**Supplemental Material**

Statistically-Derived Subtypes in Mild Cognitive Impairment: A Latent Profile Analysis

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**Index:**

* **Table e-1 (page 2)**
* **Table e-2 (page 2)**
* **Table e-3 (page 3)**
* **Table e-4 (page 3)**
* **Figure e-1 (page 3)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Table e-1: Correlations between neuropsychological test variables in the entire ADNI corpus   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | Clock Drawing Test | MMSE Pentagons | Animal Fluency | Boston Naming Test | TMT, Part A | TMT, Part B | AVLT Recall | AVLT Recognition | | Clock Drawing Test | 1 | -.107 | .254 | .318 | -.246 | -.345 | .226 | .220 | | MMSE Pentagons | -.107 | 1 | -.132 | -.147 | .199 | .206 | -.101 | -.097 | | Animal Fluency | .254 | -.132 | 1 | .486 | -.366 | -.412 | .427 | .309 | | Boston Naming Test | .318 | -.147 | .486 | 1 | -.253 | -.388 | .281 | .208 | | TMT,  Part A | -.246 | .199 | -.366 | -.253 | 1 | .605 | -.211 | -.197 | | TMT,  Part B | -.345 | .206 | -.412 | -.388 | .605 | 1 | -.291 | -.284 | | AVLT  Recall | .226 | -.101 | .427 | .281 | -.211 | -.291 | 1 | .631 | | AVLT Recognition | .220 | -.097 | .309 | .208 | -.197 | -.284 | .631 | 1 |   Statistical significance for all neuropsychological test intercorrelations: *p* < 0.003. Pentagons: n= 923, other 7 measures: n=1066.  *Abbreviations:* MMSE = Mini-Mental State Examination; TMT = Trail Making Test; AVLT = Rey Auditory Verbal Learning Test  Table e-2: Standardized Regression Based Formulas from Robust Normal Controls | | | | | | |
| Variable | **Adj. R2** | **SEE** | **Constant** | **βAge** | **βEducation** | **βGender** |
| MMSE Pentagons | 0.011 | 1.004 | 0.149 | 0.021 | -0.021 | 0.135 |
| Clock Drawing Test | 0.125 | 0.860 | 11.330 | -0.043 | 0.087 | -0.012 |
| √ (Animal Fluency) | 0.119 | 0.576 | 4.690 | -0.019 | 0.074 | 0.093 |
| BNT | 0.072 | 2.016 | 29.084 | -0.041 | 0.153 | -0.572 |
| Lg10(TMT, Part A) | 0.071 | 0.130 | 1.137 | 0.006 | -0.006 | -0.001 |
| 1/√(TMT, Part B) | 0.138 | 0.020 | 0.187 | -0.001 | 0.002 | 0.004 |
| AVLT Recall | 0.043 | 3.625 | 12.511 | -0.106 | 0.164 | 1.089 |
| AVLT Recognition | 0.004 | 2.287 | 13.676 | -0.019 | 0.029 | 0.553 |

*Abbreviations:* Adj. R2 = Adjusted R2; SEE = standard error of the estimate; MMSE = Mini-Mental State Examination; BNT= Boston Naming Test; Lg10 = Logarithm 10; TMT = Trail Making Test; AVLT = Rey Auditory Verbal Learning Test

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| **Table e-3:** Average Latent Class Probabilities for Most Likely Latent Class Membership (Row) by Latent Class (Column) | | | |
|  | **Mixed MCI Class** | **Amnestic MCI Class** | **LPA-Derived Normal Class** |
| Mixed MCI Class | 0.878 | 0.109 | 0.013 |
| Amnestic MCI Class | 0.035 | 0.908 | 0.057 |
| LPA-Derived Normal Class | 0.001 | 0.107 | 0.892 |

*Abbreviations:* MCI = Mild Cognitive Impairment; LPA = Latent Profile Analysis

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| **Table e-4:** Distribution of Subsample Variables Across Latent Classes | | | | | | | | |
|  | *MMSE Pentagons* | | *CSF Biomarkers* | | *APOE Alleles* | | *Longitudinal Data* | |
| ***n*** | **Proportion of Class** | ***n*** | **Proportion of Class** | ***n*** | **Proportion of Class** | ***n*** | **Proportion of Class** |
| Mixed MCI Class | 95 | 89.62% | 52 | 49.06% | 104 | 98.11% | 103 | 97.27% |
| Amnestic MCI Class | 374 | 82.20% | 237 | 52.09% | 450 | 98.90% | 429 | 94.29% |
| LPA-Derived Normal Class | 194 | 79.18% | 133 | 54.29% | 242 | 98.78% | 224 | 91.43% |

*Abbreviations:* MMSE = Mini-Mental State Examination; CSF = Cerebrospinal Fluid; APOE = Apolipoprotein E; MCI = Mild Cognitive Impairment; LPA = Latent Profile Analysis

**Figure e-1:** Scree-Plot of Log-likelihood Values from each LPA solution.