

## Supplementary Tables

**Table S1. Orthogonal (Varimax) rotated factor loadings.**

| Variable                                | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Uniqueness |
|---|----------|----------|----------|----------|------------|
| Adiponectin                             |          | -0.3068  |          |          | 0.8279     |
| Fat area at 66% tibia length            |          |          | -0.7239  |          | 0.4144     |
| Muscle area at 66% tibia length         |          | 0.4575   |          |          | 0.6889     |
| Muscle density                          | 0.4311   | -0.3258  |          |          | 0.6768     |
| TNFA-Receptor 2                         | -0.3755  |          |          | -0.3793  | 0.6192     |
| HOMA                                    |          | 0.5036   |          |          | 0.6636     |
| Blood glucose                           |          | 0.3533   |          | -0.3170  | 0.7463     |
| Creatinine                              |          |          | -0.5412  |          | 0.6918     |
| Red cell distribution width             | -0.3009  |          |          |          | 0.8993     |
| Pulse Pressure                          | -0.4823  |          |          |          | 0.7458     |
| Waist to hip ratio                      |          | 0.3716   | 0.5119   |          | 0.5632     |
| EPESE perform walking sub-score         | 0.3797   |          |          | 0.4470   | 0.6374     |
| EPESE perform chair sub-score           | 0.4218   |          |          | 0.4348   | 0.5802     |
| EPESE perform Balance sub-score         | 0.3433   |          |          | 0.4976   | 0.6092     |
| <b>Coordination score</b>               |          |          |          |          | 0.9651     |
| Coordination speed                      | 0.7289   |          |          |          | 0.4397     |
| Comorbidity score                       | -0.3855  |          |          |          | 0.7658     |
| Muscle power lower extension max R side | 0.6503   |          | 0.4477   |          | 0.3072     |
| Trail making test B                     | -0.7464  |          |          |          | 0.4265     |
| Years of education                      | 0.6935   |          |          |          | 0.5005     |
| <b>Hearing difficulty</b>               |          |          |          |          | 0.8857     |
| IL6                                     |          |          |          | -0.4217  | 0.7674     |
| <b>CRP</b>                              |          |          |          |          | 0.8350     |
| IL1RA                                   |          | 0.4684   |          |          | 0.7427     |
| <b>Cortisol: DHEAS ratio</b>            |          |          |          |          | 0.9549     |
| <b>Ankle-brachial index</b>             |          |          |          |          | 0.9402     |
| Cortical bone mass density              | 0.3487   |          |          |          | 0.8337     |
| HDL cholesterol                         |          | -0.4921  | -0.3040  |          | 0.6506     |
| TIGF1                                   | 0.4341   |          |          |          | 0.8022     |
| Olfactory score                         | 0.4361   |          |          |          | 0.7618     |
| Sensory score                           | 0.6540   |          |          |          | 0.5171     |
| <b>Social interaction score</b>         |          |          |          |          | 0.8937     |
| Handgrip strength                       | 0.5651   |          | 0.4749   |          | 0.4041     |
| BMI                                     |          | 0.7464   |          |          | 0.3811     |
| Visual acuity                           | 0.5307   |          |          |          | 0.6950     |
| Contrast sensitivity                    | 0.5213   |          |          |          | 0.6863     |
| MMSE score                              | 0.6482   |          |          |          | 0.5785     |

**Table S2. Regression generated scoring coefficients. Neuro-sensory.**

| <b>Neuro-sensory coefficients</b> |        |
|-----------------------------------|--------|
| Pulse pressure                    | -0.074 |
| Coordination score                | 0.208  |
| Trail making test B               | -0.238 |
| Years of Education                | 0.147  |
| TIGF1                             | 0.064  |
| Olfactory score                   | 0.075  |
| Sensory score                     | 0.147  |
| Visual acuity (near Snellen)      | 0.123  |
| Contrast sensitivity              | 0.123  |
| MMSE score                        | 0.143  |

