Table 8. Cognitive Function Outcomes for Exercise Interventions

| **Study** | **N randomized** | **Measure** | **Time (months)** | **Intervention Group** | **Control Group** | **p-value** | **Notes and related outcomes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Baker, 2010226 | IG: 23  CG: 10 | Story Recall; List Learning; Delayed-Match-To-Sample | 3m | NR | NR | NSD |  |
| Lam, 2011227 | IG: 171  CG: 218 | ADAS-Cog, Mean (SD\*) | BL | 12.6 (5.1) | 14.1 (5.7) | <0.01 | Also report MMSE, Category verbal fluency, delay recall, digit span, visual span, Trail A, Trail B, Subjective complaints, and CDR |
| 5m | 10.7 (5.5) | 12.8 (6.1) | NSD |
| Lautenschlager, 2008228 | IG: 85  CG: 85 | ADAS-Cog, Mean change (95% CI) | 6m | -0.26 (-0.89, 0.54) | 1.04 (0.32, 1.82) | 0.04 (ANCOVA) | Also report word list recall, digit symbol coding, verbal fluency, and CDR |
| 12m | -0.55 (-1.15, 0.20) | 0.04 (-0.66, 0.64) |
| 18m | -0.73 (-1.27, 0.03) | -0.04 (-0.46, 0.88) |
| Nagamatsu, 2012229 | IG: 30  CG: 28 | Item memory, mean change (SD) | 6m | 0.55 (1.25) | 0.21 (0.76) | NR | IG for resistance training also included in this study.  Also report Stroop CW, Trail Making A and B, digit span, associative memory, and everyday problem solving test |
| Steinberg, 2009230 | IG: 14  CG: 13 | Hopkins Verbal Learning Test, Beta (SE) | 3m | 0.82 (0.6) | NA | 0.19 | Random effects model for repeated measures, controlling for MMSE |
| Suzuki, 2012231 | IG: 25  CG: 25 | MMSE, mean change (95% CI) | 6m | 0.32 (-0.96, 1.60) | -1.37 (-2.66, -0.07) | NR | Group x time p-value=0.04 |
| 12m | -0.47 (-1.75, 0.81) | -0.44 (-1.74, 0.86) | NR |
| Teri, 2008258 | IG: 76  CG: 77 | NA | NA | NR | NR | NA | No cognitive function data reported |
| Tsai, 2012233 | IG: 28  CG: 27 | MMSE, Mean (SD) | BL | 26.04 (1.92) | 24.85 (2.64) | NR | Trend p-value=0.223 |
| MMSE, mean difference from baseline (95% CI) | 5m | 1.00 (0.32, 1.68) | 0.78 (0.04, 1.52) | NR |
| MMSE, Between group difference (95% CI) | 5m | 1.33 (-0.24, 2.90) | NA | 0.096 |
| Venturelli, 2010234 | IG: 15  CG: 15 | MMSE, Mean (SD) | BL | 22.3 (2.1) | 22.1 (1.7) |  |  |
| 3m | 23.0 (1.4) | 17.5 (2.1) | <0.05 |  |
| Vreugdenhil, 2012235 | IG: 20  CG: 20 | MMSE, Mean (SD) | BL | 22.9 (5.0) | 21.0 (6.3) | NR |  |
| 4m | 23.9 (5.0) | 19.0 (7.7) | NR |
| MMSE, Mean change (SE) | 4m | 1.0 (1.4) | -1.6 (0.5) | 0.001 | Adjusted for age, education, baseline score |
| ADAS-cog, Mean (SD) | BL | 22.7 (9.7) | 26.6 (16.6) | NR |  |
| 4m | 18.5 (9.8) | 30.6 (17.9) | NR |
| ADAS-cog, Mean change (SE) | 4m | -4.9 (1.1) | 2.1 (1.4) | 0.001 | Adjusted for age, education, baseline score |

\* SD assumed.

**Abbreviations:** Analysis of Covariance; BL = baseline; CDR = Clinical Dementia Rating Scale; CG = control group; CI = confidence interval; CW = Color and Word Test; IG = intervention group; m = month(s); MMSE = Mini-Mental State Examination; N = number; NA = not applicable; NR = not reported; NSD = no significant data; SD = standard deviation.