

Supplementary Table S1. Participant Performance on Motor, Motor-Cognitive, and Cognitive Assessments.

| | HOA | | PD-Only | | DM-Only | | PD+DM | | df | | Main effect of PD | | Main effect of DM | | PD X DM | | Main effect of PD | | Main effect of DM | | PD X DM | | Main effect of PD | | Main effect of DM | | PD X DM | | Main effect of PD | | Main effect of DM | | PD X DM | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------------------|-------------|----------------|-------------|----------------|------------|----------------|---------|----------------|-----|---------|-------------------|-------|-------------------|----------------|---------|---------|-------------------|-------|-------------------|----------------|---------|---------|-------------------|------|-------------------|----------------|---------|---------|-------------------|------|-------------------|----------------|---------|---------|----------------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|
| | Total n=170 | Total n=162 | Total n=162 | Total n=56 | Total n=36 | F | p-value | η ² | F | p-value | η ² | F | p-value | η ² | F | p-value | η ² | F | p-value | η ² | F | p-value | η ² | F | p-value | η ² | F | p-value | η ² | F | p-value | η ² | F | p-value | η ² | | | | | | | | | | | | | | | | | | |
| Preferred Forward Gait Speed (m/s) ^f | 145 | 1.09 ± 0.2 | 140 | 1.01 ± 0.3 | 47 | 0.99 ± 0.3 | 26 | 0.97 ± 0.3 | 354 | 6.30 | 0.013 | 0.017 | 5.86 | 0.016 | 0.016 | 0.77 | 0.38 | 0.002 | 12.5 | <0.001 | 0.47 | 0.03 | 0.00 | 0.94 | 0.33 | 0.00 | 9.62 | 0.00 | 0.42 | 0.03 | 0.00 | 0.94 | 0.33 | 0.00 | 0.002 | 11.51 | 0.001 | 0.03 | 3.50 | 0.062 | 0.009 | 0.91 | 0.34 | 0.002 | 3.421 | 0.065 | 0.009 | 3.796 | 0.052 | 0.01 | 0.688 | 0.407 | 0.002 |
| Fast Forward Gait Speed (m/s) ^f | 145 | 1.53 ± 0.4 | 140 | 1.39 ± 0.4 | 46 | 1.39 ± 0.4 | 26 | 1.36 ± 0.5 | 353 | 7.76 | 0.006 | 0.021 | 3.55 | 0.06 | 0.01 | 0.88 | 0.35 | 0.002 | 15.5 | <0.001 | 0.25 | 0.10 | 0.00 | 1.11 | 0.29 | 0.019 | 5.3 | <0.001 | 0.39 | 0.04 | 0.00 | 1.07 | 0.30 | 0.003 | 17.04 | <0.001 | 0.044 | 3.94 | 0.048 | 0.01 | 1.14 | 0.286 | 0.003 | 6.506 | 0.011 | 0.017 | 4.169 | 0.042 | 0.011 | 0.951 | 0.33 | 0.002 | |
