**Extended Data Table**

**Table 1-1: Full profiles of the subgroups of healthy participants and participants with Parkinson’s disease (PD) in the fMRI experiment**

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|  | Healthy adults (n = 38) | Participants with PD (n = 15) | Statistics (senior control vs. PD) |
| Non-senior (n = 20) | Senior control for PD (n = 18) |
| Age (mean±s.d) yrs | 29.6±8.6 | 62.2±8.2 | 64.1±9.8 | *T(31)* = 0.59, *P* = 0.56† |
| Male:Female | 11:9 | 10:8 | 9:6 | χ2 = 1.06, *P* =0.79‡ |
| EHI (mean±s.d.) | 0.9±0.1 | 0.91±0.015 | 0.93±0.20 | *T(31)*= 0.36, *P* = 0.72†  |
| Education (mean±s.d.) yrs | 15.9±4.0 | 16.5±3.0 | 18.3±2.7 | *T(31)* = 1.7, *P* = 0.09† |
| MMSE (mean±s.d.) | 29.7±0.5 | 29.5±0.8 | 29.5±0.7 | *T(31)* = 0.12, *P* = 0.90† |
| Experience  | N = 13 | N = 10 | N = 9 | χ2 = 3.0, *P* = 0.39‡ |
| Hoehn-Yahr scale (mean±s.d.) | NA | NA | 2.0±0.4 | NA |
| UPDRS motor/bradykinesia subscale (off-medication; mean±s.d.) | NA | NA | 14.9±8.0/6.6±4.2 | NA |
| \*LDE (mean±s.d.) | NA | NA | 554±218 | NA |

EHI: Edinburgh Handedness Inventory; MMSE: mini-mental status examination; “Experience” refers to personal history that may influence finger dexterity, such as typing, piano playing and so forth. Participants self-reported their experience in those activities in a simple yes-no questionnaire. UPDRS: Unified Parkinson’s Disease Rating Scale; †: not significant with a two-sample *t*-test; ‡: not significant with a chi-square test. NA: not applicable