**Supplementary Table 1.** Model search process for physical activity domain trajectories

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Number of groups** | | **BIC** | **Log Bayes Factor (2\*ΔBIC)** | | **Estimated group %** | | **Actual group %** | **Posterior probability** |
| **Sport/exercise (n=5116)** | | | | | | | | |
|  | |  |  | | 62.4 | | 62.8 | 0.96 |
| 2 | | -15241.0 |  | | 37.6 | | 37.2 | 0.94 |
|  | |  |  | | 36.0 | | 41.2 | 0.83 |
|  | |  |  | | 38.7 | | 33.2 | 0.88 |
| 3 | | -15145.8 | 190.4 | | 25.4 | | 25.6 | 0.91 |
|  | |  |  | | 36.9 | | 42.3 | 0.84 |
|  | |  |  | | 38.9 | | 32.6 | 0.92 |
|  | |  |  | | 12.4 | | 12.7 | 0.73 |
| 4 | | -15214.0 | -68.2 | | 11.8 | | 12.3 | 0.74 |
| **Recreational activity (n=5085)** | | | | | | | | |
|  | |  |  | | 50.0 | | 49.3 | 0.88 |
| 2 | | -21538.8 |  | | 50.0 | | 50.7 | 0.87 |
|  | |  |  | | 20.9 | | 19.6 | 0.81 |
|  | |  |  | | 63.2 | | 61.9 | 0.90 |
| 3 | | -21446.8 | 184.0 | | 16.0 | | 18.6 | 0.78 |
|  | |  |  | | 13.7 | | 14.6 | 0.82 |
|  | |  |  | | 38.5 | | 30.5 | 0.94 |
|  | |  |  | | 29.1 | | 33.2 | 0.77 |
| 4 | | -21275.2 | 343.2 | | 18.7 | | 21.7 | 0.82 |
| 5 | | –**a** | –**a** | | –**a** | | –**a** | –**a** |
| **Walking (n=5106)** | | | | | | | | |
|  | |  |  | | 66.6 | | 67.2 | 0.95 |
| 2 | | -20386.3 |  | | 33.4 | | 32.8 | 0.92 |
|  | |  |  | | 22.7 | | 27.2 | 0.76 |
|  | |  |  | | 59.4 | | 59.1 | 0.84 |
| 3 | | -20347.1 | 78.4 | | 17.9 | | 13.7 | 0.76 |
|  | |  |  | | 23.4 | | 29.0 | 0.73 |
|  | |  |  | | 60.9 | | 59.1 | 0.91 |
|  | |  |  | | 13.1 | | 9.2 | 0.66 |
| 4 | | -20418.8 | -143.4 | | 2.6 | | 2.6 | 0.77 |
|  |
|  | |  | |  |  |  | |  |  |  |  |  |  |

BIC, Bayesian information criterion.

Models 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.

a Failed to converge