| Preferred Backward Gait Speed (m/s) ^f | 145 | 0.77 ± 0.3 | 139 | 0.63 ± 0.3 | 46 | 0.71 ± 0.3 | 26 | 0.57 ± 0.3 | 352 | 18.69 | <0.001 | 0.05 | 2.29 | 0.131 | 0.006 | 0.01 | 0.914 | 0 | 27.9 | <0.001 | 0.16 | 0.19 | 0.00 | 0.98 | 0.4 | 0.019 | 5.3 | <0.001 | 0.26 | 0.10 | 0.00 | 0.000 | 0.97 | 0 | 25.80 | <0.001 | 0.066 | 2.64 | 0.105 | 0.007 | 0.02 | 0.878 | 0 | 8.773 | 0.003 | 0.022 | 2.973 | 0.086 | 0.008 | 0.101 | 0.751 | 0 | |
| Chair Stands | 148 | 13.01 ± 5 | 140 | 10.98 ± 4.9 | 47 | 10.94 ± 5.1 | 27 | 10.41 ± 5.7 | 358 | 7.42 | 0.01 | 0.02 | 4.33 | 0.04 | 0.012 | 0.81 | 0.37 | 0.002 | 18.1 | <0.001 | 0.40 | 0.04 | 0.00 | 1.32 | 0.25 | 0.016 | 3.3 | <0.001 | 0.42 | 0.04 | 0.00 | 1.31 | 0.25 | 0.003 | 18.53 | <0.001 | 0.047 | 3.49 | 0.062 | 0.009 | 1.30 | 0.255 | 0.003 | 5.11 | 0.024 | 0.013 | 3.916 | 0.049 | 0.01 | 0.942 | 0.332 | 0.002 | |
| 6 MWT (m) ^f | 144 | 422.93 ± 104.8 | 135 | 374.74 ± 102.1 | 47 | 366.69 ± 136.8 | 27 | 334.31 ± 132 | 349 | 14.38 | <0.001 | 0.039 | 11.86 | 0.001 | 0.032 | 0.28 | 0.597 | 0.001 | 24.7 | <0.001 | 0.00 | 0.00 | 0.00 | 0.36 | 0.54 | 0.021 | 4.4 | <0.001 | 0.10 | 0.00 | 0.00 | 0.36 | 0.54 | 0.001 | 18.11 | <0.001 | 0.046 | 10.06 | 0.002 | 0.025 | 0.34 | 0.562 | 0.001 | 6.981 | 0.009 | 0.018 | 10.385 | 0.001 | 0.026 | 0.236 | 0.628 | 0.001 | |
| One leg stand (s) | 82 | 16.7 ± 11.5 | 131 | 15.97 ± 10.7 | 28 | 13.72 ± 11.6 | 24 | 11.96 ± 8.2 | 261 | 0.01 | 0.91 | 0 | 3.88 | 0.05 | 0.015 | 0.25 | 0.62 | 0.001 | 2.17 | <0.001 | 0.37 | 0.05 | 0.00 | 0.14 | 0.70 | 0.01 | 1.61 | 0.20 | 0.034 | 0.06 | 0.00 | 0.70 | 0.001 | 0.72 | 0.398 | 0.002 | 4.75 | 0.030 | 0.016 | 0.45 | 0.504 | 0.002 | 2.556 | 0.111 | 0.009 | 5.264 | 0.023 | 0.018 | 0.639 | 0.425 | 0.002 | | |
| 360 degree turn (steps) | 66 | 3.02 ± 1.2 | 117 | 5.85 ± 5.7 | 18 | 4.5 ± 5.1 | 18 | 4.91 ± 2.7 | 215 | 49.68 | <0.001 | 0.188 | 2.32 | 0.13 | 0.011 | 0.54 | 0.46 | 0.003 | 20.3 | <0.001 | 0.00 | 0.09 | 0.00 | 0.27 | 0.10 | 0.017 | 1.1 | <0.001 | 0.00 | 0.02 | 0.00 | 0.10 | 0.011 | 12.85 | <0.001 | 0.054 | 0.01 | 0.926 | 0 | 2.58 | 0.11 | 0.011 | 9.849 | 0.002 | 0.037 | 0.27 | 0.604 | 0.001 | 0.939 | 0.334 | 0.004 | | |
| 360 degree turn (s) | 66 | 6.21 ± 2.2 | 117 | 11.26 ± 6.4 | 17 | 6.59 ± 2.9 | 18 | 10.22 ± 4.1 | 214 | 59.64 | <0.001 | 0.218 | 1.45 | 0.23 | 0.007 | 0.04 | 0.85 | 0 | 52.2 | <0.001 | 0.12 | 0.61 | 0.00 | 0.88 | 0.34 | 0.032 | 7 | <0.001 | 0.01 | 0.04 | 0.51 | 0.0 | 0.004 | 23.74 | <0.001 | 0.089 | 0.46 | 0.498 | 0.002 | 1.29 | 0.257 | 0.005 | 5.043 | 0.026 | 0.021 | 0.048 | 0.827 | 0 | 2.183 | 0.141 | 0.009 | | |
