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Supplementary Material

Test-retest reliability of the human functional connectome over consecutive days: identifying highly reliable portions and assessing the impact of methodological choices

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Supplementary Tables

Table S1

	Absolute							Relative						
Threshold	Median ratio	Min ratio	Max ratio	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio	Median ratio	Min ratio	Max ratio	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio
0.050	0.731	0.052	1.000	0.112	0.204	0.214	0.471	0.091	0.000	1.000	0.891	0.069	0.021	0.018
0.100	0.607	0.000	1.000	0.242	0.248	0.188	0.322	0.115	0.000	1.000	0.853	0.084	0.033	0.030
0.150	0.496	0.000	1.000	0.370	0.257	0.163	0.210	0.135	0.000	1.000	0.811	0.104	0.041	0.043
0.200	0.402	0.000	1.000	0.497	0.240	0.133	0.130	0.161	0.000	1.000	0.769	0.118	0.054	0.059
0.250	0.325	0.000	1.000	0.607	0.212	0.099	0.081	0.200	0.000	1.000	0.719	0.133	0.070	0.078
0.300	0.270	0.000	1.000	0.702	0.177	0.068	0.054	0.246	0.000	1.000	0.665	0.150	0.082	0.103
0.350	0.225	0.000	1.000	0.775	0.143	0.048	0.034	0.296	0.000	1.000	0.607	0.167	0.095	0.131
0.400	0.192	0.000	1.000	0.834	0.110	0.035	0.021	0.350	0.000	1.000	0.552	0.177	0.108	0.163
0.450	0.164	0.000	1.000	0.882	0.082	0.022	0.014	0.405	0.000	1.000	0.495	0.185	0.123	0.197
0.500	0.139	0.000	1.000	0.914	0.063	0.014	0.009	0.461	0.000	1.000	0.438	0.192	0.135	0.235
0.550	0.108	0.000	1.000	0.936	0.048	0.009	0.007	0.519	0.000	1.000	0.383	0.198	0.142	0.277
0.600	0.063	0.000	1.000	0.950	0.036	0.006	0.008	0.574	0.008	1.000	0.326	0.200	0.150	0.324
0.650	0.000	0.000	1.000	0.960	0.027	0.005	0.008	0.629	0.024	1.000	0.271	0.198	0.160	0.372
0.700	0.000	0.000	1.000	0.963	0.027	0.003	0.007	0.684	0.029	1.000	0.212	0.193	0.171	0.424
0.750	0.000	0.000	1.000	0.969	0.021	0.004	0.006	0.739	0.079	1.000	0.149	0.186	0.178	0.486
0.800	0.000	0.000	1.000	0.974	0.017	0.002	0.007	0.793	0.096	1.000	0.085	0.174	0.182	0.560
0.850	0.000	0.000	1.000	0.971	0.017	0.002	0.010	0.846	0.169	1.000	0.024	0.143	0.175	0.657
0.900	0.000	0.000	1.000	0.973	0.019	0.000	0.008	0.899	0.233	1.000	0.002	0.063	0.152	0.783
0.950	0.000	0.000	0.250	1.000	0.000	0.000	0.000	0.953	0.305	1.000	0.000	0.007	0.047	0.946

Effects of thresholding on edge retention in the Brainnetome atlas. For each absolute and relative threshold we show the proportion of edges that are consistently retained. As a measure of consistency, we use the number of participants in which the edge was retained at both timepoints divided by the ones in which it was retained at least once. For convenience, we then use the values defined in (1) to compute the ratio of edges having poor (ratio<0.40), fair (ratio=0.40-0.60), good (ratio=0.60-0.75) or excellent (ratio >0.75) consistency. For absolute thresholds, all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained.

Table S2

	Absolute							Relative						
Threshold	Median ratio	Min ratio	Max ratio	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio	Median ratio	Min ratio	Max ratio	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio
0.050	0.576	0.037	1.000	0.224	0.310	0.190	0.277	0.071	0.000	1.000	0.899	0.060	0.020	0.021
0.100	0.393	0.000	1.000	0.511	0.243	0.113	0.132	0.086	0.000	1.000	0.873	0.070	0.028	0.030
0.150	0.282	0.000	1.000	0.697	0.168	0.068	0.067	0.106	0.000	1.000	0.841	0.079	0.038	0.042
0.200	0.226	0.000	1.000	0.809	0.116	0.041	0.035	0.134	0.000	1.000	0.801	0.093	0.048	0.058
0.250	0.191	0.000	1.000	0.873	0.083	0.024	0.020	0.171	0.000	1.000	0.756	0.111	0.056	0.077
0.300	0.160	0.000	1.000	0.912	0.061	0.015	0.012	0.215	0.000	1.000	0.709	0.129	0.066	0.097
0.350	0.124	0.000	1.000	0.936	0.044	0.010	0.010	0.260	0.000	1.000	0.657	0.148	0.078	0.117
0.400	0.069	0.000	1.000	0.950	0.035	0.006	0.009	0.308	0.000	1.000	0.605	0.165	0.092	0.139
0.450	0.000	0.000	1.000	0.957	0.031	0.004	0.008	0.358	0.000	1.000	0.548	0.184	0.104	0.165
0.500	0.000	0.000	1.000	0.962	0.026	0.004	0.008	0.410	0.000	1.000	0.487	0.203	0.117	0.194
0.550	0.000	0.000	1.000	0.965	0.025	0.003	0.007	0.464	0.000	1.000	0.423	0.220	0.130	0.227
0.600	0.000	0.000	1.000	0.960	0.026	0.003	0.012	0.519	0.000	1.000	0.353	0.236	0.147	0.264
0.650	0.000	0.000	1.000	0.963	0.022	0.003	0.011	0.576	0.020	1.000	0.280	0.248	0.164	0.308
0.700	0.000	0.000	1.000	0.967	0.022	0.003	0.008	0.635	0.028	1.000	0.205	0.251	0.184	0.360
0.750	0.000	0.000	1.000	0.971	0.018	0.004	0.007	0.696	0.064	1.000	0.131	0.239	0.203	0.426
0.800	0.000	0.000	1.000	0.980	0.012	0.002	0.006	0.758	0.075	1.000	0.064	0.209	0.215	0.512
0.850	0.000	0.000	0.501	0.991	0.009	0.000	0.000	0.822	0.132	1.000	0.016	0.149	0.207	0.628
0.900	0.000	0.000	0.338	1.000	0.000	0.000	0.000	0.887	0.213	1.000	0.003	0.056	0.165	0.776
0.950	0.000	0.000	0.500	0.667	0.333	0.000	0.000	0.950	0.333	1.000	0.000	0.007	0.046	0.947

Effects of thresholding on edge retention in the Glasser atlas. For each absolute and relative threshold we show the proportion of edges that are consistently retained. As a measure of consistency, we use the number of participants in which the edge was retained at both timepoints divided by the ones in which it was retained at least once. For convenience, we then use the values defined in (1) to compute the ratio of edges having poor (ratio<0.40), fair (ratio=0.40-0.60), good (ratio=0.60-0.75) or excellent (ratio >0.75) consistency. For absolute thresholds, all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained.

