**Supplementary Material**

**Effect of Learning to Use a Mobility Aid on Gait and Cognitive Demands in People with Mild to Moderate Alzheimer’s Disease: Part II – 4-Wheeled Walker**

**Supplementary Table 1.** Gait velocity for older adults and adults with mild to moderate Alzheimer’s disease (AD) while learning to use a 4-wheeled walker under straight and Figure of 8 path configuration.

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|  | **Gait Velocity (m/s, Mean ± SD)** | | | | | | **2-way repeated measures ANOVA\* (p)** |
| **SP\_ST** | **SP\_DT** | **SP\_MT** | **F8\_ST** | **F8\_DT** | **F8\_MT** | Condition: p=0.091  Group: p=0.001  Condition x Group: p=0.552 |
| **Adult Controls** | 1.12 (0.17) | 1.05 (0.19) | 1.00 (0.23) | 0.87 (0.19) | 0.79 (0.19) | 0.78 (0.18) |
| **Adults with AD** | 0.87 (0.21) | 0.81 (0.25) | 0.62 (0.13) | 0.60 (0.16) | 0.54 (0.18) | 0.46 (0.15) |
| Post hoc pairwise-comparisons (p and Cohen’s d effect size) | p=0.012  d=1.28 | p=0.025  d=1.12 | p<0.001  d=2.09 | p=0.002  d=1.58 | p=0.005  d=1.38 | p<0.001  d=1.93 |  |

\*analysis adjusted for age; SP\_DT, straight path and walking with 4-wheeled walker; SP\_MT, straight path and walking with a 4-wheeled walker while counting backwards by ones; F8\_DT, figure of 8 path and walking with a 4-wheeled walker; F8\_MT, figure of 8 path and walking with 4-wheeled walker while counting backwards by ones; Cohen’s d effect size values were classified as trivial (<0.20), small (0.20 to <0.50), moderate (0.50 to <0.80), or large (>0.80) [27]

**Supplementary Table 2.** Stride time variability for older adults and adults with mild to moderate Alzheimer’s disease (AD) while learning to use a 4-wheeled walker under straight and Figure of 8 path configuration.

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Log10 Gait Stride Time Variability (Mean ± SD)** | | | | | | **2-way repeated measures ANOVA\* (p)** |
| **SP\_ST** | **SP\_DT** | **SP\_MT** | **F8\_ST** | **F8\_DT** | **F8\_MT** | Condition: p=0.378  Group: p=0.014  Condition\*Group: p=0.685 |
| **Adult Controls** | 0.47 (0.28) | 0.55 (0.25) | 0.60 (0.31) | 0.60 (0.20) | 0.68 (0.22) | 0.67 (0.31) |
| **Adults with AD** | 0.61 (0.24) | 0.66 (0.34) | 0.87 (0.409) | 0.77 (0.25) | 0.84 (0.30) | 0.98 (0.33) |
| Post hoc pairwise-comparisons (p and Cohen’s d effect size) | p=0.045  d=0.54 | p=0.308  d=0.34 | p=0.031  d=0.73 | p=0.077  d=0.76 | p=0.078  d=0.61 | p=0.036  d=0.96 |  |

\*analysis adjusted for age; SP\_DT, straight path and walking with 4-wheeled walker; SP\_MT, straight path and walking with a 4-wheeled walker while counting backwards by ones; F8\_DT, figure of 8 path and walking with a 4-wheeled walker; F8\_MT, figure of 8 path and walking with a 4-wheeled walker while counting backwards by ones; Cohen’s d effect size values were classified as trivial (<0.20), small (0.20 to <0.50), moderate (0.50 to <0.80), or large (>0.80) [28].