| TUG-Baseline (s) | 158 | 8.79 ± 2.7 | 154 | 11.43 ± 6.8 | 49 | 10.6 ± 5 | 33 | 12.13 ± 6.5 | 390 | 16.44 | <0.001 | 0.04 | 3.28 | 0.07 | 0.008 | 0.11 | 0.74 | 0 | 28.9 | <0.001 | 0.33 | 0.06 | 0.00 | 0.85 | 0.35 | 0.026 | 2 | <0.001 | 0.00 | 0.37 | 0.05 | 0.0 | 0.86 | 0.5 | 0.002 | 20.49 | <0.001 | 0.047 | 3.91 | 0.049 | 0.009 | 0.65 | 0.422 | 0.001 | 7.344 | 0.007 | 0.017 | 4.229 | 0.04 | 0.01 | 0.484 | 0.487 | 0.001 |
| TUG-Cognitive (s) | 157 | 12.79 ± 5 | 153 | 16.21 ± 15.1 | 49 | 14.51 ± 6 | 32 | 15.83 ± 8.3 | 387 | 5.62 | 0.02 | 0.014 | 2.29 | 0.13 | 0.006 | 0.18 | 0.67 | 0 | 11.30 | <0.001 | 0.02 | 0.65 | 0.00 | 0.64 | 0.42 | 0.014 | 5 | <0.001 | 0.07 | 0.40 | 0.00 | 0.68 | 0.41 | 0.002 | 11.28 | 0.001 | 0.028 | 0.78 | 0.377 | 0.002 | 0.60 | 0.44 | 0.001 | 1.596 | 0.207 | 0.004 | 1.108 | 0.293 | 0.003 | 0.316 | 0.574 | 0.001 | |
| TUG-Cognitive (Correct Subtractions Per Second) | 157 | 0.3 ± 0.2 | 152 | 0.26 ± 0.3 | 49 | 0.26 ± 0.2 | 32 | 0.24 ± 0.3 | 386 | 2.89 | 0.09 | 0.007 | 1.79 | 0.18 | 0.005 | 0.38 | 0.54 | 0.001 | 2.95 | <0.001 | 0.9 | 0.32 | 0.00 | 0.05 | 0.82 | 0.01 | 0.02 | 0.13 | 0.00 | 0.06 | 0.80 | 0.06 | 0.5 | 0 | 9.97 | 0.002 | 0.025 | 1.52 | 0.218 | 0.004 | 0.12 | 0.731 | 0 | 8.227 | 0.004 | 0.021 | 1.336 | 0.249 | 0.003 | 0.192 | 0.661 | 0 | |
| FSST (s) | 158 | 11.13 ± 5.1 | 134 | 12.15 ± 4.6 | 41 | 11.32 ± 3.7 | 30 | 12.57 ± 5.2 | 359 | 4.90 | 0.03 | 0.013 | 0.89 | 0.35 | 0.002 | 0.10 | 0.76 | 0 | 9.79 | <0.001 | 0.2 | 0.62 | 0.00 | 0.03 | 0.87 | 0.03 | 0.00 | 0.83 | 0.00 | 0.0 | 0.83 | 0.0 | 0.004 | 8.4 | 0 | 3.83 | 0.051 | 0.01 | 0.04 | 0.837 | 0 | 0.03 | 0.874 | 0 | 0.72 | 0.397 | 0.002 | 0.092 | 0.762 | 0 | 0.001 | 0.972 | 0 |
| BPST (Product Score) | 153 | 14.92 ± 8.9 | 156 | 17.87 ± 10.7 | 51 | 13.8 ± 9.8 | 35 | 15.14 ± 9 | 391 | 1.74 | 0.19 | 0.004 | 2.27 | 0.13 | 0.006 | 0.42 | 0.52 | 0.001 | 5.76 | <0.001 | 0.16 | 0.20 | 0.00 | 0.68 | 0.41 | 0.0 | 3.21 | 0.07 | 0.20 | 0.15 | 0.00 | 0.69 | 0.40 | 0.002 | 1.41 | 0.236 | 0.004 | 1.55 | 0.214 | 0.004 | 0.70 | 0.405 | 0.002 | 2.413 | 0.121 | 0.006 | 1.798 | 0.181 | 0.005 | 0.937 | 0.334 | 0.002 | |
