

Supplementary Materials

Cross-paradigm connectivity: reliability, stability, and utility

Hengyi Cao, Sarah C. McEwen, Jennifer K. Forsyth, Dylan G. Gee, Carrie E. Bearden, Jean Addington, Bradley Goodyear, Kristin S. Cadenhead, Heline Mirzakhania, Barbara A. Cornblatt, Ricardo E. Carrión, Daniel H. Mathalon, Thomas H. McGlashan, Diana O. Perkins, Aysenil Belger, Heidi Thermenos, Ming T. Tsuang, Theo G.M. van Erp, Elaine F. Walker, Stephan Hamann, Alan Anticevic, Scott W. Woods, Tyrone D. Cannon

Table S1. D-coefficients for CPC matrices from different paradigm combinations defined by the AAL atlas (mean \pm std).

	Node Strength		Node Diversity	
	G-study	D-study	G-study	D-study
RS+WM	0.68 \pm 0.24	0.24 \pm 0.15	0.79 \pm 0.10	0.32 \pm 0.10
RS+ENC	0.68 \pm 0.26	0.25 \pm 0.15	0.74 \pm 0.15	0.29 \pm 0.11
RS+RET	0.71 \pm 0.23	0.26 \pm 0.14	0.78 \pm 0.13	0.33 \pm 0.11
RS+FM	0.72 \pm 0.24	0.26 \pm 0.14	0.74 \pm 0.14	0.29 \pm 0.10
WM+ENC	0.76 \pm 0.20	0.31 \pm 0.16	0.86 \pm 0.07	0.42 \pm 0.11
WM+RET	0.83 \pm 0.13	0.33 \pm 0.16	0.88 \pm 0.07	0.46 \pm 0.11
WM+FM	0.84 \pm 0.14	0.34 \pm 0.14	0.89 \pm 0.04	0.45 \pm 0.09
ENC+RET	0.75 \pm 0.22	0.32 \pm 0.18	0.85 \pm 0.13	0.43 \pm 0.13
ENC+FM	0.77 \pm 0.18	0.32 \pm 0.16	0.88 \pm 0.06	0.44 \pm 0.11
RET+FM	0.77 \pm 0.16	0.32 \pm 0.16	0.90 \pm 0.05	0.47 \pm 0.10
RS+WM+ENC	0.73 \pm 0.22	0.30 \pm 0.17	0.84 \pm 0.07	0.39 \pm 0.10
RS+WM+RET	0.77 \pm 0.18	0.31 \pm 0.16	0.86 \pm 0.07	0.43 \pm 0.10
RS+WM+FM	0.77 \pm 0.19	0.32 \pm 0.15	0.84 \pm 0.07	0.40 \pm 0.10
RS+ENC+RET	0.74 \pm 0.23	0.31 \pm 0.17	0.83 \pm 0.11	0.41 \pm 0.12
RS+ENC+FM	0.76 \pm 0.20	0.32 \pm 0.17	0.83 \pm 0.10	0.39 \pm 0.11
RS+RET+FM	0.78 \pm 0.18	0.33 \pm 0.15	0.85 \pm 0.08	0.42 \pm 0.10
WM+ENC+RET	0.80 \pm 0.16	0.36 \pm 0.17	0.88 \pm 0.09	0.47 \pm 0.13
WM+ENC+FM	0.81 \pm 0.15	0.36 \pm 0.16	0.89 \pm 0.05	0.47 \pm 0.11
WM+RET+FM	0.85 \pm 0.12	0.38 \pm 0.16	0.90 \pm 0.04	0.50 \pm 0.10
ENC+RET+FM	0.79 \pm 0.18	0.36 \pm 0.18	0.89 \pm 0.07	0.48 \pm 0.12
RS+WM+ENC+RET	0.78 \pm 0.17	0.35 \pm 0.17	0.87 \pm 0.07	0.46 \pm 0.11
RS+WM+ENC+FM	0.79 \pm 0.16	0.35 \pm 0.17	0.87 \pm 0.06	0.45 \pm 0.10
RS+WM+RET+FM	0.81 \pm 0.14	0.36 \pm 0.16	0.88 \pm 0.05	0.47 \pm 0.10
RS+ENC+RET+FM	0.79 \pm 0.17	0.36 \pm 0.17	0.88 \pm 0.08	0.47 \pm 0.12
WM+ENC+RET+FM	0.82 \pm 0.14	0.39 \pm 0.17	0.90 \pm 0.06	0.50 \pm 0.12
RS+WM+ENC+RET+FM	0.81 \pm 0.15	0.38 \pm 0.17	0.89 \pm 0.06	0.49 \pm 0.11

Table S2. D-coefficients for CPC matrices from different paradigm combinations defined by the Power atlas (mean \pm std).