**Table S3. Regression generated scoring coefficients. Cardio-metabolic function.**

| <b>Cardio-metabolic function coefficients</b> |        |
|---|--------|
| TNFA- receptor 2                              | -0.103 |
| HOMA index                                    | -0.053 |
| Blood glucose (mg/dl)                         | -0.051 |
| z2PXSPSB                                      | 0.281  |
| z2PXSPSC                                      | 0.234  |
| z2PXSPSW                                      | 0.351  |
| IL6   | -0.119 |
| CRP   | -0.117 |

**Table S4. Regression generated scoring coefficients. Muscle function.**

| <b>Muscle Function</b>                    |       |
|---|-------|
| Serum creatinine (reciprocal)             | 0.084 |
| Waist to hip ratio)                       | 0.069 |
| Muscle power lower ext. max R side(watts) | 0.463 |
| Handgrip strength                         | 0.435 |

**Table S5. Regression generated scoring coefficients. Adiposity.**

| <b>Adiposity coefficients</b>   |        |
|---------------------------------|--------|
| Muscle area at 66% tibia length | 0.129  |
| Muscle density                  | -0.153 |
| IL1RA                           | 0.111  |
| HDL                             | -0.111 |
| BMI                             | 0.564  |
| Fat area at 66% tibia length    | 0.123  |

**Table S6. Mixed effect model for walking speed.**

| <b>Walking speed</b>                           | <b>Coef.</b> | <b>Std. Err.</b> | <b>z</b>                  | <b>P&gt; z </b> | <b>95% Conf. Interval</b> |        |
|--|--------------|------------------|---------------------------|-----------------|---------------------------|--------|
| Age  | -0.012       | 0.000            | -33.290                   | 0.000           | -0.012                    | -0.011 |
| Gender   | 0.117        | 0.011            | 10.470                    | 0.000           | 0.095                     | 0.139  |
| Neuro-sensory function                         | 0.005        | 0.001            | 6.740                     | 0.000           | 0.004                     | 0.007  |
| Cardio-metabolic function                      | -0.001       | 0.001            | -1.310                    | 0.189           | -0.003                    | 0.001  |
| Muscle function                                | 0.001        | 0.000            | 9.150                     | 0.000           | 0.001                     | 0.002  |
| Adiposity                                      | -0.050       | 0.013            | -3.840                    | 0.000           | -0.076                    | -0.025 |
| Constant                                       | 1.953        | 0.023            | 84.690                    | 0.000           | 1.908                     | 1.998  |
| <b>Random-effects Parameter var (Residual)</b> |              |                  |                           |                 |                           |        |
| <b>Estimate</b>                                | 0.033        |                  | <b>Wald chi2 (6)</b>      |                 | 1537.030                  |        |
| <b>Std. Err.</b>                               | 0.001        |                  | <b>Log likelihood</b>     |                 | 318.082                   |        |
| <b>95% Conf. Interval</b>                      | 0.030        | 0.035            | <b>Number of obs.</b>     |                 | 1081                      |        |
|  |              |                  | <b>Prob&gt; chi2 &gt;</b> |                 | 0.000                     |        |

**Table S7. Mixed effect model for emotional vitality.**

| <b>Emotional vitality</b>                      | <b>Coef.</b> | <b>Std. Err.</b> | <b>z</b>                  | <b>P&gt; z </b> | <b>95% Conf. Interval</b> |        |
|--|--------------|------------------|---------------------------|-----------------|---------------------------|--------|
| Age  | 0.005        | 0.001            | 7.210                     | 0.000           | 0.004                     | 0.006  |
| Gender   | -0.042       | 0.022            | -1.880                    | 0.060           | -0.085                    | 0.002  |
| Neuro-sensory function                         | -0.001       | 0.002            | -0.580                    | 0.564           | -0.004                    | 0.002  |
| Cardio-metabolic function                      | -0.002       | 0.002            | -0.850                    | 0.398           | -0.006                    | 0.002  |
| Muscle function                                | 0.000        | 0.000            | -0.800                    | 0.425           | -0.001                    | 0.000  |
| Adiposity                                      | -0.066       | 0.024            | -2.770                    | 0.006           | -0.113                    | -0.020 |
| Constant                                       | 0.533        | 0.047            | 11.440                    | 0.000           | 0.442                     | 0.624  |
| <b>Random-effects Parameter var (Residual)</b> |              |                  |                           |                 |                           |        |
| <b>Estimate</b>                                | 0.389        |                  | <b>Wald chi2 (6)</b>      |                 | 64.060                    |        |
| <b>Std. Err.</b>                               | 0.008        |                  | <b>Log likelihood</b>     |                 | -608.974                  |        |
| <b>95% Conf. Interval</b>                      | 0.374        | 0.404            | <b>Number of obs.</b>     |                 | 1285                      |        |
|  |              |                  | <b>Prob&gt; chi2 &gt;</b> |                 | 0.000                     |        |