| Serial 3 counting (% correct) | 158 | 88.7 ± 18.9 | 155 | 93.46 ± 11 | 51 | 87.12 ± 20.8 | 34 | 83.54 ± 25.3 | 394 | 0.89 | 0.35 | 0.002 | 0.29 | 0.59 | 0.001 | 0.09 | 0.77 | 0 | 0.85 | <0.001 | 0.40 | 0.04 | 0.00 | 4.21 | 0.04 | 0.0 | 0.84 | 5.2 | 0.02 | 0.0 | 4.22 | 0.04 | 0.01 | 0.34 | 0.558 | 0.001 | 3.84 | 0.051 | 0.009 | 4.46 | 0.035 | 0.01 | 0.104 | 0.747 | 0 | 3.863 | 0.05 | 0.009 | 4.597 | 0.033 | 0.01 | | |
| MoCA score | 159 | 24.87 ± 3.9 | 143 | 25.34 ± 3.8 | 45 | 23.69 ± 3.1 | 34 | 24 ± 4.7 | 377 | 4.57 | 0.03 | 0.012 | 8.27 | <0.001 | 0.021 | 0.24 | 0.62 | 0.001 | 0.04 | 0.85 | 0.53 | 0.02 | 0.00 | 0.01 | 0.94 | 0.170 | 0.19 | 0.00 | 3.0 | 0.08 | 0.00 | 0.000 | 0.97 | 0 | 0.33 | 0.569 | 0.001 | 2.15 | 0.143 | 0.005 | 0.00 | 0.995 | 0 | 0.288 | 0.592 | 0.001 | 2.175 | 0.141 | 0.005 | 0 | 0.986 | 0 | |
| Trails A (s) | 159 | 39.77 ± 36.1 | 144 | 46.27 ± 44.7 | 45 | 39.88 ± 21.2 | 33 | 46.09 ± 30.2 | 369 | 3.01 | 0.08 | 0.008 | 0.76 | 0.39 | 0.002 | 0.04 | 0.85 | 0 | 5.77 | <0.001 | 0.01 | 0.75 | 0.00 | 0.01 | 0.93 | 0.14 | 0.00 | 0.4 | 0.52 | 0.00 | 0.87 | 0.03 | 0.5 | 0 | 1.23 | 0.268 | 0.003 | 0.30 | 0.587 | 0.001 | 0.02 | 0.89 | 0 | 0.501 | 0.479 | 0.001 | 0.073 | 0.787 | 0 | 0.031 | 0.86 | 0 | |
| Trails B (s) | 159 | 100.47 ± 66.8 | 143 | 115.5 ± 87.4 | 45 | 113.14 ± 79.1 | 33 | 112.6 ± 92.8 | 368 | 0.09 | 0.77 | 0 | 0.54 | 0.46 | 0.001 | 1.12 | 0.29 | 0.003 | 5.11 | <0.001 | 0.1 | 0.68 | 0.00 | 0.91 | 0.34 | 0.0 | 1.18 | 0.27 | 0.00 | 0.96 | 0.1 | 0.120 | 0.29 | 0.003 | 1.00 | 0.317 | 0.002 | 0.01 | 0.93 | 0 | 1.01 | 0.315 | 0.003 | 0.969 | 0.326 | 0.002 | 0.048 | 0.826 | 0 | 0.441 | 0.507 | 0.001 | |
| Trails Difference (B-A) | 159 | 61.15 ± 52 | 143 | 70.98 ± 67.3 | 45 | 73.26 ± 65.5 | 33 | 66.51 ± 70.1 | 368 | 0.01 | 0.91 | 0 | 0.62 | 0.43 | 0.002 | 1.39 | 0.24 | 0.004 | 2.45 | <0.001 | 0.3 | 0.58 | 0.00 | 1.50 | 0.22 | 0.00 | 0.58 | 0.44 | 0.00 | 0.81 | 0.168 | 0.19 | 0.004 | 0.56 | 0.455 | 0.001 | 0.03 | 0.873 | 0 | 1.52 | 0.218 | 0.004 | 0.635 | 0.426 | 0.002 | 0.16 | 0.69 | 0 | 0.939 | 0.333 | 0.002 | | |
| CWIT Color Naming Scaled Score | 98 | 10.34 ± 2.5 | 91 | 9.09 ± 3.4 | 28 | 9.11 ± 3.2 | 22 | 9.45 ± 3 | 235 | 2.61 | 0.11 | 0.011 | 1.01 | 0.32 | 0.004 | 3.26 | 0.07 | 0.014 | 6.74 | <0.001 | 0.12 | 0.26 | 0.00 | 3.14 | 0.07 | 0.0 | 0.92 | 0.33 | 0.00 | 0.4 | 0.5 | 0.0 | 0.016 | 1.36 | 0.245 | 0.005 | 0.30 | 0.584 | 0.001 | 4.08 | 0.044 | 0.016 | 0.717 | 0.398 | 0.003 | 0.744 | 0.389 | 0.003 | 2.772 | 0.097 | 0.011 | | |