	Node Strength		Node Diversity	
	G-study	D-study	G-study	D-study
RS+WM	0.77 \pm 0.21	0.29 \pm 0.16	0.74 \pm 0.20	0.28 \pm 0.14
RS+ENC	0.77 \pm 0.24	0.29 \pm 0.16	0.69 \pm 0.22	0.24 \pm 0.13
RS+RET	0.78 \pm 0.22	0.29 \pm 0.15	0.74 \pm 0.17	0.26 \pm 0.12
RS+FM	0.78 \pm 0.22	0.29 \pm 0.15	0.75 \pm 0.18	0.28 \pm 0.13
WM+ENC	0.84 \pm 0.17	0.37 \pm 0.17	0.84 \pm 0.13	0.39 \pm 0.14
WM+RET	0.85 \pm 0.14	0.39 \pm 0.17	0.85 \pm 0.12	0.40 \pm 0.14
WM+FM	0.84 \pm 0.16	0.37 \pm 0.17	0.84 \pm 0.12	0.41 \pm 0.15
ENC+RET	0.85 \pm 0.16	0.38 \pm 0.17	0.83 \pm 0.13	0.39 \pm 0.15
ENC+FM	0.84 \pm 0.16	0.36 \pm 0.16	0.84 \pm 0.12	0.40 \pm 0.15
RET+FM	0.83 \pm 0.16	0.36 \pm 0.17	0.87 \pm 0.10	0.44 \pm 0.15
RS+WM+ENC	0.81 \pm 0.20	0.35 \pm 0.17	0.77 \pm 0.18	0.33 \pm 0.15
RS+WM+RET	0.83 \pm 0.16	0.36 \pm 0.16	0.80 \pm 0.15	0.35 \pm 0.15
RS+WM+FM	0.82 \pm 0.18	0.36 \pm 0.17	0.80 \pm 0.16	0.35 \pm 0.16
RS+ENC+RET	0.83 \pm 0.19	0.36 \pm 0.17	0.78 \pm 0.17	0.33 \pm 0.14
RS+ENC+FM	0.83 \pm 0.19	0.36 \pm 0.17	0.78 \pm 0.18	0.33 \pm 0.15
RS+RET+FM	0.83 \pm 0.17	0.36 \pm 0.16	0.82 \pm 0.14	0.36 \pm 0.14
WM+ENC+RET	0.87 \pm 0.13	0.42 \pm 0.17	0.85 \pm 0.13	0.42 \pm 0.15
WM+ENC+FM	0.86 \pm 0.14	0.41 \pm 0.17	0.84 \pm 0.13	0.42 \pm 0.15
WM+RET+FM	0.87 \pm 0.13	0.42 \pm 0.17	0.86 \pm 0.11	0.45 \pm 0.15
ENC+RET+FM	0.86 \pm 0.15	0.41 \pm 0.17	0.85 \pm 0.13	0.44 \pm 0.15
RS+WM+ENC+RET	0.85 \pm 0.16	0.40 \pm 0.17	0.81 \pm 0.16	0.39 \pm 0.16
RS+WM+ENC+FM	0.85 \pm 0.17	0.40 \pm 0.17	0.81 \pm 0.17	0.39 \pm 0.16
RS+WM+RET+FM	0.86 \pm 0.14	0.40 \pm 0.17	0.84 \pm 0.13	0.41 \pm 0.16
RS+ENC+RET+FM	0.85 \pm 0.16	0.41 \pm 0.17	0.84 \pm 0.17	0.40 \pm 0.16
WM+ENC+RET+FM	0.88 \pm 0.13	0.44 \pm 0.17	0.86 \pm 0.13	0.45 \pm 0.16
RS+WM+ENC+RET+FM	0.87 \pm 0.14	0.43 \pm 0.17	0.84 \pm 0.15	0.42 \pm 0.16

Table S3. D-coefficients for each node in the AAL atlas based CPC matrix derived from all five paradigms in the D-study.

