#### Supplementary Table 1 – Simple linear regression models having %BF by DXA as the outcome and each anthropometric characteristic as a predictor in the development sample of Mexican children and adolescents.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Boys | | | | |  | Girls | | | | |
|  | β0 | β1 | p | SE | r2 |  | β0 | β1 | p | SE | r2 |
| (%) | (%) | (%) | (%) |
| Age (years ) | 36.57 | -0.80 | 0.000 | 9.20 | 5.3 |  | 24.40 | 0.68 | 0.000 | 6.70 | 8.0 |
| Age2 (years2) | 17.76 | -0.16 | 0.010 | 9.00 | 9.8 |  | 22.37 | -0.02 | 0.000 | 6.71 | 8.1 |
| Height (cm) | 36.99 | -0.07 | 0.000 | 9.39 | 1.4 |  | 3.41 | 0.20 | 0.500 | 6.47 | 14.1 |
| Log height | 64.54 | -17.23 | 0.027 | 9.41 | 0.9 |  | -106.85 | 64.47 | 0.000 | 6.47 | 14.2 |
| Sitting height (cm) | 36.96 | -0.13 | 0.000 | 9.39 | 1.2 |  | 3.07 | 0.39 | 0.521 | 6.41 | 15.8 |
| Log sitting height | 59.81 | -17.34 | 0.029 | 9.42 | 0.8 |  | -88.64 | 64.44 | 0.000 | 6.40 | 16.0 |
| Sitting height ratio (%) | 17.29 | 0.19 | 0.380 | 9.45 | 0.1 |  | 11.12 | 0.41 | 0.415 | 6.94 | 1.2 |
| Log sitting height ratio | -18.69 | 26.76 | 0.814 | 9.44 | 0.2 |  | -55.75 | 51.42 | 0.273 | 6.93 | 1.5 |
| Weight (kg) | 19.04 | 0.17 | 0.000 | 9.05 | 8.3 |  | 17.12 | 0.34 | 0.000 | 4.99 | 49.0 |
| Log weight | -1.24 | 17.21 | 0.856 | 9.05 | 8.4 |  | -18.85 | 31.60 | 0.000 | 5.08 | 47.1 |
| Body mass index (kg/m2) | -3.22 | 1.47 | 0.224 | 7.19 | 42.2 |  | 4.09 | 1.39 | 0.004 | 3.96 | 67.9 |
| Log body mass index | -63.08 | 69.01 | 0.000 | 7.28 | 40.6 |  | -53.67 | 66.25 | 0.000 | 3.85 | 69.7 |
| Arm circumference (cm) | -2.25 | 1.21 | 0.524 | 8.05 | 27.5 |  | -1.14 | 1.41 | 0.561 | 4.43 | 59.8 |
| Log arm circumference | -63.06 | 65.46 | 0.000 | 8.08 | 26.9 |  | -71.33 | 75.75 | 0.000 | 4.41 | 60.2 |
| Waist circumference (cm) | -10.49 | 0.51 | 0.000 | 6.77 | 48.6 |  | -3.23 | 0.50 | 0.091 | 4.20 | 63.8 |
| Log waist circumference | -132.48 | 85.75 | 0.000 | 6.89 | 46.9 |  | -120.70 | 82.77 | 0.000 | 4.15 | 64.7 |
| Triceps skinfold (mm) | 7.87 | 1.29 | 0.000 | 3.97 | 82.4 |  | 15.44 | 1.03 | 0.000 | 4.04 | 66.6 |
| Log triceps skinfold | -24.94 | 45.99 | 0.000 | 3.71 | 84.6 |  | -10.63 | 36.10 | 0.000 | 4.05 | 66.4 |
| Biceps skinfold (mm) | 12.73 | 1.75 | 0.000 | 5.28 | 68.8 |  | 20.87 | 1.30 | 0.000 | 4.86 | 51.6 |
| Log biceps | -6.07 | 38.58 | 0.000 | 4.34 | 78.9 |  | 4.60 | 30.44 | 0.006 | 4.46 | 59.2 |
| Subscapular skinfold (mm) | 12.99 | 1.00 | 0.000 | 5.30 | 68.5 |  | 20.21 | 0.79 | 0.000 | 4.06 | 66.2 |
| Log subscapular skinfold | -10.00 | 34.09 | 0.000 | 5.13 | 70.6 |  | 0.78 | 27.77 | 0.579 | 3.68 | 72.3 |
| Suprailiac skinfold (mm) | 16.36 | 0.57 | 0.000 | 6.06 | 58.9 |  | 22.95 | 0.44 | 0.000 | 4.57 | 57.1 |
| Log suprailiac skinfold | -2.52 | 25.09 | 0.147 | 5.80 | 62.3 |  | 5.05 | 21.65 | 0.001 | 4.11 | 65.4 |
| Calf skinfold (mm) | 10.95 | 1.15 | 0.000 | 5.37 | 67.8 |  | 20.12 | 0.79 | 0.000 | 4.72 | 54.4 |
| Log calf skinfold | -15.19 | 38.46 | 0.000 | 5.21 | 69.6 |  | -3.80 | 31.25 | 0.054 | 4.24 | 63.2 |
| Bitrochanteric breadth (cm) | 26.09 | 0.04 | 0.000 | 9.47 | 0 |  | 15.60 | 0.58 | 0.000 | 6.60 | 11.9 |
| Log bitrochanteric breadth | 20.38 | 4.63 | 0.147 | 9.46 | 0.1 |  | -23.31 | 38.18 | 0.029 | 6.59 | 12.1 |
| Elbow breadth (cm) | 24.55 | 0.47 | 0.000 | 9.45 | 0.1 |  | 12.87 | 3.85 | 0.018 | 6.77 | 6.2 |
| Log elbow breadth | 20.71 | 8.65 | 0.041 | 9.44 | 0.2 |  | 0.16 | 45.81 | 0.985 | 6.76 | 6.3 |

%BF by DXA, percentage of body fat estimated by dual-energy X-ray absorptiometry; β0, constant; β, constant variable; SE, standard error; r2, coefficient of determination; Log, logarithm.

#### Supplementary Figure 1 – Bland-Altman graphs for the difference in %BF measured by DXA and estimated by prediction equations of Table 3 where the intercept was not statistically different from 0.00.

|  |  |
| --- | --- |
| A. Dezenberg equation for boys | C. Dezenberg equation for boys |
|  |  |
|  |  |
| B. Dezenberg equation for boys | D. Dezenberg equation for boys |
|  |  |

|  |  |
| --- | --- |
| E. Deurenberg equation for girls. | F. Dezenberg equation for girls |
|  |  |

%BF DXA, percentage of body fat estimated by dual-energy X-ray absorptiometry; T-SF, triceps skinfold; B-SF, biceps skinfold.