

# Supplementary Material

## Exploring the Complex Phenotypes of Impaired Finger Dexterity in Mild-to-Moderate Stage Parkinson's Disease: A Time-Series Analysis

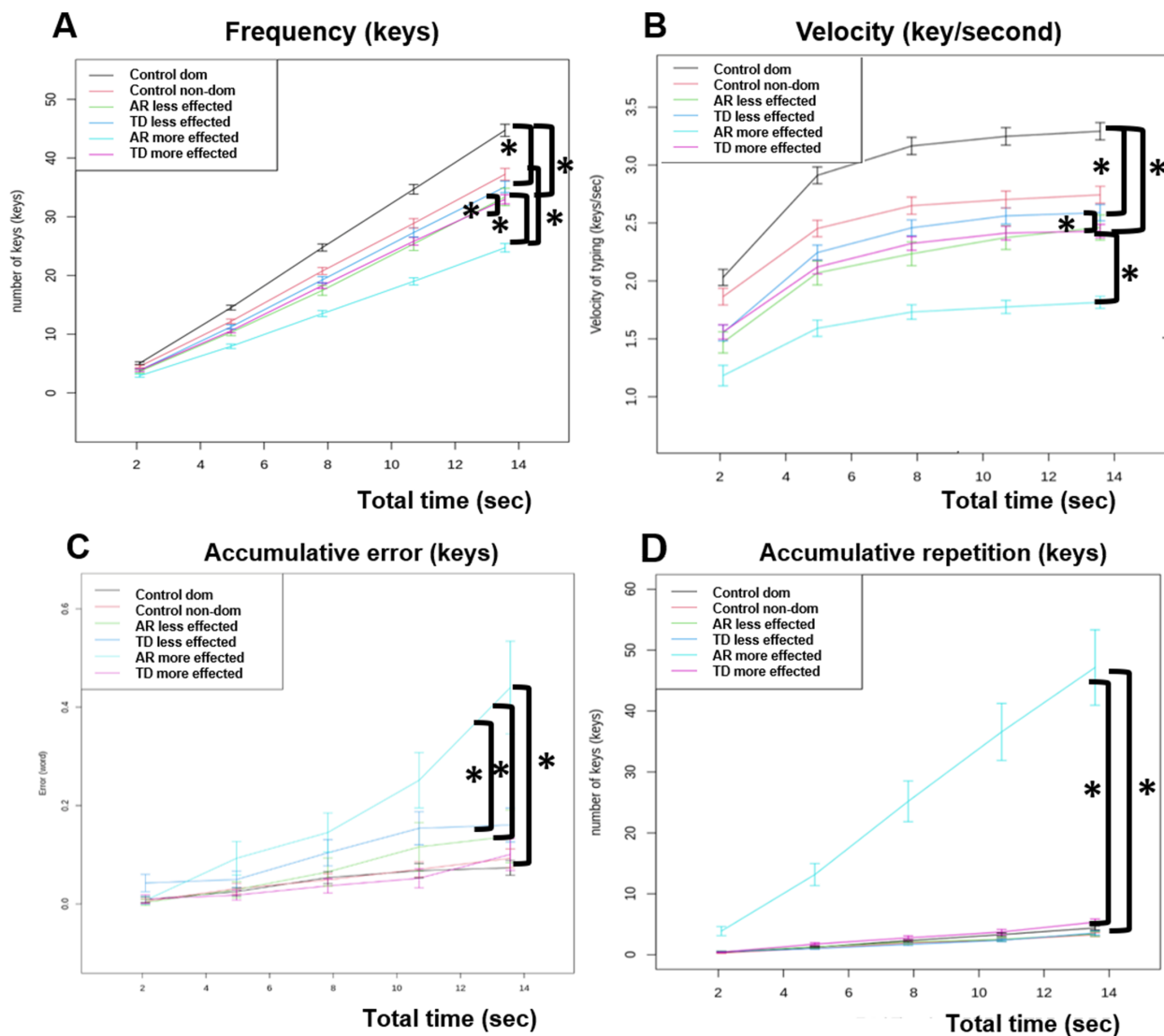
**Supplementary Table 1.** Definition of each typing parameter

| <b>Typing parameter</b>                | <b>Definition</b>   |
|--|---|
| Accumulative typing frequency (keys)   | The accumulative sum of typed keys  |
| Typing velocity (keys/second)          | The slope of the accumulative typing frequency at each time point   |
| Accumulative error (keys)              | The accumulative sum of inaccurate keys   |
| Error rate (keys/second)               | The rate of typing error (accumulative error/frequency)   |
| Accumulative typing repetition (keys)  | The accumulative sum of repetitive keys defined as the keys that subjects repetitively typed at the same key instead of alternating typing at the next accurate key (for example, when the patients typed the "B" key two times instead of alternately typing at the "M" key, the repetition would be counted as 1) |
| Repetition rate (keys/second)          | The rate of typing repetition (accumulative repetition/frequency)   |
| Repetitive duration (second)           | The total duration of typing repetition throughout the duration of the test   |
| Digraph or keystroke duration (second) | The accumulative sum of the gap duration between two adjacent key sequences   |
| Digraph rate                           | Accumulative digraph/frequency  |

**Supplementary Figure 1.** The in-house typing kit consisting of a computer program connected to a keyboard (A) and the set-up of the experiment when a participant was asked to type side-by-side alternating between the index and middle fingers on the B/M keys (B).



**Supplementary Figure 2.** Time-series plots of typing frequency (A), velocity (B), error (C), and repetition (D) of the less/the more affected hands of Parkinson's disease akinetic-rigid subtypes (PD-AR), Parkinson's disease tremor dominant (PD-TD), and the dominant (dom)/the non-dominant (non-dom) hands of controls (C).



**Supplementary Figure 3.** A) Repetitive durations of the less/the more affected hands of Parkinson's disease (PD) and controls (C). B) Subgroup analysis of repetition duration of the less/the more effected hands of Parkinson's disease akinetic-rigid subtypes (PD-AR), Parkinson's disease tremor dominant (PD-TD), and the dominant (dom)/the non-dominant (non-dom) hands of controls (C).