	Node strength	Node diversity
l_acc	0.286476368377306	0.510793847584462
l_amygdala	0.301136178366620	0.181839021074046
l_angular	0.529065987529634	0.402132660708859
l_calcarine	0.169056788089142	0.477679282011844
l_caudate	0.650063321237420	0.297382525535002
l_cuneus	0.347062665121014	0.534486654778571
l_fusiform	0.499723420162639	0.369187285955212
l_heschl	0.548733224183249	0.565699633350167
l_hippo	0.391159283213740	0.390006890548600
l_inf_occipital	0.139514955755705	0.476836018652896
l_inf_parietal	0.524682267287406	0.505265371561492
l_inf_temporal	0	0.361396265309445
l_insula	0.438654964023417	0.613350533347809
l_lingual	0.144639493952239	0.566514764833155
l_mcc	0.646701491735942	0.436762999781310
l_medial_sup_frontal	0.422533022658967	0.570745298311952
l_mid_frontal	0.301234381487744	0.445445799806989
l_mid_occipital	0.593154449678466	0.515442396712660
l_mid_temporal_pole	0.196562156541509	0.355731987444812
l_mid_temporal	0.398749416918210	0.599473523545285
l_olfactory	0.115663404317214	0.300403359826206
l_oper_inf_frontal	0.179478622159336	0.526019167181177
l_oper_rolandic	0.504306202060271	0.499345865572349
l_orb_inf_frontal	0.347810108390642	0.544459385470086
l_orb_med_frontal	0.382141943254166	0.629875702787436
l_orb_mid_frontal	0.276430307158132	0.302481848406522
l_orb_sup_frontal	0.0799066258276298	0.409457825020899
l_pallidum	0.597547010468447	0.530941543632219
l_paracentral_lobule	0.561245960137804	0.556434004861286
l parahippo	0.490294383289083	0.538661454442143
l_pcc	0.666787229468839	0.626190169994537
l_postcentral	0.161409577763472	0.555415754949663
l_precentral	0.338378735576353	0.656279281669370
l_precuneus	0.101728825914474	0.661274714092882
l_putamen	0.446841020288168	0.416561404554179
l_rectus	0.618130406093898	0.438451753526385
l_sma	0.364501722278317	0.636181515657205
l_sup_frontal	0.445069029585060	0.666975405682197
l_sup_occipital	0.355594041829880	0.498094534036263
l_sup_parietal	0.548067057079909	0.444524696941251

l_sup_temporal_pole	0.246202017716261	0.349434443290845
l_sup_temporal	0.278403354058631	0.613886539006475
l_supramarginal	0.133258640664215	0.564603718565129
l_thalamus	0.608516513467832	0.460870023536927
l_tri_inf_frontal	0.317903588262656	0.649898458907831
r_acc	0.411687422126973	0.464021338028979
r_amygdala	0.664107428450965	0.154827565465189
r_angular	0.454667084257042	0.310780979691316
r_calcarine	0.242193652828651	0.560204630690104
r_caudate	0.593210187482035	0.508114548849608
r_cuneus	0.324797637760285	0.525908112657401
r_fusiform	0.450328779487181	0.443024503879380
r_heschl	0.247654123536755	0.370570216526475
r_hippo	0.388977078507839	0.324726579711703
r_inf_occipital	0.251908212813902	0.541268054154241
r_inf_parietal	0.356987254239046	0.476347501867410
r_inf_temporal	0.354570192233555	0.440964336432583
r_insula	0.494514462284077	0.590471289284531
r_lingual	0.204067406466632	0.582023598361976
r_mcc	0.679400609199507	0.431753345303672
r_medial_sup_frontal	0.171449060605623	0.484593310030550
r_mid_frontal	0.671662740828749	0.513891417665068
r_mid_occipital	0.109301537590732	0.616050132205061
r_mid_temporal_pole	0.649023530186764	0.436879896222039
r_mid_temporal	0.425641116854812	0.632366291746270
r_olfactory	0.149665201630497	0.277386327764922
r_oper_inf_frontal	0.423184235710751	0.556300424914784
r_oper_rolandic	0.347471814448782	0.454828514481499
r_orb_inf_frontal	0.399321425306959	0.499052325519602
r_orb_med_frontal	0.302705846601031	0.596557759215362
r_orb_mid_frontal	0.504304799415716	0.440472601094429
r_orb_sup_frontal	0.461261901404079	0.418361913341272
r_pallidum	0.522804154637833	0.552826728769005
r_paracentral_lobule	0.153130857333567	0.619720231229593
r parahippo	0.469843722826652	0.291564963115391
r_pcc	0.458387364032463	0.588931678448830
r_postcentral	0.220631629802645	0.510695332198794
r_precentral	0.328720859709432	0.535678645370204
r_precuneus	0.102037567464713	0.598875733823863
r_putamen	0.390731290037206	0.467161138989406
r_rectus	0.575792276651511	0.377964561972319
r_sma	0.419882047756394	0.618588651748783
r_sup_frontal	0.228381868107160	0.611651721840639
r_sup_occipital	0.601492074520222	0.551683341994397

r_sup_parietal	0.483101508226708	0.396096005054807
r_sup_temporal_pole	0.472270838907778	0.481140600167363
r_sup_temporal	0.146217551816588	0.554386451847155
r_supramarginal	0.604556400015360	0.482434132709936
r_thalamus	0.504396444608201	0.277253581198080
r_tri_inf_frontal	0.332562584023800	0.580617346564234

Table S4. D-coefficients for each node in the Power atlas based CPC matrix derived from all five paradigms in the D-study.

