**Supplementary Table 2.** Determining the highest model function of the physical activity domain trajectory groups  a,b

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1st iteration** | | **2nd iteration** | | **3rd iteration** | | **4th iteration** | | | **5th iteration** | | |  |  |
| **Group** | **Highest function** | ***p*** | **Highest function** | ***p*** | **Highest function** | ***p*** | **Highest function** | | ***p*** | **Highest function** | | ***p*** | **Final estimated group %** | **Final actual group %** |
| **Sport/exercise (n=5116)** | | | | | | | | | | | | | | |
| Group 1 | Quadratic | –**c** | Linear | <0.001 |  |  |  |  | |  |  | | 43.1 | 45.8 |
| Group 2 | Quadratic | –**c** | Linear | <0.001 |  |  |  |  | |  |  | | 33.9 | 30.4 |
| Group 3 | Quadratic | –**c** | Linear | <0.001 |  |  |  |  | |  |  | | 23.0 | 23.8 |
| **Recreational activity (n=5085)** | | | | | | | | | | | | | | |
| Group 1 | Quadratic | <0.001 |  |  |  |  |  |  | |  |  | | 13.7 | 14.6 |
| Group 2 | Quadratic | <0.001 |  |  |  |  |  |  | |  |  | | 38.5 | 30.5 |
| Group 3 | Quadratic | <0.001 |  |  |  |  |  |  | |  |  | | 29.1 | 33.2 |
| Group 4 | Quadratic | <0.001 |  |  |  |  |  |  | |  |  | | 18.7 | 21.7 |
| **Walking (n=5106)** | | | | | | | | | | | | | | |
| Group 1 | Quadratic | <0.001 | Quadratic | <0.001 | Quadratic | 0.999 | Linear | –**c** | | Intercept | <0.001 | | 28.1 | 27.2 |
| Group 2 | Quadratic | <0.05 | Quadratic | 0.193 | Linear | <0.001 | Linear | –**c** | | Linear | <0.001 | | 60.4 | 64.6 |
| Group 3 | Quadratic | 0.813 | Linear | <0.001 | Linear | <0.001 | Linear | –**c** | | Linear | <0.001 | | 11.5 | 8.3 |

aStarting with quadratic, the level of the polynomial function for each group was reduced at each iteration until each parameter estimate was statistically significant (p<0.05). bModels adjusted for employment status and number of CVD diagnoses as time-varying covariates, and occupational class, marital status, number of children, region, BMI, arthritis, bronchitis, blood pressure, breathlessness, chest pain, smoking status, alcohol consumption and breakfast consumption at baseline. cModels failed to converge.