ON-LINE APPENDIX

Neuropsychological Assessment

At baseline, all individuals underwent a detailed neuropsychological assessment. The control participants were evaluated with an extensive neuropsychological battery, including the MMSE,[1] the Hospital Anxiety and Depression Scale,[2] and the Lawton Instrumental Activities of Daily Living.[3] Their cognitive assessment included the following: 1) attention (Digit Symbol Code,[4] Trail-Making Test A[5]); 2) working memory (verbal: Digit Span Forward[4]; visuospatial: Visual Memory Span Forward[4]); 3) episodic memory (verbal: RI-48 Cued Recall Test[6]; visual: Shapes Test[7]); 4) executive functions: (Trail-Making Test B,[5] Wisconsin Card Sorting Test,[8] Phonemic Verbal Fluency Test[9]); 5) language (Boston Naming Test[10]); 6) visual gnosis (Ghent Overlapping Figures[11]); 7) praxis: ideomotor,[12] reflexive,[13] and constructional (Consortium to Establish a Registry for Alzheimer Disease, figure copy subtest[14]).

All of these tests are routinely used in clinical settings to assess the main cognitive functions, namely the following; 1) attention; 2) memory (working memory referring to the short-term ability to store and manipulate information; episodic memory for autobiographic data and daily actions; visual memory involved in encoding, storage, and recall of visual information); 3) executive functions focusing on reasoning, problem solving, and planning necessary for the cognitive control of behavior; 4) language; 5) visual gnosis, referring to the ability to recognize simple and complex visual objects; and 6) praxis (ideomotor: planning or completing motor actions that rely on semantic memory; reflexive: use of the body to imitate meaningless gestures; and constructional: drawing or constructing simple configurations). The education level was defined according to the Swiss Educational System: level 1: <9 years (primary school); level 2: between 9 and 12 years (high school); and level 3: >12 years (university). All individuals were also evaluated with the Clinical Dementia Rating scale,[15] and only subjects with a CDR score of 0 and scores within 1.5 SDs of the age-appropriate mean in all other tests were included in the control group.

For MCI participants, we used a shortened battery to confirm their status, including the MMSE,[1] the Hospital Anxiety and Depression Scale,[2] and the Lawton Instrumental Activities of Daily Living.[3] The cognitive assessment was shorter than that for controls; it included the following: attention (Trail-Making Test A[5]); working memory (verbal: Digit Span Forward[4]); episodic memory (verbal: RI-48 Cued Recall Test[6] or RL/RI-16 Free and Cued Recall Test[6]); executive functions (Trail-Making Test B[5] and Phonemic Verbal Fluency Test[9]); language (Boston Naming Test[10] and Consortium to Establish a Registry for Alzheimer Disease praxis figure copy subtest[14]). All individuals were also evaluated with the Clinical Dementia Rating scale.[15] In agreement with the Petersen criteria,[16] participants having a CDR score of 0.5 but no dementia and a score exceeding 1.5 SDs below the age-appropriate mean in any of the above tests were confirmed as to their MCI status.

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