	Node strength	Node diversity
Occipital_Inf_L	0.443890292541170	0.346311486540794
Occipital_Inf_R	0.341033482967888	0.242079234438430
Frontal_Sup_Orb_R	0.349162857258866	0.407575404347111
Temporal_Inf_L	0.511024966376451	0.338193610225350
Rectus_R	0.632456077557015	0.0891998354621058
ParaHippocampal_L	0.552250673031031	0.449038320222035
ParaHippocampal_R	0.572955113953564	0.0136239911542495
Fusiform_L	0.677590994539686	0.308930795654371
Temporal_Mid_R	0.339590533597450	0.386041693747330
Temporal_Inf_R	0.390124117818656	0.259496859759561
Temporal_Inf_R	0.388006226229597	0.279882912631713
Frontal_Inf_Orb_R	0.725902081530267	0.117786064835722
Precuneus_L	0.238385126819490	0.500554753740694
Cingulum_Mid_L	0.581993031873511	0.286029137527241
Supp_Motor_Area_L	0.338327607369691	0.589541328283645
Supp_Motor_Area_R	0.631800599835054	0.478750946226997
Paracentral_Lobule_L	0.472972220996886	0.635175819529311
Paracentral_Lobule_L	0.392393818736662	0.561962861495461
Postcentral_R	0.343018658207207	0.644715102093840
Parietal_Inf_L	0.377054498979257	0.358739744219550
Precentral_R	0.607057926468947	0.662120843099923
Precuneus_R	0.124493072724378	0.352428292220377
Postcentral_L	0.440694802783866	0.613366656434059
Precentral_L	0.153175632662771	0.478972710511820
Postcentral_R	0.339418952917992	0.596138582662126
Postcentral_R	0.342184931146638	0.346520224296685
Precentral_L	0.159028127450180	0.511579781560256
Postcentral_R	0.294889270626566	0.614099561543922
Precentral_R	0.275717220687301	0.587900923754957
Postcentral_L	0.579014613833259	0.491743228019128
Supp_Motor_Area_R	0.538090972971505	0.637457802430646
Postcentral_R	0.637198829611577	0.651170658267181
Postcentral_L	0.414395708304134	0.221969357479172
Postcentral_L	0.213693055593291	0.670059757580687
Paracentral_Lobule_L	0.264914800440109	0.452112956853043
Precentral_R	0.368751814319295	0.567341143665002
Precentral_L	0.681864237830483	0.570283861311429
Parietal_Sup_L	0.618860792341256	0.514444501010097
Paracentral_Lobule_R	0.754285416695727	0.614332691920477
Supp_Motor_Area_R	0.604715866228643	0.536466100827121

Precentral_R	0.621728802803213	0.501071456860724
Postcentral_L	0.0143808807210036	0.421601134530474
Insula_R	0.563133092533908	0.482694026827858
Postcentral_R	0.515725415482650	0.253093887423003
Postcentral_L	0.499627811188979	0.432805655100603
Postcentral_R	0.379521423336698	0.446480065536235
Supp_Motor_Area_L	0.523711993581561	0.474432864466963
SupraMarginal_R	0.561137871948666	0.179736146038631
Frontal_Sup_R	0.581642208712517	0.496695404535131
Frontal_Sup_L	0.610782281954769	0.349901479531090
Cingulum_Mid_L	0.496097810728646	0.462420640263951
Clastrum_R	0.380091415814607	0.358028664457128
Supp_Motor_Area_R	0.241388451413097	0.564742063165028
Supp_Motor_Area_R	0.434439307748801	0.546591214967479
Rolandic_Oper_L	0.560010689227688	0.341629442311417
Rolandic_Oper_R	0.416321666425385	0.531789216836868
Clastrum_L	0.520191192509655	0.517704360233109
Temporal_Pole_Sup_L	0.441462055093483	0.413116210827574
Cingulum_Mid_L	0.595295290773542	0.242209185738389
Clastrum_R	0.413554635223916	0.525071224367216
Insula_R	0.638429948081180	0.540946454777772
Temporal_Sup_R	0.381777642891733	0.274705628834964
Temporal_Sup_R	0.509231087682329	0.389826637445032
Rolandic_Oper_L	0.792494710059561	0.573568178204472
SupraMarginal_L	0.510945521039134	0.378075848297268
Temporal_Sup_L	0.650795474736933	0.490260765968584
Rolandic_Oper_R	0.345230770279887	0.469700704436414
SupraMarginal_L	0.531689495543505	0.448110129526324
SupraMarginal_L	0.567505357834423	0.484773881428434
Rolandic_Oper_L	0.517270526324705	0.524233867659984
Rolandic_Oper_R	0.364963022434553	0.373640870648854
Postcentral_R	0.206269277681964	0.251464289178546
Insula_L	0.525572726538198	0.489415800636563
Occipital_Mid_L	0.750026965253172	0.595732908206804
Frontal_Med_Orb_R	0.390137786714203	0.137164923338555
Frontal_Med_Orb_R	0.195055620716867	0.388449941140009
Precuneus_L	0.729326519137449	0.555183546995041
Frontal_Sup_Orb_L	0.297713197791448	0.0460998062637601
Temporal_Mid_L	0.726924962323568	0.490035437539816
Occipital_Mid_R	0.612577496884846	0.491044088860970
Temporal_Pole_Mid_L	0.231183389195789	0.475509508363871
Temporal_Pole_Mid_R	0.532344243441113	0.476845018456263
Temporal_Mid_L	0.464886384595735	0.514423012213447
Temporal_Mid_L	0.322296774576176	0.424769424201236