Table S3

	Absolute							Relative						
Threshold	Median ratio	Min ratio	Max ratio	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio	Median ratio	Min ratio	Max ratio	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio
0.05	0.473	0.023	1.000	0.385	0.280	0.154	0.182	0.065	0.000	1.000	0.918	0.050	0.015	0.017
0.10	0.307	0.000	1.000	0.646	0.198	0.083	0.074	0.075	0.000	1.000	0.895	0.060	0.023	0.022
0.15	0.223	0.000	1.000	0.792	0.133	0.041	0.034	0.100	0.000	1.000	0.858	0.079	0.031	0.032
0.20	0.183	0.000	1.000	0.876	0.084	0.023	0.018	0.132	0.000	1.000	0.812	0.101	0.042	0.045
0.25	0.151	0.000	1.000	0.921	0.055	0.012	0.011	0.168	0.000	1.000	0.765	0.121	0.054	0.059
0.30	0.118	0.000	1.000	0.944	0.039	0.009	0.008	0.209	0.000	1.000	0.716	0.140	0.068	0.076
0.35	0.070	0.000	1.000	0.955	0.032	0.006	0.008	0.253	0.000	1.000	0.668	0.156	0.081	0.095
0.40	0.000	0.000	1.000	0.960	0.028	0.004	0.008	0.299	0.000	1.000	0.618	0.171	0.096	0.116
0.45	0.000	0.000	1.000	0.962	0.025	0.004	0.009	0.346	0.000	1.000	0.564	0.187	0.109	0.140
0.50	0.000	0.000	1.000	0.961	0.024	0.003	0.011	0.395	0.009	1.000	0.505	0.205	0.123	0.167
0.55	0.000	0.000	1.000	0.962	0.023	0.004	0.011	0.446	0.037	1.000	0.442	0.223	0.135	0.200
0.60	0.000	0.000	1.000	0.961	0.024	0.002	0.012	0.498	0.047	1.000	0.372	0.243	0.150	0.235
0.65	0.000	0.000	1.000	0.959	0.028	0.002	0.011	0.553	0.085	1.000	0.295	0.262	0.165	0.278
0.70	0.000	0.000	1.000	0.960	0.019	0.003	0.018	0.610	0.108	1.000	0.205	0.281	0.186	0.328
0.75	0.000	0.000	1.000	0.980	0.013	0.004	0.004	0.670	0.141	1.000	0.116	0.283	0.211	0.390
0.80	0.000	0.000	1.000	0.954	0.029	0.004	0.013	0.731	0.179	1.000	0.042	0.246	0.240	0.472
0.85	0.000	0.000	1.000	0.968	0.021	0.000	0.011	0.797	0.240	1.000	0.004	0.150	0.256	0.590
0.90	0.000	0.000	0.356	1.000	0.000	0.000	0.000	0.866	0.324	1.000	0.000	0.036	0.190	0.773
0.95	1.000	1.000	1.000	0.000	0.000	0.000	1.000	0.937	0.440	1.000	0.000	0.002	0.035	0.963

Effects of thresholding on edge retention in the Gordon atlas. For each absolute and relative threshold we show the proportion of edges that are consistently retained. As a measure of consistency, we use the number of participants in which the edge was retained at both timepoints divided by the ones in which it was retained at least once. For convenience, we then use the values defined in (1) to compute the ratio of edges having poor (ratio<0.40), fair (ratio=0.40-0.60), good (ratio=0.60-0.75) or excellent (ratio >0.75) consistency. For absolute thresholds, all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained.

Table S4

	Absolute							Relative						
Threshold	Median ICC	Min ICC	Max ICC	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio	Median ICC	Min ICC	Max ICC	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio
0.050	0.391	-0.320	0.808	0.531	0.429	0.040	0.000	0.525	-1.000	1.000	0.247	0.447	0.182	0.124
0.100	0.367	-0.956	0.997	0.609	0.359	0.031	0.001	0.525	-1.000	1.000	0.219	0.495	0.176	0.111
0.150	0.346	-1.000	0.999	0.669	0.299	0.027	0.005	0.523	-1.000	1.000	0.199	0.540	0.167	0.094
0.200	0.328	-1.000	1.000	0.712	0.256	0.023	0.009	0.520	-1.000	1.000	0.178	0.587	0.160	0.076
0.250	0.311	-1.000	1.000	0.747	0.219	0.022	0.012	0.514	-1.000	1.000	0.169	0.626	0.143	0.063
0.300	0.293	-1.000	1.000	0.767	0.195	0.023	0.015	0.508	-1.000	1.000	0.163	0.655	0.127	0.055
0.350	0.275	-1.000	1.000	0.774	0.178	0.027	0.020	0.503	-1.000	1.000	0.158	0.681	0.117	0.044
0.400	0.260	-1.000	1.000	0.768	0.170	0.034	0.028	0.497	-1.000	1.000	0.162	0.699	0.103	0.036
0.450	0.247	-1.000	1.000	0.764	0.155	0.039	0.043	0.490	-1.000	1.000	0.168	0.714	0.090	0.027
0.500	0.236	-1.000	1.000	0.752	0.150	0.045	0.052	0.484	-1.000	1.000	0.172	0.729	0.080	0.019
0.550	0.235	-1.000	1.000	0.743	0.145	0.048	0.064	0.478	-1.000	0.997	0.176	0.744	0.070	0.010
0.600	0.228	-1.000	1.000	0.738	0.142	0.047	0.074	0.471	-0.931	0.999	0.184	0.751	0.060	0.004
0.650	0.224	-1.000	1.000	0.734	0.137	0.050	0.080	0.465	-0.433	0.970	0.197	0.750	0.051	0.002
0.700	0.222	-1.000	1.000	0.730	0.142	0.047	0.080	0.459	-0.269	0.827	0.214	0.737	0.049	0.001
0.750	0.214	-1.000	1.000	0.720	0.139	0.053	0.088	0.454	-0.155	0.807	0.240	0.712	0.048	0.001
0.800	0.229	-0.996	1.000	0.731	0.131	0.047	0.090	0.450	-0.101	0.808	0.270	0.679	0.051	0.001
0.850	0.239	-1.000	0.994	0.661	0.115	0.067	0.158	0.447	-0.048	0.808	0.297	0.648	0.054	0.001
0.900	0.188	-0.999	0.848	0.743	0.171	0.029	0.057	0.447	-0.046	0.810	0.314	0.626	0.060	0.001
0.950	0.579	0.378	0.780	0.500	0.000	0.000	0.500	0.452	-0.036	0.808	0.311	0.622	0.065	0.001

