**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