Insula_R	0.432643101155645	0.249373727425612
Angular_L	0.413001676571355	0.445652130114895
Angular_L	0.478765807544623	0.671988013979146
Precuneus_L	0.528071860554897	0.697014865394699
Precuneus_R	0.548992413303263	0.686236051056168
Precuneus_L	0.457840515556571	0.772064613930379
Precuneus_L	0.802779340929233	0.717026745938432
Cingulum_Mid_R	0.289790064983633	0.619449910698798
Precuneus_R	0.491672405363772	0.694340578242487
Cingulum_Mid_L	0.507671639475939	0.549289943510324
Precuneus_R	0.679283265905358	0.726569166279678
Angular_R	0.514860728610939	0.434663360111191
Frontal_Sup_R	0.331115863813012	0.636214460427077
Frontal_Sup_Medial_L	0.443125873899315	0.571320257176613
Frontal_Sup_L	0.176646153247606	0.583183261753814
Frontal_Mid_L	0.549690884461315	0.360092811171761
Frontal_Sup_R	0.331832217902184	0.713371001680960
Frontal_Sup_R	0.194231086159413	0.415668894132328
Frontal_Sup_L	0.461602078957896	0.621715705502106
Frontal_Sup_L	0.300240629767416	0.630360263475736
Frontal_Sup_Medial_R	0.228315326677891	0.649778735491015
Frontal_Sup_Medial_R	0.383092387843129	0.381953640979288
Cingulum_Ant_L	0.383001870166913	0.276604963531193
Frontal_Sup_Medial_R	0.251303980955685	0.300173931126922
Frontal_Med_Orb_L	0.372378594243543	0.435440564879193
Frontal_Med_Orb_R	0.279732087850111	0.477526142118773
Cingulum_Ant_L	0.102270961625806	0.267058873947306
Frontal_Sup_Medial_L	0.127861456860815	0.230594488056016
Cingulum_Ant_L	0.562098951164331	0.553303028538178
Frontal_Sup_L	0.432387843563036	0.432278230557515
Frontal_Sup_Medial_L	0.605729616390181	0.505826733582192
Temporal_Mid_R	0.460538012369938	0.284852214658139
Temporal_Mid_L	0.501438223081870	0.603356344143520
Temporal_Mid_L	0.711781489786700	0.611763308757949
Temporal_Mid_R	0.615629703308026	0.481861965829301
Temporal_Mid_L	0.323875016076531	0.637978988321199
Frontal_Sup_Medial_R	0.535937851296751	0.282868675079491
Cingulum_Ant_R	0.104389093745082	0.527832838629611
Temporal_Mid_R	0.335797247926549	0.632198486726206
ParaHippocampal_L	0.708847275200855	0.246431766682783
ParaHippocampal_R	0.407309205442004	0.428811029053593
Fusiform_L	0.673550318205419	0.352800178503540
Cerebelum_R	0.595895643990519	0.319350081960387
Temporal_Pole_Mid_R	0.511746089926232	0.591867921802351