Effects of thresholding on ICC in the Brainnetome atlas. for each absolute and relative threshold we show the proportion of edges having poor (ICC<0.40), fair (ICC=0.40-0.60), good (ICC=0.60-0.75) or excellent (ICC>0.75) reliability. In this calculation, only subjects for which the edge was retained in both sessions were considered. For absolute thresholds (left) all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. Abbreviations: ICC=intraclass correlation coefficient.

Table S5

	Absolute							Relative						
Threshold	Median ICC	Min ICC	Max ICC	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio	Median ICC	Min ICC	Max ICC	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio
0.050	0.390	-0.568	0.823	0.536	0.417	0.046	0.001	0.588	-1.000	1.000	0.174	0.364	0.305	0.158
0.100	0.369	-1.000	1.000	0.601	0.355	0.039	0.005	0.573	-1.000	1.000	0.167	0.422	0.272	0.140
0.150	0.342	-1.000	1.000	0.656	0.293	0.038	0.013	0.561	-1.000	1.000	0.157	0.469	0.250	0.123
0.200	0.312	-1.000	1.000	0.683	0.247	0.043	0.026	0.554	-1.000	1.000	0.148	0.506	0.234	0.112
0.250	0.287	-1.000	1.000	0.692	0.219	0.048	0.041	0.547	-1.000	1.000	0.140	0.545	0.219	0.097
0.300	0.265	-1.000	1.000	0.695	0.198	0.052	0.055	0.540	-1.000	1.000	0.131	0.581	0.205	0.082
0.350	0.253	-1.000	1.000	0.692	0.190	0.052	0.066	0.533	-1.000	1.000	0.123	0.622	0.191	0.064
0.400	0.251	-1.000	1.000	0.684	0.185	0.058	0.073	0.526	-1.000	1.000	0.120	0.657	0.176	0.047
0.450	0.252	-1.000	1.000	0.674	0.181	0.059	0.085	0.518	-0.999	1.000	0.115	0.701	0.157	0.028
0.500	0.244	-1.000	1.000	0.674	0.174	0.061	0.090	0.511	-0.999	1.000	0.112	0.739	0.135	0.014
0.550	0.255	-1.000	1.000	0.658	0.166	0.067	0.109	0.503	-0.992	0.998	0.113	0.768	0.112	0.007
0.600	0.263	-1.000	1.000	0.656	0.179	0.067	0.097	0.496	-0.921	0.998	0.117	0.787	0.092	0.004
0.650	0.267	-0.999	1.000	0.666	0.162	0.056	0.115	0.488	-0.362	0.932	0.126	0.795	0.077	0.002
0.700	0.271	-1.000	0.994	0.680	0.168	0.063	0.090	0.480	-0.190	0.869	0.141	0.790	0.068	0.001
0.750	0.252	-0.996	0.992	0.686	0.168	0.044	0.102	0.472	-0.095	0.896	0.162	0.772	0.065	0.001
0.800	0.229	-0.782	0.977	0.765	0.118	0.020	0.098	0.465	-0.028	0.836	0.190	0.745	0.064	0.001
0.850	0.434	-0.970	0.868	0.421	0.368	0.105	0.105	0.458	-0.067	0.823	0.226	0.707	0.066	0.001
0.900	0.416	-0.295	0.764	0.500	0.250	0.000	0.250	0.453	-0.051	0.823	0.264	0.667	0.068	0.001
0.950	-	-	-	-	-	-	-	0.452	-0.034	0.824	0.295	0.632	0.071	0.001

Effects of thresholding on ICC in the Glasser atlas. for each absolute and relative threshold we show the proportion of edges having poor (ICC<0.40), fair (ICC=0.40-0.60), good (ICC=0.60-0.75) or excellent (ICC>0.75) reliability. In this calculation, only subjects for which the edge was retained in both sessions were considered. For absolute thresholds (left) all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. A dash indicates that ICC could not be computed for that threshold (not enough remaining consistent edges). Abbreviations: ICC=intraclass correlation coefficient.

Table S6

	Absolute							Relative						
Threshold	Median ICC	Min ICC	Max ICC	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio	Median ICC	Min ICC	Max ICC	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio
0.050	0.356	-0.794	0.888	0.643	0.327	0.030	0.000	0.571	-1.000	1.000	0.200	0.383	0.264	0.153
0.100	0.335	-1.000	1.000	0.678	0.282	0.031	0.009	0.553	-1.000	1.000	0.190	0.450	0.235	0.125
0.150	0.307	-1.000	1.000	0.707	0.237	0.035	0.021	0.541	-1.000	1.000	0.182	0.498	0.207	0.113
0.200	0.283	-1.000	1.000	0.714	0.208	0.041	0.036	0.531	-1.000	1.000	0.177	0.535	0.191	0.097
0.250	0.260	-1.000	1.000	0.712	0.192	0.047	0.049	0.522	-1.000	1.000	0.176	0.563	0.175	0.086
0.300	0.245	-1.000	1.000	0.703	0.179	0.054	0.063	0.511	-1.000	1.000	0.186	0.586	0.160	0.069
0.350	0.230	-1.000	1.000	0.697	0.171	0.058	0.074	0.501	-1.000	1.000	0.193	0.620	0.142	0.045
0.400	0.236	-1.000	1.000	0.685	0.169	0.062	0.085	0.491	-1.000	1.000	0.198	0.656	0.121	0.025
0.450	0.230	-1.000	1.000	0.681	0.160	0.063	0.096	0.481	-0.993	1.000	0.205	0.688	0.096	0.011
0.500	0.258	-1.000	1.000	0.667	0.159	0.069	0.104	0.472	-0.859	0.992	0.219	0.702	0.075	0.004
0.550	0.270	-1.000	1.000	0.644	0.178	0.064	0.114	0.463	-0.482	0.962	0.239	0.703	0.057	0.001
0.600	0.281	-1.000	1.000	0.661	0.156	0.073	0.109	0.453	-0.404	0.863	0.269	0.683	0.048	0.000
0.650	0.246	-0.992	0.996	0.690	0.144	0.065	0.101	0.443	-0.279	0.790	0.304	0.651	0.044	0.000
0.700	0.221	-0.997	0.999	0.663	0.134	0.081	0.122	0.434	-0.205	0.791	0.347	0.610	0.043	0.000
0.750	0.162	-1.000	0.960	0.701	0.130	0.065	0.104	0.425	-0.173	0.795	0.390	0.565	0.044	0.000
0.800	0.169	-0.987	0.960	0.640	0.160	0.080	0.120	0.417	-0.119	0.798	0.432	0.522	0.045	0.001
0.850	0.249	0.123	0.475	0.750	0.250	0.000	0.000	0.410	-0.122	0.801	0.463	0.489	0.047	0.001
0.900	0.062	-0.295	0.420	0.500	0.500	0.000	0.000	0.405	-0.067	0.804	0.482	0.468	0.049	0.001
0.950	-	-	-	-	-	-	-	0.404	-0.062	0.806	0.487	0.461	0.051	0.001

