**Supplemental Table 1. Associations of change in accelerometer-derived physical activity intensities1 (per 5-min change) with change in body composition and physical ﬁtness between baseline at 4.5 years of age and the 12-month follow-up. The unstandardized regression coefficient (b) with its 95% confidence interval (CI), the standardized regression coefficient (β) and the P value are given for each association.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Unadjusted |  |  | Adjusted2 |
|  | b (95% CI) | β | P value |  |  | b (95% CI) | β | P value |
| **Measures of body composition** |  |  |  |  |  |  |  |  |
| Change in BMI (kg/m2), n=132 |  |  |  |  |  |  |  |  |
|  Change in SB  | -0.00 (-0.01 to 0.01) | -0.03 | 0.75 |  |  | 0.00 (-0.01 to 0.01) | 0.00 | 0.99 |
|  Change in MPA  | 0.01 (-0.01 to 0.03) | 0.06 | 0.53 |  |  | -0.00 (-0.03 to 0.03) | -0.02 | 0.86 |
|  Change in VPA  | 0.02 (-0.05 to 0.10) | 0.05 | 0.56 |  |  | 0.03 (-0.06 to 0.11) | 0.06 | 0.53 |
|  Change in MVPA  | 0.01 (-0.01 to 0.03)  | 0.06 | 0.48 |  |  | 0.01 (-0.02 to 0.05) | 0.14 | 0.40 |
| Change in FFMI (kg/m2), n=130 |  |  |  |  |  |  |  |  |
|  Change in SB  | -0.01 (-0.02 to 0.00) | -0.15 | 0.088 |  |  | -0.01 (-0.02 to 0.01) | -0.13 | 0.29 |
|  Change in MPA  | 0.01 (-0.01 to 0.04) | 0.10 | 0.28 |  |  | 0.02 (-0.01 to 0.05) | 0.14 | 0.20 |
|  Change in VPA  | 0.10 (0.01 to 0.19) | 0.19 | **0.031** |  |  | 0.07 (-0.02 to 0.16) | 0.14 | 0.11 |
|  Change in MVPA  | 0.02 (-0.01 to 0.04) | 0.13 | 0.14 |  |  | 0.04 (0.00 to 0.08) | 0.32 | **0.037** |
| Change in FM (%), n=130 |  |  |  |  |  |  |  |  |
|  Change in SB  | 0.05 (-0.01 to 0.10) | 0.15 | 0.092 |  |  | 0.03 (-0.04 to 0.10) | 0.10 | 0.39 |
|  Change in MPA  | -0.03 (-0.16 to 0.11) | -0.04 | 0.69 |  |  | -0.07 (-0.23 to 0.09) | -0.09 | 0.38 |
|  Change in VPA  | -0.53 (-1.04 to -0.03) | -0.18 | **0.040** |  |  | -0.72 (-1.21 to -0.23) | -0.25 | **0.004** |
|  Change in MVPA  | -0.05 (-0.17 to 0.07) | -0.07 | 0.40 |  |  | -0.22 (-0.42 to -0.02) | -0.32 | **0.031** |
| Change in FMI (kg/m2), n=130 |  |  |  |  |  |  |  |  |
|  Change in SB  | 0.01 (-0.00 to 0.02) | 0.14 | 0.12 |  |  | 0.01 (-0.01 to 0.02) | 0.14 | 0.27 |
|  Change in MPA | -0.01 (-0.03 to 0.02)  | -0.05 | 0.60 |  |  | -0.02 (-0.04 to 0.01) | -0.11 | 0.32 |
|  Change in VPA  | -0.08 (-0.16 to 0.01) | -0.15 | 0.086 |  |  | -0.09 (-0.18 to -0.00) | -0.18 | **0.048** |
|  Change in MVPA  | -0.01 (-0.03 to 0.01) | -0.08 | 0.38 |  |  | -0.03 (-0.06 to 0.01) | -0.22 | 0.15 |
| **Measures of physical fitness** |  |  |  |  |  |  |  |  |