Temporal_Mid_L	0.389683040649793	0.354528654818970
Angular_R	0.456519309874497	0.628277727096632
Temporal_Mid_L	0.334698517620339	0.514986345259680
Insula_L	0.501260930301224	0.550140778539759
Cingulum_Post_L	0.417489170356314	0.601361930068120
Precuneus_L	0.316418545778622	0.437449973501819
Precuneus_R	0.450973153823853	0.642493582425391
Precuneus_R	0.566181215057635	0.466436868535403
Frontal_Inf_Orb_L	0.304121864084848	0.611994574821898
Supp_Motor_Area_L	0.689118518410332	0.409158471661657
Frontal_Inf_Orb_R	0.100290384048170	0.442359249613021
Lingual_R	0.363313255699739	0.458816318283240
Lingual_R	0.447788055392264	0.287835902374357
Lingual_L	0.183983503561204	0.168864159213657
Lingual_R	0.296542512793610	0.471351661159565
Occipital_Mid_R	0.366345722564540	0.126451061440538
Calcarine_R	0.303697937852244	0.442811031111889
Calcarine_L	0.270581914853841	0.514597052607935
Occipital_Mid_L	0.384099355264064	0.518385005528770
Lingual_R	0.140697887214268	0.402970327737472
Occipital_Mid_L	0.518206433199015	0.500260176684934
Fusiform_R	0.465546707488152	0.518977402000583
Lingual_L	0.309153533862896	0.535366654508477
Calcarine_L	0.422612166294849	0.384748412367488
Occipital_Inf_R	0.217134700712964	0.371862742814016
Occipital_Inf_L	0.387111450593172	0.254170270915283
Occipital_Sup_L	0.415657568432023	0.261812884353193
Cuneus_R	0.00102998745454412	0.242712109019952
Occipital_Mid_R	0.283595804864982	0.324128399564771
Lingual_R	0.415037342489705	0.495010985161288
Cuneus_R	0.313878186215604	0.530823269556718
Lingual_L	0.748692467124098	0.520375928824358
Temporal_Inf_R	0.452344848534262	0.279966652727932
Occipital_Sup_R	0.443110345950838	0.237519735634864
Cuneus_R	0.342198909833932	0.533764127040551
Occipital_Mid_L	0.652392581206180	0.129307714129206
Fusiform_R	0.473999181920550	0.607279916452150
Cuneus_L	0.291782055662464	0.433658050795401
Cuneus_L	0.228722954175415	0.558269766472106
Occipital_Mid_L	0.120452030520661	0.451372776502440
Occipital_Mid_R	0.131103729213033	0.362277842840142
Calcarine_R	0.428337162349568	0.508402325723404
Occipital_Mid_L	0.546784532712452	0.589118780772642
Occipital_Inf_L	0.510555017322754	0.492113375214516

Occipital_Mid_R	0.170578290748689	0.408183404589452
Precentral_L	0.703147083142663	0.401985790987362
Frontal_Inf_Tri_R	0	0.332847372951576
Frontal_Inf_Tri_L	0.434725745635618	0.506478693712718
Parietal_Inf_L	0.327296728412009	0.540453307693133
Frontal_Sup_L	0.638404268535569	0.164954658533045
Temporal_Inf_R	0.676275204084148	0.255020949198776
Frontal_Sup_Orb_R	0.482461196188984	0.366333994848660
Frontal_Mid_Orb_R	0.312395340700231	0.175721957117673
Frontal_Mid_Orb_L	0.302763553406094	0.113554256878751
Cerebelum_L	0.774603528913439	0.553349609756440
Cerebelum_R	0.511616749789324	0.210528125992908
Cerebelum_R	0.546495656150420	0.516112028162269
Precentral_R	0.591259142809571	0.383561685958284
Precentral_L	0.601120819442629	0.409830217000582
Frontal_Mid_L	0.598687098734135	0.635838617284077
Frontal_Mid_R	0.606244903889761	0.561946277388176
Parietal_Inf_R	0.475372508913167	0.701980866363263
Parietal_Inf_L	0.734675802333097	0.437981715844967
Parietal_Inf_R	0.189011976079831	0.524476178312347
Frontal_Mid_R	0.583813172732184	0.344073438824010
Angular_R	0.387575219796150	0.459552319850394
Parietal_Inf_L	0.195464409796167	0.392090853773307
Frontal_Mid_R	0.518313918889913	0.513083175539335
Frontal_Mid_L	0.128577502424081	0.242203645813011
Frontal_Mid_Orb_L	0.520086815613828	0.301141785909097
Parietal_Inf_R	0.629593626106794	0.587151722835161
Frontal_Mid_Orb_R	0.520421758338705	0.476959769805168
Frontal_Inf_Tri_L	0.491863346609722	0.183722295592062
Frontal_Sup_Medial_L	0.573220777653199	0.504012984964879
Cingulum_Mid_R	0.538365951555195	0.569042493349880
SupraMarginal_R	0.652268381710118	0.638884981981974
Precentral_R	0.438965912115100	0.271322611881247
Frontal_Mid_R	0.337010436458306	0.225821938264688
Frontal_Inf_Tri_R	0.577024696703377	0.217044363844201
Insula_L	0.421033108267282	0.273564787039952
Insula_R	0.493152826263124	0.563241563424852
Frontal_Inf_Orb_R	0.657530211997154	0.606446598687577
Insula_R	0.104730934860106	0.635372026887056
Cingulum_Ant_L	0.222391661141352	0.403075369411831
Supp_Motor_Area_L	0.648155818023851	0.269564294788561
Frontal_Mid_L	0.311309141344088	0.404193458328668
Cingulum_Ant_L	0.475940355792157	0.575929210316873
Cingulum_Mid_R	0.673901494431439	0.481615691333225