Effects of thresholding on ICC in the Gordon atlas. for each absolute and relative threshold we show the proportion of edges having poor (ICC<0.40), fair (ICC=0.40-0.60), good (ICC=0.60-0.75) or excellent (ICC>0.75) reliability. In this calculation, only subjects for which the edge was retained in both sessions were considered. For absolute thresholds (left) all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. A dash indicates that ICC could not be computed for that threshold (not enough remaining consistent edges). Abbreviations: ICC=intraclass correlation coefficient.

Table S7

		Median ICC	Min ICC	Max ICC	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio
BNT	GSR-	0.474	-0.445	0.838	0.330	0.502	0.163	0.005
	GSR+	0.382	-0.447	0.896	0.534	0.313	0.125	0.029
Glasser	GSR-	0.457	-0.297	0.870	0.355	0.511	0.131	0.003
	GSR+	0.344	-0.297	0.900	0.610	0.297	0.085	0.009
Gordon	GSR-	0.412	-0.350	0.825	0.473	0.430	0.094	0.002
	GSR+	0.305	-0.345	0.881	0.674	0.245	0.073	0.008

Reliability of edges in the functional connectome in unrelated participants. We show the median, minimum and maximum ICC of functional connectomes computed using three different atlases, with or without global signal regression. We also show the proportion of edges having poor (ICC<0.40), fair (ICC=0.40-0.60), good (ICC=0.60-0.75) or excellent (ICC>0.75) reliability, defined in accordance to (1). Abbreviations: ICC=intraclass correlation coefficient, GSR-=no global signal regression, GSR+=global signal regression.

Table S8

	ICC		Lower CI		Upper CI	
	GSR-	GSR+	GSR-	GSR+	GSR-	GSR+
DMN	0.670	0.590	0.612	0.542	0.721	0.666
PAO	0.742	0.678	0.694	0.658	0.783	0.756
FP	0.663	0.587	0.604	0.517	0.714	0.647
SAL	0.646	0.495	0.584	0.432	0.699	0.578
COP	0.686	0.666	0.631	0.653	0.735	0.752
MEP	0.737	0.696	0.689	0.665	0.779	0.761
DAN	0.645	0.562	0.584	0.521	0.699	0.650
VAN	0.664	0.645	0.605	0.612	0.716	0.721
VIS	0.664	0.592	0.605	0.601	0.715	0.712
SMH	0.674	0.605	0.617	0.564	0.725	0.683
SMM	0.653	0.564	0.593	0.484	0.706	0.620
AUD	0.718	0.666	0.667	0.596	0.762	0.709

Reliability of known resting state networks in unrelated participants. We show the ICC and confidence intervals for the average connectivity within known resting state networks defined in accordance to (2). Abbreviations: ICC=intraclass correlation coefficient, GSR-=no global signal regression, GSR+=global signal regression, CI=confidence interval, DMN=default mode network, PAO=parieto-occipital, FP=fronto-parietal, SAL=salience, COP=cingulo-opercular, MEP=medial parietal, DAN=dorsal attention network, VAN=ventral attention network, VIS=visual, SMH=supplementary motor (hand), SMM=supplementary motor (mouth), AUD=auditory.

Table S9

	Absolute							Relative						
Threshold	Median ratio	Min ratio	Max ratio	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio	Median ratio	Min ratio	Max ratio	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio
0.050	0.735	0.028	1.000	0.110	0.199	0.213	0.477	0.111	0.000	1.000	0.863	0.088	0.025	0.023
0.100	0.615	0.000	1.000	0.237	0.243	0.191	0.329	0.143	0.000	1.000	0.829	0.099	0.037	0.034
0.150	0.502	0.000	1.000	0.360	0.259	0.165	0.216	0.160	0.000	1.000	0.790	0.116	0.046	0.048
0.200	0.410	0.000	1.000	0.485	0.242	0.136	0.137	0.182	0.000	1.000	0.754	0.125	0.058	0.063
0.250	0.338	0.000	1.000	0.592	0.218	0.104	0.087	0.214	0.000	1.000	0.709	0.138	0.072	0.082
0.300	0.289	0.000	1.000	0.681	0.187	0.074	0.058	0.255	0.000	1.000	0.657	0.154	0.083	0.106
0.350	0.250	0.000	1.000	0.754	0.156	0.052	0.037	0.303	0.000	1.000	0.601	0.168	0.097	0.134
0.400	0.217	0.000	1.000	0.810	0.127	0.039	0.024	0.356	0.000	1.000	0.545	0.179	0.110	0.166
0.450	0.190	0.000	1.000	0.859	0.099	0.027	0.016	0.411	0.000	1.000	0.488	0.189	0.123	0.201
0.500	0.167	0.000	1.000	0.895	0.077	0.017	0.012	0.466	0.000	1.000	0.431	0.195	0.135	0.239
0.550	0.125	0.000	1.000	0.916	0.063	0.010	0.011	0.523	0.000	1.000	0.376	0.199	0.144	0.281
0.600	0.056	0.000	1.000	0.934	0.049	0.008	0.010	0.579	0.000	1.000	0.324	0.197	0.152	0.327
0.650	0.000	0.000	1.000	0.945	0.039	0.007	0.010	0.634	0.000	1.000	0.267	0.197	0.160	0.375
0.700	0.000	0.000	1.000	0.943	0.041	0.005	0.012	0.688	0.010	1.000	0.209	0.192	0.169	0.429
0.750	0.000	0.000	1.000	0.948	0.036	0.005	0.011	0.741	0.065	1.000	0.148	0.185	0.177	0.490
0.800	0.000	0.000	1.000	0.953	0.036	0.002	0.009	0.795	0.080	1.000	0.085	0.171	0.180	0.564
0.850	0.000	0.000	1.000	0.939	0.033	0.003	0.025	0.847	0.135	1.000	0.024	0.140	0.173	0.662
0.900	0.000	0.000	1.000	0.923	0.051	0.006	0.019	0.900	0.225	1.000	0.002	0.062	0.149	0.786
0.950	0.000	0.000	0.444	0.889	0.111	0.000	0.000	0.954	0.325	1.000	0.000	0.007	0.048	0.946

