**Supplemental Table 1.** Interquartile Range by Diagnostic Group

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| **Cognitive Tests** | **Interquartile Range**  **SCD (*n* = 163)** | **Interquartile Range**  **aMCI (*n* = 282)** |
| **Executive Function**  COWAT  TMT-B | 16.5  33.41 | 17  183.70 |
| **Language**  BNT  Similarities  VFT-V  VFT-A | 4.5  5  4.5  9 | 9  10.75  3.75  8 |
| **Memory**  AVLT-I  AVLT-D  BVMTR-I  BVMTR-D  Log-I  Log-D | 11  4  8.5  3  5  5.5 | 12  4  7.75  6  5  8.75 |
| ROCFT-R  **Visuospatial**  ROCFT-C  CDT | 9.25  5  1.5 | 8  7.88  3 |
| **Attention/Processing Speed**  TMT-A  Digits-B  Digits-F  Digit Symbol | 16.19  2  2  11.5 | 32.53  2  2.75  11 |

*Note*. AVLT-I/D = Rey Auditory Verbal Learning Test Immediate or Delayed Recall, BNT = Boston Naming Test, BVMTR-I/D = Brief Visuospatial Memory Test – Revised Immediate or Delayed Recall, CDT = Clock Drawing Test, COWAT = Controlled Oral Word Association Test, Digits-B/F = Digit Span Test – Backward or Forward (WAIS-III), Digit Symbol = Digit Symbol Coding Test (WAIS-R), Log-I/Log-D = Logical Immediate or Delayed Memory (Uniform Data Set), Similarities = Similarities (WAIS-III), ROCFT-C/ROCFT-R = Rey-Osterrieth Complex Figure Test Copy or Recall, TMT-A/TMT-B = Trail Making Test Part A and Part B, VFT-V/VFT-A = Verbal Fluency Test – Vegetables/Animals.

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| |  |  |  |  | | --- | --- | --- | --- | | **Subjective Cognitive Decline** | | | | | **Random Forest Classification (mtry = 5, ntree = 10,000)**  OOB Error: 20.86%  Classification Error: 39.39% Profile 1, 10.47% Profile 2, 27.27% Profile 3 | | | | |  | **Profile 1**  **Test (MDA)** | **Profile 2**  **Test (MDA)** | **Profile 3**  **Test (MDA)** | | **1** | TMT-B (68.70) | Digits-F (85.19) | Digits-F (156.85) | | **2** | BNT (62.96) | BNT (57.26) | Digits-B (58.71) | | **3** | BVMTR-D (46.88) | TMT-B (38.80) | VFT-V (30.62) | | **4** | BVMTR-I (36.01) | Digit Symbol (33.45) | Digit Symbol (30.38) | | **5** | VFT-V (34.45) | Digits-B (22.12) | Log-D (28.76) | | | | |
| **Amnestic Mild Cognitive Impairment** | | | |
| **Random Forest Classification (mtry = 5, ntree = 10,000)**  OOB Error: 7.80%  Classification Error: 9.17% Profile 1, 7.55% Profile 2, 5.97% Profile 3 | | | |
|  | **Profile 1**  **Test (MDA)** | **Profile 2**  **Test (MDA)** | **Profile 3**  **Test (MDA)** |
| **1** | Log-D (141.83) | TMT-B (168.95) | TMT-B (227.95) |
| **2** | TMT-B (137.32) | Log-D (88.85) | BVMTR-D (44.16) |
| **3** | BVMTR-D (79.36) | ROCFT-R (62.15) | TMT-A (43.61) |
| **4** | AVLT-D (72.27) | TMT-A (60.44) | ROCFT-C (41.99) |
| **5** | ROCFT-R (60.22) | ALVT-I (53.12) | BVMTR-I (32.35) |

**Supplemental Table 2.** Cognitive Test Selection with Random Forest Machine Learning

*Note*. AVLT-D = Rey Auditory Verbal Learning Test Delayed Recall, BNT = Boston Naming Test, BVMTR-I/D = Brief Visuospatial Memory Test – Revised Immediate or Delayed Recall, Digits-B/F = Digit Span Test – Backward or Forward (WAIS-III), Digit Symbol = Digit Symbol Coding Test (WAIS-R), Log-D = Logical Delayed Memory (Uniform Data Set), MDA = mean decrease in accuracy, mtry = number of variables used at each split of the tree, ntree = number of trees in the forest, OOB = out-of-bag, ROCFT-C/ROCFT-R = Rey-Osterrieth Complex Figure Test Copy or Recall, TMT-A/TMT-B = Trail Making Test Part A and Part B, VFT-V = Verbal Fluency Test – Vegetables.