| CWIT Word Reading Scaled Score | 98 | 10.33 ± 2.5 | 91 | 9.77 ± 3.2 | 28 | 8.86 ± 3.6 | 22 | 9.41 ± 2.7 | 235 | 0.36 | 0.55 | 0.002 | 6.80 | 0.01 | 0.028 | 0.54 | 0.46 | 0.002 | 1.57 | <0.001 | 0.45 | 0.03 | 0.00 | 1.80 | 0.18 | 0.0 | 0.97 | 0.3 | 0.07 | 0.0 | 2.39 | 0.12 | 0.009 | 0.86 | 0.354 | 0.003 | 2.15 | 0.144 | 0.008 | 2.48 | 0.117 | 0.009 | 0.083 | 0.773 | 0 | 2.671 | 0.104 | 0.01 | 1.872 | 0.173 | 0.007 | | |
| CWIT Inhibition Scaled Score | 98 | 11 ± 2.4 | 91 | 9.08 ± 3.9 | 27 | 8.56 ± 3.5 | 22 | 8.82 ± 3.7 | 234 | 4.00 | 0.05 | 0.017 | 5.77 | 0.02 | 0.024 | 2.43 | 0.12 | 0.01 | 14.0 | <0.001 | 0.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|------------------------------------------|-----|---------------|-----|---------------|----|---------------|----|--------------|-----|--------|--------|-------|-------|-------|-------|--------|--------|-------|------|------|-----|-----|------|------|-------|------|-------|-------|-------|------|------|------|------|-------|--------------|------------------|------------------|------------------|--------------|--------------|--------------|-------------|--------------|--------------|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|
| Tower Test-Achievement Score | 112 | 10.1 ± 2.5 | 111 | 10.05 ± 3.4 | 32 | 9.25 ± 3.1 | 31 | 11.32 ± 2.5 | 282 | 0.908 | 0.34 | 0.003 | 0.019 | 0.89 | 0 | 3.921 | 0.05 | 0.014 | 0.70 | 0.40 | 0.0 | 0.6 | 0.43 | 0.06 | 0.26 | 0.01 | 0.0 | 0.59 | 0.44 | 0.0 | 0.6 | 0.43 | 0.06 | 0.29 | 0.01 | 0.021 | 0.129 | 0.719 | 0 | 0.903 | 0.343 | 0.003 | 6.163 | 0.014 | 0.021 | 4.597 | 0.033 | 0.015 | 0.301 | 0.584 | 0.001 | 4.432 | 0.036 | 0.015 | |
| Tower Test-Time per move (s/total moves) | 112 | 9.4 ± 3.2 | 111 | 7.99 ± 4 | 32 | 7.66 ± 4.1 | 31 | 10.23 ± 4 | 282 | 1.05 | 0.31 | 0.004 | 0.102 | 0.75 | 0 | 14.919 | <0.001 | 0.05 | 1.99 | 0.15 | 0.0 | 0.3 | 0.53 | 0.0 | 0.135 | <0.0 | 0.0 | 0.2 | 0.000 | 0.15 | 0.0 | 0.2 | 0.59 | 0.0 | 0.134 | <0.0 | 0.045 | 3.053 | 0.082 | 0.01 | 0.507 | 0.477 | 0.002 | 13.21 | <0.001 | 0.044 | 0.035 | 0.852 | 0 | 0.146 | 0.703 | 0 | 11.166 | 0.001 | 0.037 |