Effects of thresholding on edge retention in the Brainnetome atlas in unrelated participants. For each absolute and relative threshold we show the proportion of edges that are consistently retained. As a measure of consistency, we use the number of participants in which the edge was retained at both timepoints divided by the ones in which it was retained at least once. For convenience, we then use the values defined in (1) to compute the ratio of edges having poor (ratio<0.40), fair (ratio=0.40-0.60), good (ratio=0.60-0.75) or excellent (ratio >0.75) consistency. For absolute thresholds, all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained.

Table S10

	Absolute							Relative						
Threshold	Median ratio	Min ratio	Max ratio	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio	Median ratio	Min ratio	Max ratio	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio
0.050	0.577	0.020	1.000	0.222	0.311	0.191	0.276	0.091	0.000	1.000	0.875	0.076	0.023	0.026
0.100	0.397	0.000	1.000	0.504	0.249	0.115	0.132	0.100	0.000	1.000	0.856	0.079	0.031	0.034
0.150	0.292	0.000	1.000	0.689	0.175	0.069	0.067	0.120	0.000	1.000	0.830	0.086	0.040	0.044
0.200	0.240	0.000	1.000	0.796	0.125	0.043	0.035	0.145	0.000	1.000	0.796	0.096	0.049	0.059
0.250	0.203	0.000	1.000	0.856	0.097	0.026	0.022	0.180	0.000	1.000	0.752	0.114	0.057	0.077
0.300	0.167	0.000	1.000	0.891	0.077	0.016	0.016	0.220	0.000	1.000	0.705	0.132	0.065	0.098
0.350	0.129	0.000	1.000	0.911	0.063	0.012	0.014	0.264	0.000	1.000	0.654	0.149	0.079	0.117
0.400	0.077	0.000	1.000	0.923	0.055	0.009	0.013	0.311	0.000	1.000	0.601	0.167	0.092	0.139
0.450	0.000	0.000	1.000	0.929	0.050	0.007	0.014	0.361	0.000	1.000	0.545	0.184	0.105	0.165
0.500	0.000	0.000	1.000	0.930	0.048	0.006	0.015	0.412	0.000	1.000	0.485	0.204	0.117	0.195
0.550	0.000	0.000	1.000	0.931	0.046	0.006	0.017	0.466	0.000	1.000	0.421	0.220	0.131	0.228
0.600	0.000	0.000	1.000	0.926	0.047	0.006	0.020	0.521	0.000	1.000	0.352	0.236	0.147	0.265
0.650	0.000	0.000	1.000	0.930	0.046	0.006	0.018	0.577	0.020	1.000	0.278	0.249	0.165	0.308
0.700	0.000	0.000	1.000	0.928	0.049	0.006	0.017	0.636	0.017	1.000	0.203	0.252	0.184	0.361
0.750	0.000	0.000	1.000	0.902	0.066	0.005	0.027	0.696	0.080	1.000	0.130	0.239	0.204	0.427
0.800	0.000	0.000	1.000	0.891	0.057	0.006	0.046	0.758	0.080	1.000	0.062	0.209	0.215	0.514
0.850	0.094	0.000	0.500	0.907	0.093	0.000	0.000	0.823	0.164	1.000	0.015	0.149	0.207	0.629
0.900	0.000	0.000	0.347	1.000	0.000	0.000	0.000	0.887	0.218	1.000	0.002	0.055	0.166	0.777
0.950	0.500	0.500	0.500	0.000	1.000	0.000	0.000	0.950	0.324	1.000	0.000	0.007	0.046	0.947

Effects of thresholding on edge retention in the Glasser atlas in unrelated participants. For each absolute and relative threshold we show the proportion of edges that are consistently retained. As a measure of consistency, we use the number of participants in which the edge was retained at both timepoints divided by the ones in which it was retained at least once. For convenience, we then use the values defined in (1) to compute the ratio of edges having poor (ratio<0.40), fair (ratio=0.40-0.60), good (ratio=0.60-0.75) or excellent (ratio >0.75) consistency. For absolute thresholds, all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained.

Table S11

	Absolute							Relative						
Threshold	Median ratio	Min ratio	Max ratio	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio	Median ratio	Min ratio	Max ratio	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio
0.050	0.474	0.000	1.000	0.382	0.281	0.156	0.181	0.077	0.000	1.000	0.899	0.062	0.018	0.021
0.100	0.312	0.000	1.000	0.640	0.202	0.085	0.073	0.089	0.000	1.000	0.882	0.069	0.025	0.025
0.150	0.237	0.000	1.000	0.780	0.142	0.043	0.034	0.109	0.000	1.000	0.851	0.084	0.032	0.033
0.200	0.200	0.000	1.000	0.860	0.097	0.024	0.019	0.140	0.000	1.000	0.808	0.104	0.043	0.045
0.250	0.167	0.000	1.000	0.902	0.070	0.014	0.014	0.174	0.000	1.000	0.761	0.124	0.055	0.060
0.300	0.125	0.000	1.000	0.925	0.054	0.010	0.012	0.212	0.000	1.000	0.715	0.140	0.068	0.077
0.350	0.059	0.000	1.000	0.932	0.047	0.008	0.013	0.256	0.000	1.000	0.666	0.157	0.082	0.096
0.400	0.000	0.000	1.000	0.933	0.046	0.007	0.014	0.301	0.000	1.000	0.615	0.172	0.096	0.116
0.450	0.000	0.000	1.000	0.933	0.044	0.007	0.015	0.348	0.000	1.000	0.561	0.189	0.109	0.141
0.500	0.000	0.000	1.000	0.929	0.045	0.005	0.021	0.397	0.000	1.000	0.504	0.205	0.123	0.168
0.550	0.000	0.000	1.000	0.928	0.042	0.006	0.023	0.448	0.000	1.000	0.439	0.226	0.135	0.200
0.600	0.000	0.000	1.000	0.932	0.042	0.005	0.021	0.500	0.014	1.000	0.370	0.243	0.152	0.236
0.650	0.000	0.000	1.000	0.924	0.048	0.006	0.022	0.554	0.071	1.000	0.292	0.262	0.167	0.279
0.700	0.000	0.000	1.000	0.933	0.036	0.000	0.031	0.612	0.102	1.000	0.204	0.281	0.187	0.329
0.750	0.000	0.000	1.000	0.945	0.026	0.011	0.018	0.671	0.131	1.000	0.115	0.283	0.211	0.391
0.800	0.000	0.000	1.000	0.876	0.079	0.011	0.034	0.733	0.190	1.000	0.041	0.245	0.240	0.474
0.850	0.000	0.000	1.000	0.846	0.115	0.000	0.038	0.797	0.238	1.000	0.004	0.149	0.255	0.592
0.900	0.050	0.000	0.339	1.000	0.000	0.000	0.000	0.866	0.341	1.000	0.000	0.037	0.189	0.774
0.950	1.000	1.000	1.000	0.000	0.000	0.000	1.000	0.937	0.447	1.000	0.000	0.002	0.036	0.962

