Supplementary Material

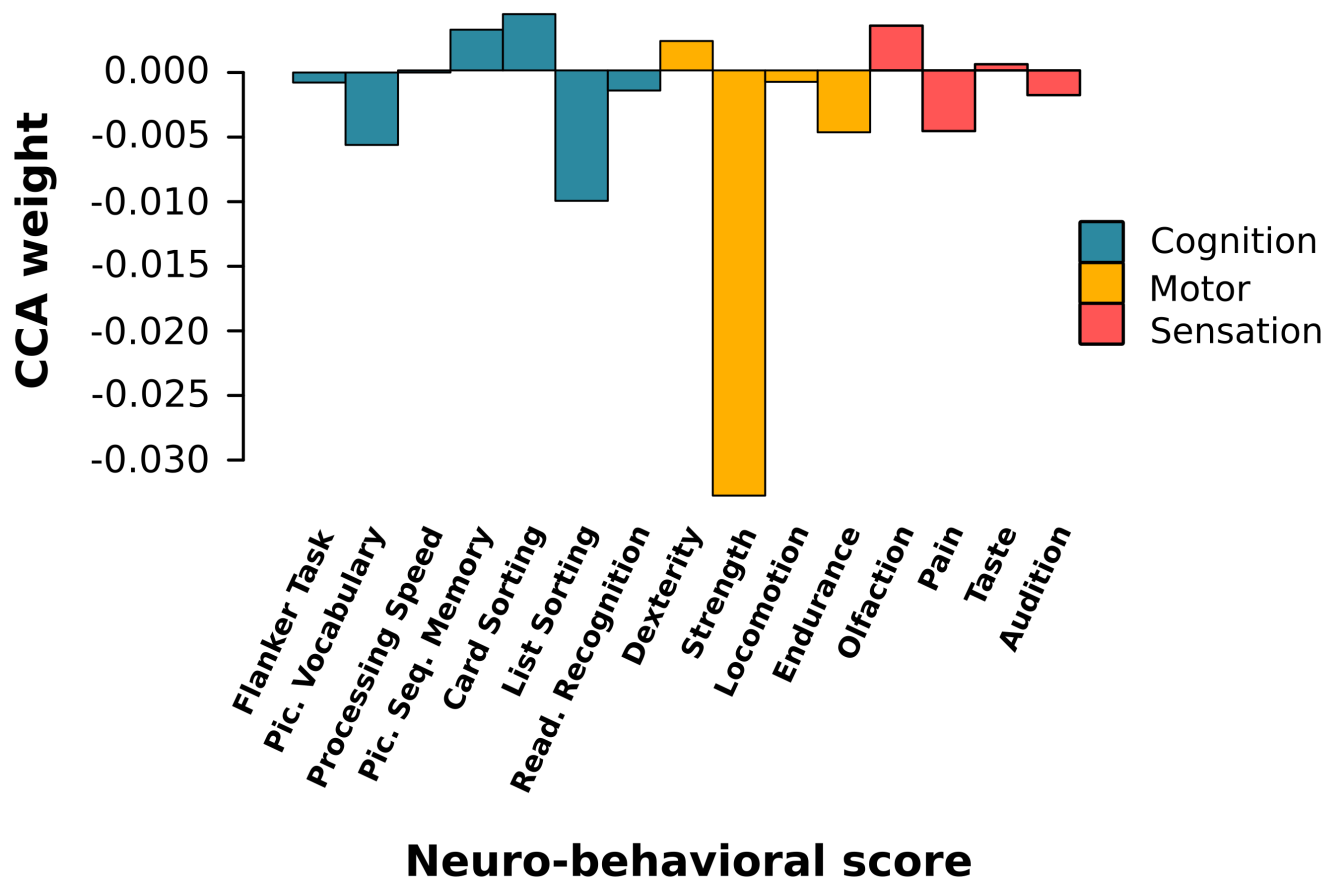## 1 SUPPLEMENTARY TABLES AND FIGURES

Figure S1: **CCA weights for all neuro-behavioral scores.** Because the weight for the Strength variable was much higher than others, this variable was skip for all the analysis in this work.
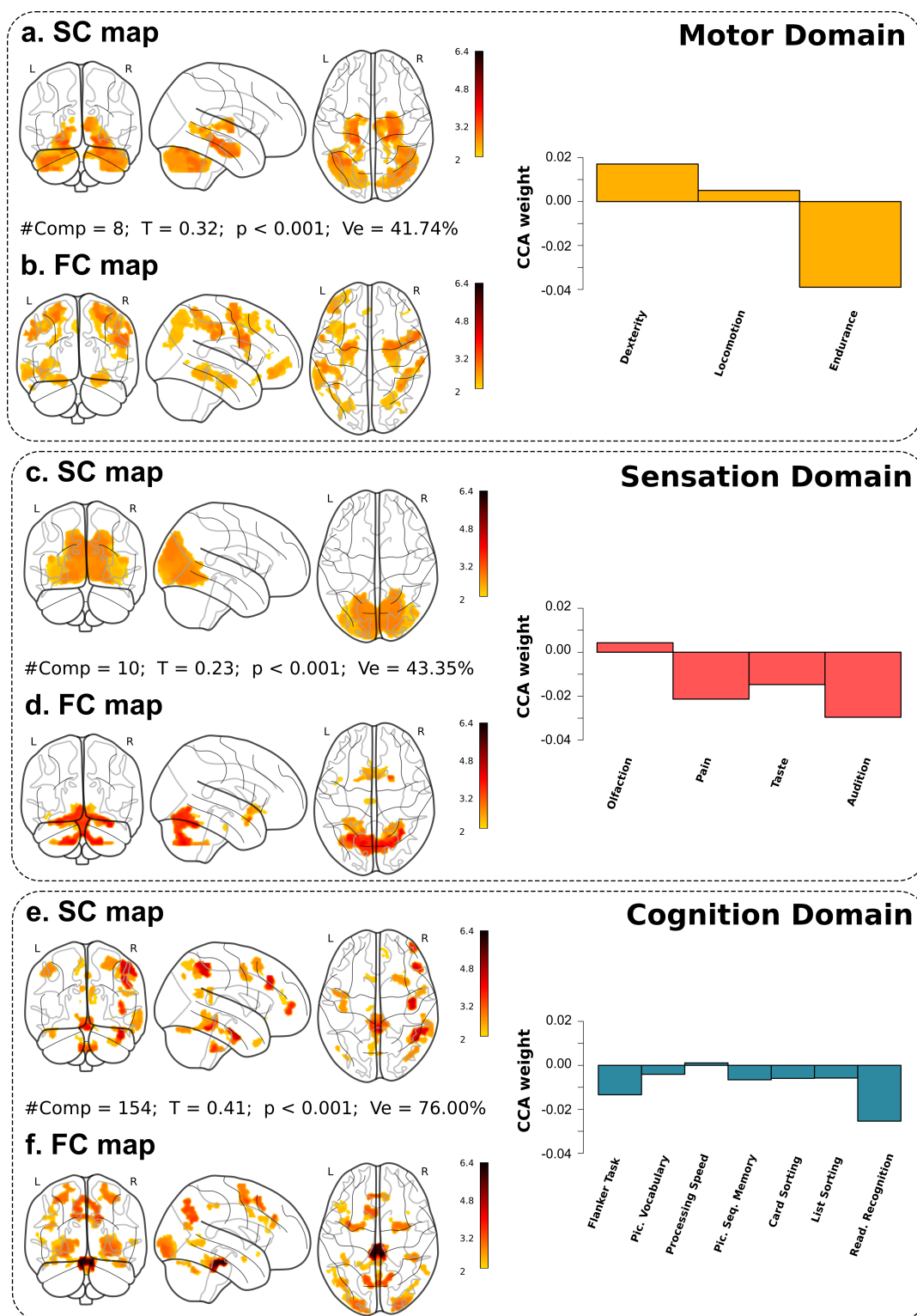
Figure S2: **Brain maps and CCA weights resulting from the association between connectivity and unidomain behavioural scores.**