**Table S8. Mixed effect model for self-rated health.**

| <b>Self-rated health</b>                       | <b>Coef.</b> | <b>Std. Err.</b> | <b>z</b> | <b>P&gt; z </b>           | <b>95% Conf. Interval</b> |        |
|--|--------------|------------------|----------|---------------------------|---------------------------|--------|
| Age  | 0.004        | 0.001            | 5.200    | 0.000                     | 0.002                     | 0.005  |
| Gender   | -0.103       | 0.024            | -4.310   | 0.000                     | -0.149                    | -0.056 |
| Neuro-sensory function                         | -0.004       | 0.002            | -2.410   | 0.016                     | -0.007                    | -0.001 |
| Cardio-metabolic function                      | -0.003       | 0.002            | -1.330   | 0.184                     | -0.007                    | 0.001  |
| Muscle function                                | -0.001       | 0.000            | -2.880   | 0.004                     | -0.002                    | 0.000  |
| Adiposity                                      | 0.069        | 0.026            | 2.700    | 0.007                     | 0.019                     | 0.120  |
| Constant                                       | 0.095        | 0.050            | 1.900    | 0.058                     | -0.003                    | 0.194  |
| <b>Random-effects Parameter var (Residual)</b> |              |                  |          |                           |                           |        |
| <b>Estimate</b>                                | 0.422        |                  |          | <b>Wald chi2 (6)</b>      | 727.050                   |        |
| <b>Std. Err.</b>                               | 0.008        |                  |          | <b>Log likelihood</b>     | -727.050                  |        |
| <b>95% Conf. Interval</b>                      | 0.406        | 0.438            |          | <b>Number of obs.</b>     | 1309                      |        |
|  |              |                  |          | <b>Prob&gt; chi2 &gt;</b> | 0.000                     |        |

**Table S9. Mixed effect model for dependency.**

| <b>Dependency</b>                                 | <b>Coef.</b> | <b>Std. Err.</b> | <b>z</b> | <b>P&gt; z </b>           | <b>95% Conf. Interval</b> |        |
|---|--------------|------------------|----------|---------------------------|---------------------------|--------|
| Age   | 0.002        | 0.000            | 5.630    | 0.000                     | 0.001                     | 0.002  |
| Gender  | -0.006       | 0.010            | -0.560   | 0.577                     | -0.025                    | 0.014  |
| Neuro-sensory function                            | -0.002       | 0.001            | -3.440   | 0.001                     | -0.004                    | -0.001 |
| Cardio-metabolic function                         | -0.003       | 0.001            | -2.620   | 0.009                     | -0.004                    | -0.001 |
| Muscle function                                   | -0.001       | 0.000            | -3.360   | 0.001                     | -0.001                    | 0.000  |
| Adiposity   | 0.027        | 0.010            | 2.620    | 0.009                     | 0.007                     | 0.048  |
| Constant  | -0.050       | 0.021            | -2.360   | 0.018                     | -0.092                    | -0.009 |
| <b>Random-effects Parameter var (sd Residual)</b> |              |                  |          |                           |                           |        |
| <b>Estimate</b>                                   | 0.181        |                  |          | <b>Wald chi2 (6)</b>      | 77.650                    |        |
| <b>Std. Err.</b>                                  | 0.003        |                  |          | <b>Log likelihood</b>     | 393.619                   |        |
| <b>95% Conf. Interval</b>                         | 0.175        | 0.188            |          | <b>Number of obs.</b>     | 1361                      |        |
|   |              |                  |          | <b>Prob&gt; chi2 &gt;</b> | 0.000                     |        |