Effects of thresholding on edge retention in the Gordon atlas in unrelated participants. For each absolute and relative threshold we show the proportion of edges that are consistently retained. As a measure of consistency, we use the number of participants in which the edge was retained at both timepoints divided by the ones in which it was retained at least once. For convenience, we then use the values defined in (1) to compute the ratio of edges having poor (ratio<0.40), fair (ratio=0.40-0.60), good (ratio=0.60-0.75) or excellent (ratio >0.75) consistency. For absolute thresholds, all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. A dash indicates that consistency could not be computed for that threshold (not enough remaining consistent edges).

Table S12

	Absolute							Relative						
Threshold	Median ICC	Min ICC	Max ICC	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio	Median ICC	Min ICC	Max ICC	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio
0.050	0.415	-0.638	0.813	0.455	0.481	0.063	0.001	0.547	-1.000	1.000	0.246	0.385	0.216	0.415
0.100	0.396	-1.000	1.000	0.513	0.433	0.051	0.002	0.547	-1.000	1.000	0.225	0.414	0.230	0.396
0.150	0.379	-1.000	1.000	0.562	0.385	0.044	0.009	0.548	-1.000	1.000	0.197	0.450	0.229	0.379
0.200	0.362	-1.000	1.000	0.603	0.345	0.039	0.012	0.545	-1.000	1.000	0.174	0.493	0.228	0.362
0.250	0.344	-1.000	1.000	0.644	0.303	0.036	0.017	0.540	-1.000	1.000	0.167	0.534	0.213	0.344
0.300	0.327	-1.000	1.000	0.668	0.272	0.039	0.022	0.537	-1.000	1.000	0.153	0.573	0.199	0.327
0.350	0.306	-1.000	1.000	0.685	0.245	0.043	0.028	0.531	-1.000	1.000	0.150	0.598	0.185	0.306
0.400	0.290	-1.000	1.000	0.690	0.222	0.047	0.041	0.526	-1.000	1.000	0.150	0.622	0.172	0.290
0.450	0.274	-1.000	1.000	0.694	0.200	0.051	0.055	0.519	-1.000	1.000	0.157	0.639	0.159	0.274
0.500	0.267	-1.000	1.000	0.686	0.195	0.058	0.061	0.512	-1.000	1.000	0.165	0.663	0.139	0.267
0.550	0.263	-1.000	1.000	0.675	0.188	0.057	0.081	0.505	-1.000	1.000	0.168	0.684	0.127	0.263
0.600	0.263	-1.000	1.000	0.673	0.180	0.059	0.087	0.499	-0.997	1.000	0.169	0.703	0.115	0.263
0.650	0.265	-1.000	1.000	0.653	0.183	0.070	0.094	0.493	-1.000	1.000	0.174	0.718	0.103	0.265
0.700	0.256	-1.000	1.000	0.679	0.159	0.064	0.098	0.486	-0.882	0.910	0.181	0.727	0.090	0.256
0.750	0.243	-0.999	1.000	0.675	0.164	0.068	0.092	0.479	-0.467	0.899	0.199	0.715	0.084	0.243
0.800	0.286	-1.000	1.000	0.693	0.118	0.085	0.104	0.473	-0.290	0.870	0.221	0.693	0.085	0.286
0.850	0.331	-0.967	0.994	0.624	0.128	0.094	0.154	0.468	-0.145	0.813	0.247	0.663	0.088	0.331
0.900	0.206	-0.999	0.939	0.655	0.207	0.034	0.103	0.467	-0.096	0.813	0.270	0.635	0.094	0.206
0.950	0.579	0.378	0.780	0.500	0.000	0.000	0.500	0.471	-0.074	0.813	0.278	0.615	0.105	0.579

Effects of thresholding on ICC in the Brainnetome atlas in unrelated participants. for each absolute and relative threshold we show the proportion of edges having poor (ICC<0.40), fair (ICC=0.40-0.60), good (ICC=0.60-0.75) or excellent (ICC>0.75) reliability. In this calculation, only subjects for which the edge was retained in both sessions were considered. For absolute thresholds (left) all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. Abbreviations: ICC=intraclass correlation coefficient.