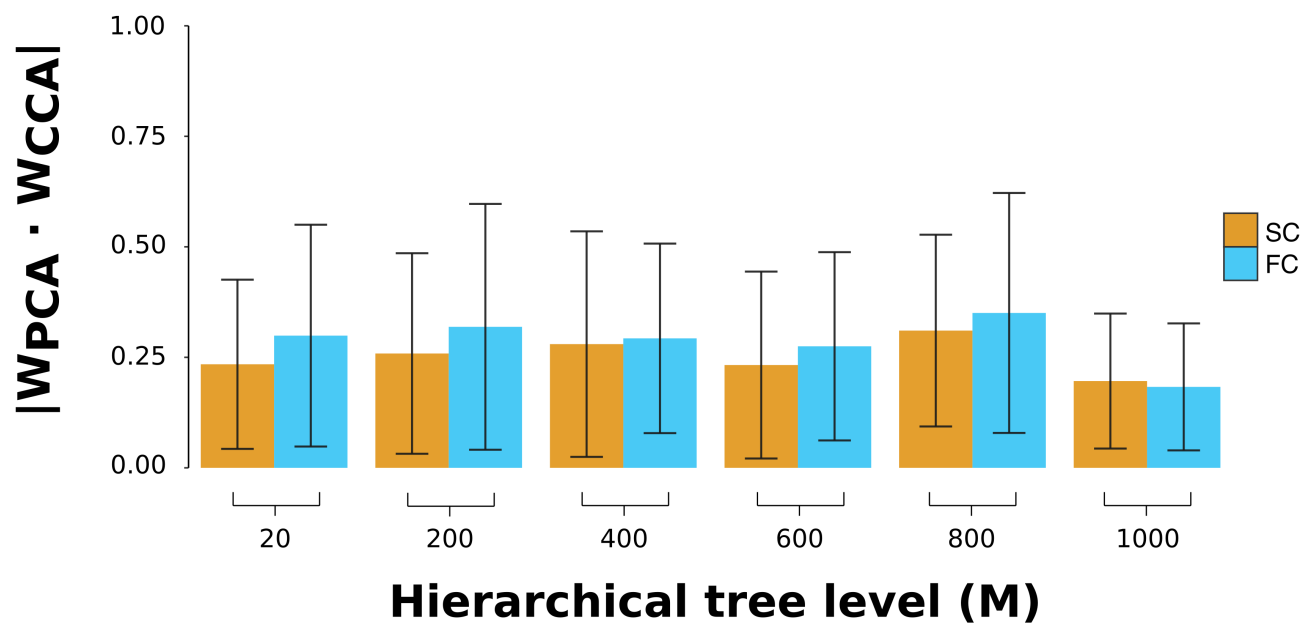
Figure S3: **Normalized total weights across multiple scales (represented by M).** Normalized total weights were built as the product between the weights of the PCA multiplied by the ones of the CCA. Histogram values across different scales, represented by the level M of the hierarchical tree. In blue we plot the histogram of functional weights and in yellow the one for structural weights.

