

Supplementary material

Multimodal MRI data were obtained on a GE 3T Discovery MR750 scanner and included: (i) high-resolution 3D T1-weighted MRI using a magnetization-prepared rapid gradient-echo (MPRAGE) sequence (*T1w*, repetition time [TR] = 7696 ms, echo time [TE] = 3.06 ms, inversion time [TI] = 900 ms, flip angle = 8°, voxel size = $0.9 \times 0.9 \times 0.9$ mm³, acquisition matrix = 256×256 mm², 188 slices), (ii) 3D T2-fluid-attenuated inversion recovery (*T2-FLAIR*, TR = 6800 ms, TE = 120 ms, TI = 1770 ms, flip angle = 90°, acquisition matrix = 256×256 mm², voxel size = $0.9 \times 0.9 \times 0.9$ mm³, 188 slices), (iii) 3D quantitative T1 using two MPRAGE datasets acquired at different inversion times to provide intrinsic bias field cancellation and estimation of T1 (*qT1*, TR = 5124 ms, TE = 2.1 ms, TI = 700/2000 ms, flip angle = 7°, acquisition matrix = 256×256 mm², voxel size = $0.9 \times 0.9 \times 0.9$ mm³, 188 slices), and (iv) multi-shell 2D diffusion MRI using a spin echo-based echo planar imaging sequence (*dMRI*, TR = 4100 ms, TE = 82 ms, flip angle = 90°, acquisition matrix = 140×140 mm², voxel size = $1.8 \times 1.8 \times 1.8$ mm³, 1/1/1/3 b0s, b-values = 300/700/1000/2000 s/mm², diffusion directions = 10/40/90/6). For an overview of the hippocampal image processing and multicontrast analysis, see [6, 7, 9].

Supplementary table 1. Preoperative neuropsychological assessments. Scaled (mean=10, standard deviation=3) and standard (mean=100, standard deviation=15) scores were calculated using an age-based normative sample. WISC-V: Weschler Intelligence Scale for Children-Fifth Edition; D-KEFS: Delis-Kaplan Executive Function System; WRAML2: Wide Range Assessment of Memory and Learning Second Edition.

WISC-V Canadian		D-KEFS Verbal Fluency		WRAML2 Story Memory	
Subtest	Scaled score	Subtest	Scaled score	Subtest	Scaled score
Similarities	11	Letter fluency	13	WRAML2 story memory immediate	14
Vocabulary	9	Category fluency	12	WRAML2 story memory delay recall	13
Verbal comprehension index	98 (standard score)	Switching: Correct responses	14	WRAML2 story memory delay recognition	12
Digit span total	7	Switching: Accuracy	10	WRAML2 story memory B	13
Digit span forward	7	Total set-loss errors	4	WRAML2 story memory C	15
Digit span backward	8	D-KEFS color naming	12	WRAML2 picture memory immediate	10
Digit span sequencing	6	D-KEFS word reading	14	WRAML2 picture memory delayed recognition	9
Picture span	10	D-KEFS inhibition	14		
Working memory index	90 (standard score)	D-KEFS inhibition/switching	12		

Supplementary table 2. Postoperative neuropsychological assessments. Scaled (mean=10, standard deviation=3) and standard (mean=100, standard deviation=15) scores were calculated using an age-based normative sample. WAIS-IV: Weschler Adult Intelligence Scale-Fourth Edition; D-KEFS: Delis-Kaplan Executive Function System; CPT-III: Continuous Performance Test Third Edition.

WAIS-IV		D-KEFS		CPT-III	
Subtest	Scaled score	Subtest	Scaled score	Subtest	T-score
Verbal comprehension index	105 (standard score)	Visual scanning	12	Detectability (d')	45
Perceptual reasoning index	104 (standard score)	Number sequencing	12	Omissions	45
Working memory index	88 (standard score)	Letter sequencing	10	Comissions	49
Processing speed index	112 (standard score)	Letter sequencing: N-L switching	10	Perseverations	48
Full scale IQ	104 (standard score)	Letter sequencing: motor	11	Hit reaction time (HRT)	51
General ability index	104 (standard score)	Verbal fluency: letter	11	HRT standard deviation	42
General ability index: similarities	10	Verbal fluency: category	9	Variability	44
General ability index: vocabulary	9	Verbal fluency: switching	11	HRT block change	51
General ability index: information	6	Verbal fluency: switching accuracy	11	HRT inter-stimulus internal (ISI) change	47
General ability index: comprehension	14	Color-word inference: color naming	11		
General ability index: block design	11	Color-word inference: word reading	14		

General ability index: matrix reasoning	11	Color-word inference: inhibition	13	
General ability index: visual puzzles	10			
General ability index: digit span	5			
General ability index: arithmetic	11			
General ability index: letter-number sequencing	5			
General ability index: symbol search	11			
General ability index: coding	13			