Table S13

	Absolute							Relative						
Threshold	Median ICC	Min ICC	Max ICC	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio	Median ICC	Min ICC	Max ICC	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio
0.050	0.402	-0.951	0.957	0.494	0.447	0.058	0.001	0.600	-1.000	1.000	0.189	0.310	0.318	0.182
0.100	0.384	-1.000	1.000	0.544	0.388	0.057	0.011	0.582	-1.000	1.000	0.192	0.356	0.297	0.155
0.150	0.362	-1.000	1.000	0.582	0.330	0.065	0.024	0.571	-1.000	1.000	0.189	0.393	0.277	0.141
0.200	0.341	-1.000	1.000	0.602	0.281	0.072	0.044	0.563	-1.000	1.000	0.181	0.428	0.263	0.128
0.250	0.326	-1.000	1.000	0.608	0.251	0.076	0.064	0.557	-1.000	1.000	0.175	0.459	0.251	0.116
0.300	0.307	-1.000	1.000	0.618	0.232	0.074	0.077	0.550	-1.000	1.000	0.167	0.491	0.241	0.101
0.350	0.293	-1.000	1.000	0.619	0.217	0.079	0.086	0.543	-1.000	1.000	0.162	0.527	0.227	0.085
0.400	0.286	-1.000	1.000	0.622	0.206	0.078	0.094	0.536	-1.000	1.000	0.160	0.557	0.216	0.067
0.450	0.293	-1.000	1.000	0.611	0.202	0.084	0.104	0.529	-1.000	1.000	0.155	0.596	0.200	0.049
0.500	0.272	-1.000	1.000	0.622	0.190	0.079	0.109	0.521	-1.000	1.000	0.152	0.636	0.182	0.030
0.550	0.269	-1.000	1.000	0.624	0.174	0.078	0.124	0.514	-0.999	1.000	0.151	0.673	0.160	0.017
0.600	0.291	-1.000	1.000	0.607	0.193	0.083	0.116	0.507	-0.993	0.992	0.151	0.703	0.137	0.009
0.650	0.319	-0.999	1.000	0.605	0.195	0.079	0.121	0.498	-0.993	0.989	0.156	0.725	0.115	0.004
0.700	0.324	-1.000	1.000	0.587	0.197	0.066	0.151	0.491	-0.832	0.932	0.165	0.733	0.099	0.002
0.750	0.310	-0.999	1.000	0.650	0.190	0.030	0.130	0.483	-0.281	0.921	0.180	0.730	0.089	0.002
0.800	0.339	-0.782	0.954	0.630	0.196	0.065	0.109	0.475	-0.134	0.840	0.202	0.712	0.085	0.002
0.850	0.463	-0.175	0.868	0.313	0.375	0.125	0.188	0.468	-0.079	0.844	0.230	0.682	0.086	0.002
0.900	0.506	0.349	0.808	0.333	0.333	0.000	0.333	0.463	-0.107	0.834	0.259	0.652	0.087	0.002
0.950	-	-	-	-	-	-	-	0.461	-0.087	0.835	0.285	0.622	0.091	0.002

Effects of thresholding on ICC in the Glasser atlas in unrelated participants. for each absolute and relative threshold we show the proportion of edges having poor (ICC<0.40), fair (ICC=0.40-0.60), good (ICC=0.60-0.75) or excellent (ICC>0.75) reliability. In this calculation, only subjects for which the edge was retained in both sessions were considered. For absolute thresholds (left) all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. A dash indicates that ICC could not be computed for that threshold (not enough remaining consistent edges). Abbreviations: ICC=intraclass correlation coefficient.

Table S14

	Absolute							Relative						
Threshold	Median ICC	Min ICC	Max ICC	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio	Median ICC	Min ICC	Max ICC	Poor edges ratio	Fair edges ratio	Good edges ratio	Excellent edges ratio
0.050	0.369	-0.999	0.997	0.585	0.371	0.042	0.002	0.585	0.371	0.042	0.002	0.221	0.313	0.285
0.100	0.352	-1.000	1.000	0.610	0.322	0.050	0.017	0.610	0.322	0.050	0.017	0.219	0.374	0.259
0.150	0.325	-1.000	1.000	0.636	0.272	0.057	0.035	0.636	0.272	0.057	0.035	0.214	0.418	0.239
0.200	0.306	-1.000	1.000	0.641	0.243	0.063	0.053	0.641	0.243	0.063	0.053	0.210	0.455	0.221
0.250	0.286	-1.000	1.000	0.644	0.219	0.069	0.068	0.644	0.219	0.069	0.068	0.212	0.485	0.201
0.300	0.276	-1.000	1.000	0.642	0.201	0.073	0.084	0.642	0.201	0.073	0.084	0.219	0.509	0.185
0.350	0.266	-1.000	1.000	0.637	0.189	0.076	0.097	0.637	0.189	0.076	0.097	0.226	0.534	0.171
0.400	0.271	-1.000	1.000	0.628	0.187	0.075	0.110	0.628	0.187	0.075	0.110	0.233	0.563	0.156
0.450	0.275	-1.000	1.000	0.618	0.184	0.077	0.122	0.618	0.184	0.077	0.122	0.239	0.597	0.136
0.500	0.300	-1.000	1.000	0.603	0.184	0.080	0.133	0.603	0.184	0.080	0.133	0.248	0.621	0.118
0.550	0.288	-0.999	1.000	0.614	0.186	0.092	0.109	0.614	0.186	0.092	0.109	0.261	0.638	0.096
0.600	0.311	-1.000	0.999	0.633	0.168	0.090	0.110	0.633	0.168	0.090	0.110	0.280	0.640	0.078
0.650	0.291	-1.000	0.997	0.615	0.170	0.088	0.127	0.615	0.170	0.088	0.127	0.305	0.630	0.064
0.700	0.309	-0.997	0.999	0.606	0.139	0.088	0.168	0.606	0.139	0.088	0.168	0.339	0.603	0.057
0.750	0.258	-1.000	0.925	0.639	0.148	0.098	0.115	0.639	0.148	0.098	0.115	0.372	0.571	0.056
0.800	0.380	-0.952	0.986	0.588	0.235	0.059	0.118	0.588	0.235	0.059	0.118	0.409	0.534	0.056
0.850	0.133	-0.577	0.752	0.600	0.200	0.000	0.200	0.600	0.200	0.000	0.200	0.440	0.501	0.057
0.900	0.619	0.619	0.619	0.000	0.000	1.000	0.000	0.000	0.000	1.000	0.000	0.460	0.479	0.060
0.950	-	-	-	-	-	-	-	-	-	-	-	0.467	0.468	0.064

Effects of thresholding on ICC in the Gordon atlas in unrelated participants. for each absolute and relative threshold we show the proportion of edges having poor (ICC<0.40), fair (ICC=0.40-0.60), good (ICC=0.60-0.75) or excellent (ICC>0.75) reliability. In this calculation, only subjects for which the edge was retained in both sessions were considered. For absolute thresholds (left) all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. A dash indicates that ICC could not be computed for that threshold (not enough remaining consistent edges). Abbreviations: ICC=intraclass correlation coefficient.

Table S15

		Slight edges ratio	Fair edges ratio	Moderate edges ratio	Substantial edges ratio	Perfect edges ratio
BNT	GSR-	0.076	0.212	0.627	0.084	0.000
	GSR+	0.201	0.328	0.333	0.134	0.004
Glasser	GSR-	0.056	0.254	0.611	0.079	0.000
	GSR+	0.194	0.420	0.310	0.075	0.001
Gordon	GSR-	0.139	0.329	0.474	0.059	0.000
	GSR+	0.275	0.419	0.236	0.069	0.001

Reliability of edges in the functional connectome using different ICC intervals. We show the proportion of edges having: slight (<0.20), fair (0.20-0.40), moderate (0.40-0.60), substantial (0.60-0.80), and perfect (>0.80) in accordance to (3). Abbreviations: ICC=intraclass correlation coefficient, GSR-=no global signal regression, GSR+=global signal regression.