Cingulum_Ant_R	0.398444395098853	0.602086769996757
Frontal_Mid_R	0.124798232095820	0.516696750974478
Frontal_Mid_R	0.401781412356235	0.532343579827787
Frontal_Mid_L	0.409028618397680	0.207826263134511
Cingulum_Mid_R	0.391429974207028	0.492635957591174
Thalamus_R	0.382538274734315	0.289037143799375
Thalamus_L	0.742396743968415	0.333948503874039
Thalamus_L	0.516743858492646	0.279487721215106
Thalamus_R	0.431784056856761	0.177566169172172
Thalamus_L	0.0608039274966419	0.304726546256706
Putamen_L	0.363377835566075	0.0423269091395998
Putamen_L	0.636697032169677	0.0694818365990106
Putamen_R	0.161609450121110	0.142055786574595
Putamen_R	0.512420271866265	0.0624703975743446
Putamen_R	0.461091667008816	0.166829107833727
Putamen_L	0.0477793626188246	0.229102421607263
Putamen_R	0.512602798377496	0.281058973588297
Thalamus_R	0.628341637959269	0.342220293897413
Temporal_Sup_R	0.593056482201300	0.334354592079477
Temporal_Mid_L	0.416267649942247	0.378137366289296
Temporal_Sup_L	0.227553090236180	0.375902210169140
Temporal_Sup_R	0.421548143816183	0.448678339694461
Temporal_Mid_R	0.611137121448203	0.691534458578729
Temporal_Sup_R	0.227740287122191	0.590452824899959
Frontal_Inf_Tri_R	0.452356503007922	0.284530207798963
Frontal_Inf_Tri_L	0.401414846360450	0.605723958381534
Cerebelum_L	0.671716303134059	0.530703057833439
Cerebelum_L	0.595290833783130	0.576735826878681
Cerebelum_R	0.550199918019096	0.408322516479519
Cerebelum_R	0.453863876802094	0.335822365238921
Fusiform_R	0.172424521586596	0.312109377809449
Fusiform_L	0.203141965345213	0.307871886908085
Temporal_Inf_R	0.224758503279494	0.519263707606289
Temporal_Inf_L	0	0.378171993534030
Precuneus_R	0.103443419943229	0.321641149691140
Temporal_Mid_L	0.610774426104462	0.383458359549442
Temporal_Inf_L	0.414635160762952	0.182631625155334
Temporal_Inf_R	0.472451708007345	0.160400599268173
Postcentral_R	0.119530297485575	0.419993502607006
Occipital_Sup_R	0.627533660532378	0.132939607962087
Temporal_Mid_R	0.670710627880956	0.322040365050240
Parietal_Sup_R	0.525899564723203	0.374887997332458
Parietal_Inf_L	0.550465168762078	0.158943609147001
Occipital_Mid_L	0.591458614220111	0.173502749306237

Precentral_L	0.403063453892697	0.514600829596086
Temporal_Inf_L	0.611128339091292	0.0127886942427605
Precuneus_L	0.461492563423860	0.450232985521036
Frontal_Mid_R	0.568848069426265	0.406011799844525
Hippocampus_L	0.332908943034231	0.445700439600620
Hippocampus_R	0.261558828328795	0
Amygdala_L	0.432585902956859	0.0610265094436285
Amygdala_R	0.431553332185646	0.215361274853714
Accumbens_L	0.115005598088775	0.264547618717366
Accumbens_R	0.375064067401288	0.358668701059329

Table S5. Stability (mean cross-matrical similarity) for CPC matrices from different paradigm combinations (mean \pm std).