| Tower Test-Mean first move (s) | 112 | 9.67 ± 2.9 | 111 | 10.87 ± 3.5 | 32 | 9.94 ± 3.2 | 31 | 12.68 ± 2.6 | 282 | 17.863 | <0.001 | 0.06 | 4.588 | 0.03 | 0.016 | 2.57 | 0.11 | 0.009 | 16.7 | <0.0 | 0.0 | 5.4 | 0.02 | 0.2 | 0.64 | 0.10 | 0.0 | 0.135 | <0.0 | 0.0 | 5.4 | 0.02 | 0.2 | 0.70 | 0.10 | 0.009 | 8.198 | 0.005 | 0.027 | 6.111 | 0.014 | 0.02 | 3.156 | 0.077 | 0.01 | 9.02 | 0.003 | 0.029 | 5.15 | 0.024 | 0.017 | 2.577 | 0.11 | 0.008 | |
| Brooks Spatial Task (% correct) | 68 | 60.85 ± 20.9 | 103 | 66.29 ± 19.6 | 28 | 58.86 ± 21.3 | 18 | 58.56 ± 20.8 | 213 | 2.24 | 0.136 | 0.01 | 1.72 | 0.192 | 0.008 | 0.69 | 0.408 | 0.003 | 0.41 | 0.52 | 0.0 | 0.6 | 0.40 | 0.0 | 0.80 | 0.37 | 0.0 | 0.66 | 0.0 | 0.7 | 0.0 | 0.83 | 0.36 | 0.004 | 0.06 | 0.803 | 0 | 0.70 | 0.402 | 0.003 | 0.78 | 0.379 | 0.003 | 1.034 | 0.31 | 0.004 | 0.997 | 0.319 | 0.004 | 1.173 | 0.28 | 0.005 | | | |
| Corsi block (Product Score) | 134 | 22.87 ± 15.1 | 156 | 26.99 ± 16.2 | 41 | 19.51 ± 11.8 | 36 | 31.31 ± 22.2 | 363 | 5.52 | 0.02 | 0.015 | 0.48 | 0.49 | 0.001 | 1.27 | 0.26 | 0.003 | 6.82 | 0.00 | 0.0 | 0.2 | 0.61 | 0.0 | 3.64 | 0.05 | 0.0 | 2.66 | 4 | 0.7 | 4 | 5 | 0 | 3.37 | 0.06 | 0.008 | 2.11 | 0.147 | 0.005 | 0.07 | 0.79 | 0 | 3.05 | 0.082 | 0.008 | 1.607 | 0.206 | 0.004 | 0.055 | 0.815 | 0 | 2.972 | 0.086 | 0.008 | |
| SF12 (PCS)† | 160 | 49.21 ± 9.7 | 136 | 41.52 ± 9.4 | 50 | 44.45 ± 11.6 | 32 | 38.85 ± 10.1 | 374 | 49.55 | <0.001 | 0.115 | 9.95 | 0.002 | 0.023 | 0.68 | 0.41 | 0.002 | 59.5 | <0.0 | 0.1 | 8.5 | 0.00 | 0.0 | 0.53 | 0.46 | 0.045 | 1 | <0.0 | 7.3 | 0.00 | 0.0 | 0.56 | 0.45 | 0.001 | 33.28 | <0.001 | 0.074 | 7.69 | 0.006 | 0.017 | 0.39 | 0.533 | 0.001 | 12.03 | 0.001 | 0.027 | 8.334 | 0.004 | 0.018 | 0.22 | 0.639 | 0 | | |
| SF12 (MCS)† | 160 | 49.32 ± 8.9 | 136 | 45.8 ± 9.9 | 50 | 47.69 ± 10.4 | 32 | 42.89 ± 10.1 | 374 | 14.52 | <0.001 | 0.037 | 3.23 | 0.073 | 0.008 | 0.28 | 0.601 | 0.001 | 13.1 | <0.0 | 0.0 | 3.4 | 0.06 | 0.0 | 0.25 | 0.61 | 0.0 | 7.91 | 5 | 2 | 4 | 9 | 0.6 | 0.21 | 0.64 | 0.001 | 12.51 | <0.001 | 0.032 | 1.73 | 0.19 | 0.004 | 0.15 | 0.695 | 0 | 1.692 | 0.194 | 0.004 | 2.324 | 0.128 | 0.006 | 0.443 | 0.506 | 0.001 | |