| Change in cardiorespiratory fitness: 20 m shuttle run (laps), n=123 |  |  |  |  |  |  |
|  Change in SB  | 0.00 (-0.06 to 0.06) | 0.01 | 0.92 |  |  | 0.03 (-0.07 to 0.12) | 0.08 | 0.60 |
|  Change in MPA  | -0.07 (-0.22 to 0.09) | -0.08 | 0.38 |  |  | -0.15 (-0.35 to 0.06) | -0.17 | 0.16 |
| Change in VPA  | 0.22 (-0.35 to 0.78) | 0.07 | 0.45 |  |  | 0.36 (-0.25 to 0.97) | 0.11 | 0.25 |
| Change in MVPA  | -0.04 (-0.18 to 0.10) | -0.05 | 0.55 |  |  | -0.08 (-0.33 to 0.16) | -0.11 | 0.50 |
| Change in upper muscular strength: handgrip strength (kg), n=130 |  |  |  |  |  |  |
|  Change in SB  | -0.00 (-0.03 to 0.02) | -0.03 | 0.73 |  |  | 0.00 (-0.03 to 0.04) | 0.01 | 0.94 |
|  Change in MPA  | 0.01 (-0.05 to 0.07) | 0.03 | 0.71 |  |  | -0.01 (-0.09 to 0.07) | -0.04 | 0.75 |
|  Change in VPA  | 0.24 (0.01 to 0.47) | 0.18 | **0.043** |  |  | 0.26 (0.03 to 0.50) | 0.20 | **0.030** |
|  Change in MVPA | 0.02 (-0.03 to 0.08) | 0.07 | 0.43 |  |  | 0.07 (-0.03 to 0.16) | 0.22 | 0.18 |
| Change in lower muscular strength: standing long jump (cm), n=130 |  |  |  |  |  |  |
|  Change in SB  | -0.03 (-0.27 to 0.22) | -0.02 | 0.83 |  |  | 0.15 (-0.21 to 0.51) | 0.11 | 0.42 |
|  Change in MPA  | -0.21 (-0.82 to 0.40) | -0.06 | 0.49 |  |  | -0.37 (-1.17 to 0.42) | -0.11 | 0.35 |
|  Change in VPA  | 1.38 (-0.96 to 3.71) | 0.10 | 0.25 |  |  | 2.51 (0.21 to 4.80) | 0.19 | **0.033** |
|  Change in MVPA  | -0.09 (-0.64 to 0.45) | -0.03 | 0.73 |  |  | 0.46 (-0.51 to 1.44) | 0.15 | 0.35 |
| Change in motor fitness: 4x10 m shuttle run (s), n=130 |  |  |  |  |  |  |
|  Change in SB  | -0.01 (-0.03 to 0.02) | -0.03 | 0.73 |  |  | -0.01 (-0.04 to 0.02) | -0.07 | 0.50 |
|  Change in MPA | 0.04 (-0.03 to 0.10) | 0.09 | 0.32 |  |  | 0.02 (-0.05 to 0.09) | 0.05 | 0.60 |
|  Change in VPA  | -0.02 (-0.29 to 0.25) | -0.01 | 0.89 |  |  | -0.16 (-0.37 to 0.04) | -0.11 | 0.12 |
|  Change in MVPA  | 0.03 (-0.04 to 0.09) | 0.08 | 0.39 |  |  | -0.03 (-0.11 to 0.06) | -0.07 | 0.54 |

Abbreviations: BMI, body mass index; FFMI, fat-free mass index; FM, fat mass; FMI, fat mass index; SB, sedentary behavior; MPA, moderate-intensity physical activity; VPA, vigorous-intensity physical activity; MVPA, moderate-to-vigorous physical activity.

1 According to Chandler et al. (7).

2 Adjusted for child’s sex, age at measurement, awake wearing time at both time points, the baseline value of the outcome, and additionally, models with change in SB or MPA as exposures were adjusted for change in VPA, while models with change in VPA or MVPA were adjusted for change in SB.