	UNIDOMAIN						MULTIDOMAIN (C+M+S)	
	SC (%)			FC (%)			SC (%)	FC (%)
	Cognition (C)	Motor (M)	Sensation (S)	Cognition	Motor	Sensation		
Visual	0.99	1.06	15.91	4.25	1.33	11.15	1.00	2.89
Somatomotor	3.56	3.43	6.59	0.99	0.28	0.02	4.56	0.81
Dorsal Attention	5.08	2.69	0.86	1.63	6.54	3.30	2.87	3.58
Salience Ventral Attention	1.93	7.20	5.75	0.86	1.54	5.31	4.03	1.25
Limbic	6.16	3.34	1.29	2.54	0.33	0.67	3.65	3.30
Frontoparietal	3.02	7.84	0.38	1.87	3.37	3.27	4.49	6.88
DMN	2.28	2.29	0.06	0.98	3.87	0.47	2.90	4.62

Table S1: **Jaccard similarity index as a measure for overlapping percentage (%) between resting-state networks and resulting brain maps from unimodal analyses.** For easier reading, we colored in red the overlapping values commented in the text. DMN: Default Mode Network.

	UNIDOMAIN						MULTIDOMAIN (C+M+S)	
	SC (%)			FC (%)			SC (%)	FC (%)
	Cognition (C)	Motor (M)	Sensation (S)	Cognition	Motor	Sensation		
Visual	0.28	2.77	52.70	7.68	1.36	0.71	0.78	5.27
Somatomotor	1.38	0.12	0.08	1.11	0.95	1.78	3.71	0.29
DorsalAttention	3.38	0.54	0.41	4.89	14.25	2.85	3.99	10.23
Salience Ventral Attention	1.04	3.86	0.09	1.52	1.44	7.14	3.61	0.75
Limbic	3.43	1.31	0.23	1.11	1.39	3.22	3.26	2.49
Frontoparietal	6.20	10.42	0.02	3.81	4.45	1.43	4.29	1.94
DMN	1.73	8.04	0.03	1.19	5.15	1.01	4.96	2.84

Table S2: Jaccard similarity index as a measure for overlapping percentage (%) between resting-state networks and resulting brain maps from the **multimodal analysis**. For easier reading, we colored in red the overlapping values commented in the text. DMN: Default Mode Network.