**Supplemental Online Materials**

**Table S1.** Fit statistics for the tests of measurement invariance

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Model (type of invariance) | Log-likelihood | p | $$χ^{2}$$ | df  | RMSEA  | CFI | TLI |
| Weak invariance(same factor loadings) | -94001.443 | 47 | 548.43 | 72 | 0.040 | 0.967 | 0.959 |
| Strong invariance (same factor loadings and intercepts) | -94464.348 | 40 | 1313.04 | 79 | 0.061 | 0.916 | 0.903 |
| Strict invariance (same factor loadings, intercepts, and residual variances) |  -94766.527 | 33 | 1301.10 | 86 | 0.058 | 0.917 | 0.912 |

**Table S2.** Doubly multivariate repeated measures analysis and follow-up pairwise comparisons.

|  |  |  |
| --- | --- | --- |
|  | Main Effects and Interactions | Within-Age Group Effect of Time |
|  | Time | Age X Time | Subtest/Factor X Time | Subtest/Factor X Age | Subtest/Factor X Age X Time | 30s - 40s | 40s - 50s | 50s - 60s | 60s - 70s  | 70+ - 80+ |
|  | Wilks' Λ | Wilks' Λ | Wilks' Λ | Wilks' Λ | Wilks' Λ | *F* | *F* | *F* | *F* | *F* |
| Subtests | .83\*\*\* | .94\*\*\* | .87\*\*\* | .92\*\*\* | .98\*\*\* |  |  |  |  |  |
| Immediate Recall |  |  |  |  |  | 0.53 | 4.24\* | 10.20\*\*\* | 13.00\*\*\* | 35.71\*\*\* |
| Delayed Recall |  |  |  |  |  | 3.71 | 0.16 | 5.70\* | 18.48\*\*\* | 40.45\*\*\* |
| Number Series |  |  |  |  |  | 0.69 | 0.77 | 14.59\*\*\* | 56.00\*\*\* | 29.87\*\*\* |
| Category Fluency |  |  |  |  |  | 0.02 | 1.69 | 13.87\*\*\* | 27.74\*\*\* | 41.61\*\*\* |
| Backward Digit Span |  |  |  |  |  | 1.18 | 2.92 | 0.03 | 8.87\*\*\* | 20.19\*\*\* |
| 30-SACT |  |  |  |  |  | 11.22\*\*\* | 23.04\*\*\* | 100.82\*\*\* | 118.37\*\*\* | 47.84\*\*\* |
| SGST |  |  |  |  |  | 37.22\*\*\* | 119.15\*\*\* | 235.30\*\*\* | 240.09\*\*\* | 87.48\*\*\* |
| Factor Scores | .86\*\*\* | .95\*\*\* | .96\*\*\* | .98\*\*\* | 1.00 | 14.97\*\*\* | 15.38\*\*\* | 132.38\*\*\* | 194.48\*\*\* | 217.49\*\*\* |
| Episodic Memory |  |  |  |  |  | 1.02 | 1.01 | 11.19\*\*\* | 24.22\*\*\* | 66.99\*\*\* |
| Executive Functioning |   |   |  |  |  | 30.51\*\*\* | 68.87\*\*\* | 256.48\*\*\* | 333.54\*\*\* | 236.14\*\*\* |

Note: \* indicates significant difference at *p* <.05, \*\* indicates significant difference at *p* < .01, \*\*\* indicates significant difference

at *p* < .001.Supplemental Figure Caption

Figure S1a to i. Loess functions for differences scores (MIDUS 3-MIDUS 2) of the seven subtests and the two factors scores as a function of age at MIDUS 2. EM is episodic memory; EF is executive functioning





 













Figure S2. Comparison of Refresher (MR) and MIDUS 3 (M3) Samples for all Subtests

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