| Life Space Questionnaire | 95 | 6.27 ± 1.1 | 50 | 6.66 ± 1.3 | 33 | 6.09 ± 1.5 | 11 | 5.91 ± 1 | 185 | 0.05 | 0.83 | 0 | 0.12 | 0.74 | 0.001 | 0.56 | 0.45 | 0.003 | 0.40 | 0.52 | 0.0 | 1.9 | 0.16 | 0.0 | 0.22 | 0.0 | 0.56 | 0.0 | 1.8 | 0.17 | 0.0 | 0.22 | 0.22 | 0.007 | 0.22 | 0.641 | 0.001 | 1.46 | 0.229 | 0.007 | 1.49 | 0.223 | 0.008 | 0.311 | 0.578 | 0.002 | 1.513 | 0.22 | 0.008 | 1.702 | 0.194 | 0.009 | | | |
| PASE | 124 | 108.55 ± 68.9 | 136 | 105.72 ± 71.1 | 33 | 111.12 ± 78.7 | 34 | 89.31 ± 67.2 | 323 | 0.58 | 0.45 | 0.002 | 0.72 | 0.4 | 0.002 | 0.65 | 0.42 | 0.002 | 1.40 | 0.23 | 0.0 | 0.4 | 0.48 | 0.0 | 0.81 | 0.36 | 0.0 | 3.06 | 1 | 0.9 | 1 | 1 | 0.4 | 0.86 | 0.5 | 0.003 | 1.13 | 0.29 | 0.003 | 1.41 | 0.235 | 0.004 | 1.20 | 0.275 | 0.004 | 1.148 | 0.285 | 0.003 | 1.247 | 0.265 | 0.004 | 1.087 | 0.298 | 0.003 | |
| CPF | 165 | 21.27 ± 4.1 | 159 | 19.19 ± 5 | 56 | 19.39 ± 5.5 | 35 | 18.37 ± 5.4 | 411 | 10.36 | <0.001 | 0.025 | 0.92 | 0.34 | 0.002 | 0.03 | 0.86 | 0 | 22.8 | <0.0 | 0.0 | 5.4 | 0.02 | 0.0 | 1.06 | 0.30 | 0.026 | 0 | <0.0 | 7.1 | 0.00 | 0.0 | 1.03 | 0.31 | 0.002 | 23.67 | <0.001 | 0.052 | 6.78 | 0.01 | 0.015 | 0.84 | 0.361 | 0.002 | 3.897 | 0.049 | 0.008 | 8.05 | 0.005 | 0.017 | 0.41 | 0.522 | 0.001 | | |
| BDI-II | 124 | 5.99 ± 5.7 | 136 | 12.32 ± 7.7 | 33 | 10.03 ± 10.6 | 33 | 14.21 ± 10.9 | 322 | 35.52 | <0.001 | 0.099 | 1.73 | 0.19 | 0.005 | 1.03 | 0.31 | 0.003 | 50.2 | <0.0 | 0.1 | 7.7 | 0.00 | 0.0 | 1.33 | 0.25 | 0.032 | 2 | <0.0 | 4.6 | 0.03 | 0.0 | 1.34 | 0.24 | 0.003 | 29.52 | <0.001 | 0.077 | 4.35 | 0.038 | 0.011 | 1.21 | 0.273 | 0.003 | 6.256 | 0.013 | 0.016 | 5.625 | 0.018 | 0.014 | 0.655 | 0.419 | 0.002 | | |
| ABC | 126 | 60.67 ± 28.4 | 159 | 68.85 ± 24.1 | 39 | 58.47 ± 31.3 | 35 | 59.85 ± 26.4 | 355 | 2.60 | 0.11 | 0.007 | 3.20 | 0.07 | 0.009 | 0.67 | 0.41 | 0.002 | 4.06 | 0.04 | 0.0 | 2.3 | 0.12 | 0.0 | 0.71 | 0.4 | 0.0 | 1.95 | 3 | 0.5 | 2 | 9 | 0.9 | 0.66 | 0.41 | 0.002 | 0.74 | 0.391 | 0.002 | 2.59 | 0.108 | 0.007 | 0.75 | 0.388 | 0.002 | 2.842 | 0.093 | 0.008 | 3.151 | 0.077 | 0.008 | 1.123 | 0.29 | 0.003 | |
| Falls in last year (#) | 159 | 0.54 ± 2.02 | 162 | 11.15 ± 50.13 | 52 | 3.04 ± 12.84 | 36 | 2.75 ± 3.86 | 405 | 81.04 | <0.001 | 0.167 | 1.77 | 0.18 | 0.004 | 7.86 | 0.01 | 0.019 | 7.90 | 0.00 | 0.0 | 0.4 | 0.50 | 0.0 | 1.97 | 0.16 | 0.0 | 0.00 | 0.0 | 0.2 | 0.59 | 0.0 | 0.16 | 0.005 | 8.82 | 0.003 | 0.021 | 0.32 | 0.572 | 0.001 | 2.37 | 0.125 | 0.006 | 2.12 | 0.146 | 0.005 | 0 | 0.992 | 0 | 0.853 | 0.356 | 0.002 | | | |
