166.6 ± 54.0 | | 150.8  129.3 – 172.3 | | 166.7 ± 49.6 | | | | | 150.9  131.1 – 170.7 | | |
| 9-12y | 142.0 ± 48.5 | | 130.1  113.1 – 147.1 | | 139.8 ± 43.1 | | | | | 127.9  112.9 – 142.9 | | |
| ChandlerVA/2016 |  | |  | | |  |  | | |  |  | |
| 5-8y | 166.6 ± 54.5 | | 150.9  129.2 – 172.6 | | 170.1 ± 48.9 | | | | | 154.3  134.8 – 173.8 | | |
| 9-12y | 143.2 ± 46.3 | | 131.3  115.0 – 147.5 | | 140.2 ± 41.9 | | | | | 128.3  113.6 – 142.9 | | |
| KimVA |  | |  | | |  |  | | |  |  | |
| 5-8y | 19.3 ± 4.7 | | 3.5  1.3 - 5.7 | | 19.8 ± 5.3 | | | | | 4.1  1.8 – 6.4 | | |
| 9-12y | 15.2 ± 5.6 | | 3.3  1.5 – 5.1 | | 15.1 ± 5.2 | | | | | 3.2  1.5 – 4.9 | | |
| **ActiGraph wrist  (vector magnitude)** | CrouterVM/ROC |  | |  | | |  |  | | |  |  | |
| 5-8y | 173.9 ± 50.6 | | 158.2  138.0 – 178.3 | | 176.4 ± 47.0 | | | | | 160.6  141.9 – 179.4 | | |
| 9-12y | 150.4 ± 50.6 | | 138.3  120.4 – 155.9 | | 148.1 ± 48.3 | | | | | 136.2  119.4 – 153.0 | | |
| CrouterVM/REG |  | |  | | |  |  | | |  |  | |
| 5-8y | 166.9 ± 45.1 | | 151.2  133.1 – 169.2 | | 172.7 ± 46.2 | | | | | 156.9  138.0 - 175.8 | | |
| 9-12y | 136.7 ± 43.1 | | 124.8  109.8 – 139.8 | | 141.4 ± 43.6 | | | | | 129.5  114.3 – 144.7 | | |
| ChandlerVM |  | |  | | |  |  | | |  |  | |
| 5-8y | 175.6 ± 50.0 | | 159.9  140.0 – 179.8 | | 176.6 ± 47.1 | | | | | 160.8  141.9 – 179.7 | | |
| 9-12y | 150.5 ± 51.0 | | 138.6  120.7 – 156.5 | | 146.4 ± 47.8 | | | | | 134.5  117.9 – 151.2 | | |
| KimVM |  | |  | | |  |  | | |  |  | |
| 5-8y | 17.2 ± 5.9\* | | 1.4  1.0 – 3.8 | | 18.2 ± 5.4\* | | | | | 2.4  0.1 – 4.7 | | |
| 9-12y | 13.7 ± 5.7\* | | 1.8  0.0 – 3.5 | | 13.7 ± 4.7\* | | | | | 1.8  0.2 – 3.5 | | |
| **GENEActiv wrist (signal vector magnitude)** | PhillipsSVM |  | |  | | |  |  | | |  |  | |
| 5-8y | 436.4 ± 138.0 | | 420.6  364.5 – 476.7 | | 484.6 ± 132.7 | | | | | 468.8  414.8 – 522.8 | | |
| 9-12y | 370.9 ± 124.4 | | 359.0  314.6 – 403.4 | | 410.0 ± 138.3 | | | | | 398.1  348.7 – 447.5 | | |
| SchaeferSVM |  | |  | | |  |  | | |  |  | |
| 5-8y | 370.5 ± 106.4 | | 354.8  311.6 – 397.9 | | 405.4 ± 104.0 | | | | | 389.7  311.6 – 397.9 | | |
| 9-12y | 325.1 ± 110.4 | | 313.2  273.8 – 352.5 | | 352.4 ± 115.2 | | | | | 340.5  299.4 – 382.7 | | |
|  |  | Right thigh | | | |  | | | | |  | | |
| **activPAL3TM** | 5-8y | 24.2 ± 8.4 | 8.5  6.0 – 11.0 | | |  | | | | |  |  | |
|  | 9-12y | 15.1 ± 4.9 | 3.2  2.1 – 4.3 | | |  | | | | |  |  | |
|  |  | Right hip | | | |  | | | | |  | | |
| **ActiGraph hip (vertical axis)** | 5-8y | 48.9 ± 15.2 | 33.2  27.5 – 38.8 | | |  | | | | |  |  | |
| 9-12y | 41.3 ± 11.7 | 29.3  25.4 – 33.3 | | |  | | | | |  |  | |
|  |  |  |  | | |  | | | | |  |  | |
| **Direct observation** | 5-8y | 15.8 ± 48.9 | - | | |  | | | | |  |  | |
|  | 9-12y | 11.9 ± 3.4 | - | | |  | | | | |  |  | |

Notes Supplemental Digital Content 5: CI: confidence interval; REG: developed using regression analysis; ROC: developed using receiver operating curve analysis; VA: vertical axis; VM: vector magnitude; SB: sedentary behavior; SVM: gravity-subtracted signal vector magnitude. Mean differences are presented as absolute values and were calculated as: measured SB breaks – estimated SB breaks; all methods overestimated the absolute number of breaks. \*Not significantly different from direct observation (p ≥ 0.05).