	AAL atlas	Power atlas
RS	0.78 \pm 0.05	0.72 \pm 0.05
WM	0.84 \pm 0.03	0.77 \pm 0.03
ENC	0.85 \pm 0.04	0.78 \pm 0.03
RET	0.84 \pm 0.04	0.76 \pm 0.05
FM	0.83 \pm 0.04	0.76 \pm 0.04
RS+WM	0.88 \pm 0.03	0.83 \pm 0.03
RS+ENC	0.89 \pm 0.03	0.84 \pm 0.03
RS+RET	0.89 \pm 0.03	0.84 \pm 0.03
RS+FM	0.89 \pm 0.03	0.84 \pm 0.03
WM+ENC	0.90 \pm 0.02	0.85 \pm 0.02
WM+RET	0.90 \pm 0.02	0.85 \pm 0.02
WM+FM	0.90 \pm 0.02	0.85 \pm 0.02
ENC+RET	0.89 \pm 0.03	0.84 \pm 0.03
ENC+FM	0.90 \pm 0.02	0.85 \pm 0.02
RET+FM	0.89 \pm 0.03	0.84 \pm 0.03
RS+WM+ENC	0.92 \pm 0.02	0.89 \pm 0.02
RS+WM+RET	0.93 \pm 0.02	0.89 \pm 0.02
RS+WM+FM	0.92 \pm 0.02	0.89 \pm 0.02
RS+ENC+RET	0.92 \pm 0.02	0.89 \pm 0.02
RS+ENC+FM	0.93 \pm 0.02	0.89 \pm 0.02
RS+RET+FM	0.93 \pm 0.02	0.89 \pm 0.02
WM+ENC+RET	0.92 \pm 0.02	0.88 \pm 0.02
WM+ENC+FM	0.92 \pm 0.02	0.88 \pm 0.02
WM+RET+FM	0.92 \pm 0.02	0.88 \pm 0.02
ENC+RET+FM	0.92 \pm 0.02	0.88 \pm 0.02
RS+WM+ENC+RET	0.94 \pm 0.01	0.91 \pm 0.01
RS+WM+ENC+FM	0.94 \pm 0.01	0.91 \pm 0.01
RS+WM+RET+FM	0.94 \pm 0.01	0.91 \pm 0.01
RS+ENC+RET+FM	0.94 \pm 0.01	0.91 \pm 0.01
WM+ENC+RET+FM	0.93 \pm 0.02	0.90 \pm 0.02
RS+WM+ENC+RET+FM	0.95 \pm 0.01	0.93 \pm 0.01

Table S6. Accuracy of connectome fingerprinting for CPC matrices from different paradigm combinations (mean \pm std).

	AAL atlas	Power atlas
RS	0.55 \pm 0.11	0.82 \pm 0.08
WM	0.65 \pm 0.17	0.88 \pm 0.09
ENC	0.63 \pm 0.18	0.86 \pm 0.08
RET	0.66 \pm 0.10	0.87 \pm 0.07
FM	0.62 \pm 0.15	0.84 \pm 0.10
RS+WM	0.68 \pm 0.18	0.88 \pm 0.07
RS+ENC	0.65 \pm 0.14	0.88 \pm 0.06
RS+RET	0.70 \pm 0.13	0.88 \pm 0.07
RS+FM	0.70 \pm 0.12	0.89 \pm 0.06
WM+ENC	0.73 \pm 0.16	0.90 \pm 0.08
WM+RET	0.74 \pm 0.12	0.90 \pm 0.06
WM+FM	0.76 \pm 0.12	0.90 \pm 0.08
ENC+RET	0.72 \pm 0.11	0.89 \pm 0.06
ENC+FM	0.73 \pm 0.14	0.88 \pm 0.09
RET+FM	0.75 \pm 0.09	0.89 \pm 0.08
RS+WM+ENC	0.75 \pm 0.16	0.89 \pm 0.07
RS+WM+RET	0.75 \pm 0.14	0.90 \pm 0.06
RS+WM+FM	0.77 \pm 0.13	0.90 \pm 0.06
RS+ENC+RET	0.75 \pm 0.12	0.90 \pm 0.06
RS+ENC+FM	0.75 \pm 0.12	0.90 \pm 0.06
RS+RET+FM	0.77 \pm 0.11	0.90 \pm 0.06
WM+ENC+RET	0.75 \pm 0.13	0.90 \pm 0.07
WM+ENC+FM	0.79 \pm 0.13	0.90 \pm 0.07
WM+RET+FM	0.81 \pm 0.10	0.90 \pm 0.07
ENC+RET+FM	0.75 \pm 0.12	0.89 \pm 0.07
RS+WM+ENC+RET	0.79 \pm 0.12	0.90 \pm 0.07
RS+WM+ENC+FM	0.79 \pm 0.13	0.90 \pm 0.06
RS+WM+RET+FM	0.80 \pm 0.11	0.91 \pm 0.06
RS+ENC+RET+FM	0.79 \pm 0.10	0.91 \pm 0.06
WM+ENC+RET+FM	0.79 \pm 0.12	0.90 \pm 0.07
RS+WM+ENC+RET+FM	0.81 \pm 0.11	0.91 \pm 0.06

Figure S1. Factor loadings for each paradigm in the study (A: AAL atlas; B: Power atlas). While loadings for all paradigms were within a small range, significant differences were shown between paradigms. In general, resting state had the highest loading while episodic memory retrieval had the lowest loading, among all paradigms.