| Fear of falling [‡] | 166 | 1.98 ± 1.31 | 159 | 3.20 ± 1.65 | 55 | 2.30 ± 1.68 | 35 | 3.01 ± 1.20 | 411 | 49.66 | <0.001 | 0.108 | 0.48 | 0.49 | 0.001 | 0.01 | 0.94 | 0 | 60.5 | <0.0 | 0.1 | 0.3 | 0.56 | 0.0 | 2.38 | 0.12 | 0.063 | 6 | <0.0 | 1.0 | 0.31 | 0.0 | 0.12 | 0.005 | 47.74 | <0.001 | 0.1 | 1.24 | 0.266 | 0.003 | 1.68 | 0.196 | 0.004 | 6.357 | 0.012 | 0.013 | 2.265 | 0.133 | 0.005 | 0.743 | 0.389 | 0.002 | | | |
| Quality of Life [‡] | 161 | 5.51 ± 1.22 | 157 | 5.10 ± 1.14 | 55 | 5.26 ± 1.30 | 34 | 5.16 ± 1.33 | 403 | 2.80 | 0.1 | 0.007 | 0.27 | 0.6 | 0.001 | 1.46 | 0.23 | 0.004 | 12.6 | <0.0 | 0.0 | 0.2 | 0.61 | 0.0 | 0.98 | 0.32 | 0.0 | 5.48 | 0.02 | 0.0 | 0.0 | 0.99 | 0 | 1.09 | 0.29 | 0.003 | 9.43 | 0.002 | 0.021 | 0.07 | 0.797 | 0 | 0.99 | 0.321 | 0.002 | 1.644 | 0.201 | 0.004 | 0.014 | 0.907 | 0 | 0.674 | 0.412 | 0.002 | |

Numbers are bolded for significant p-values adjusted for education, sex, and race. † A parametric test was used for the unadjusted p-values. Abbreviations: MWT, Minute Walk Time; TUG, Timed Up and Go; FSST, Four Square Step Test; BPST, Body Position Spatial Test; MoCA, Montreal Cognitive Assessment; CWIT, Color Word Interference Test; SF12, Short Form 12; PASE, Physical Activity Scale for the Elderly; CPF, Compostiy Physical Function; BDI-II, Beck's Depression Inventory II; ABC, Activities-specific Balance Confidence Scale. P<0.05. Significant *p* and *eta* squared values are bolded.

Supplementary Table S2. Parkinson Medication State.

| | OFF-PD Meds | | ON-PD Meds | |
|-------------------------------------------------|--------------------|-------------------|-------------------|-------------------|
| | n | Mean ± STD | n | Mean ± STD |
| Preferred Backward Gait Speed (m/s) | 83 | 0.58 ± 0.27 | 82 | 0.67 ± 0.30 |
| 360 degree turn (steps) | 82 | 12.12 ± 7.19 | 53 | 9.57 ± 3.69 |
| 360 degree turn (s) | 82 | 6.37 ± 6.46 | 53 | 4.72 ± 2.77 |
| TUG-Cognitive (Correct Subtractions Per Second) | 79 | 0.03 ± 0.04 | 105 | 0.43 ± 0.26 |
| Corsi Product Score | 82 | 24.70 ± 14.66 | 110 | 30.11 ± 19.11 |

Comparison to determine if medication state influenced the main effect of Parkinson's disease. Significant findings are presented.