Table S16

	Absolute					Relative				
Threshold	Slight edges ratio	Fair edges ratio	Moderate edges ratio	Substantial edges ratio	Perfect edges ratio	Slight edges ratio	Fair edges ratio	Moderate edges ratio	Substantial edges ratio	Perfect edges ratio
0.050	0.012	0.100	0.204	0.285	0.399	0.695	0.196	0.069	0.026	0.014
0.100	0.076	0.166	0.248	0.252	0.258	0.651	0.202	0.084	0.040	0.023
0.150	0.143	0.227	0.257	0.212	0.161	0.609	0.202	0.104	0.052	0.033
0.200	0.212	0.285	0.240	0.167	0.096	0.560	0.209	0.118	0.068	0.045
0.250	0.283	0.324	0.212	0.121	0.060	0.499	0.219	0.133	0.087	0.061
0.300	0.350	0.352	0.177	0.083	0.039	0.437	0.228	0.150	0.106	0.079
0.350	0.432	0.343	0.143	0.058	0.024	0.382	0.225	0.167	0.123	0.103
0.400	0.518	0.316	0.110	0.041	0.015	0.329	0.223	0.177	0.142	0.129
0.450	0.597	0.284	0.082	0.026	0.010	0.279	0.216	0.185	0.161	0.159
0.500	0.667	0.248	0.063	0.016	0.006	0.231	0.206	0.192	0.177	0.193
0.550	0.727	0.209	0.048	0.011	0.005	0.184	0.199	0.198	0.192	0.228
0.600	0.779	0.171	0.036	0.008	0.006	0.139	0.188	0.200	0.205	0.269
0.650	0.817	0.144	0.027	0.006	0.007	0.093	0.178	0.198	0.216	0.316
0.700	0.836	0.127	0.027	0.004	0.006	0.045	0.167	0.193	0.229	0.366
0.750	0.867	0.102	0.021	0.004	0.006	0.011	0.138	0.186	0.244	0.420
0.800	0.882	0.092	0.017	0.002	0.007	0.001	0.084	0.174	0.253	0.489
0.850	0.880	0.091	0.017	0.002	0.010	0.000	0.024	0.143	0.255	0.578
0.900	0.889	0.084	0.019	0.000	0.008	0.000	0.002	0.063	0.228	0.708
0.950	0.938	0.063	0.000	0.000	0.000	0.000	0.000	0.007	0.092	0.901

Effects of thresholding on edge retention in the Brainnetome atlas using different ICC intervals. For each absolute and relative threshold we show the proportion of edges that are consistently retained. As a measure of consistency, we use the number of participants in which the edge was retained at both timepoints divided by the ones in which it was retained at least once. For convenience, we then use the values defined in (3) to compute the ratio of edges having slight (<0.20), fair (0.20-0.40), moderate (0.40-0.60), substantial (0.60-0.80), and perfect (>0.80) consistency. For absolute thresholds, all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained.

Table S17

	Absolute					Relative				
Threshold	Slight edges ratio	Fair edges ratio	Moderate edges ratio	Substantial edges ratio	Perfect edges ratio	Slight edges ratio	Fair edges ratio	Moderate edges ratio	Substantial edges ratio	Perfect edges ratio
0.050	0.224	0.310	0.190	0.277	0.577	0.899	0.060	0.020	0.021	0.071
0.100	0.511	0.243	0.113	0.133	0.393	0.872	0.070	0.028	0.030	0.086
0.150	0.697	0.168	0.068	0.067	0.282	0.841	0.079	0.038	0.042	0.106
0.200	0.809	0.116	0.041	0.035	0.225	0.802	0.093	0.048	0.058	0.134
0.250	0.873	0.083	0.024	0.020	0.190	0.756	0.111	0.057	0.076	0.172
0.300	0.912	0.061	0.015	0.012	0.160	0.709	0.129	0.066	0.097	0.215
0.350	0.936	0.044	0.010	0.010	0.122	0.657	0.148	0.079	0.117	0.260
0.400	0.951	0.035	0.006	0.008	0.069	0.605	0.165	0.092	0.139	0.308
0.450	0.957	0.031	0.004	0.008	0.000	0.548	0.184	0.104	0.165	0.358
0.500	0.961	0.026	0.004	0.008	0.000	0.487	0.203	0.117	0.194	0.411
0.550	0.965	0.025	0.003	0.007	0.000	0.423	0.220	0.130	0.227	0.464
0.600	0.959	0.026	0.003	0.012	0.000	0.354	0.236	0.147	0.264	0.519
0.650	0.964	0.021	0.004	0.011	0.000	0.280	0.248	0.163	0.308	0.576
0.700	0.967	0.022	0.003	0.008	0.000	0.205	0.251	0.184	0.360	0.635
0.750	0.971	0.018	0.004	0.006	0.000	0.131	0.239	0.203	0.426	0.696
0.800	0.978	0.012	0.002	0.008	0.000	0.064	0.209	0.215	0.512	0.758
0.850	0.991	0.009	0.000	0.000	0.000	0.016	0.149	0.207	0.628	0.822
0.900	1.000	0.000	0.000	0.000	0.000	0.003	0.056	0.165	0.777	0.887
0.950	0.667	0.333	0.000	0.000	0.000	0.000	0.007	0.046	0.947	0.950

Effects of thresholding on edge retention in the Glasser atlas using different ICC intervals. For each absolute and relative threshold we show the proportion of edges that are consistently retained. As a measure of consistency, we use the number of participants in which the edge was retained at both timepoints divided by the ones in which it was retained at least once. For convenience, we then use the values defined in (3) to compute the ratio of edges having slight (<0.20), fair (0.20-0.40), moderate (0.40-0.60), substantial (0.60-0.80), and perfect (>0.80) consistency. For absolute thresholds, all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained.

Table S18

	Absolute					Relative				
Threshold	Slight edges ratio	Fair edges ratio	Moderate edges ratio	Substantial edges ratio	Perfect edges ratio	Slight edges ratio	Fair edges ratio	Moderate edges ratio	Substantial edges ratio	Perfect edges ratio
0.050	0.102	0.283	0.280	0.197	0.139	0.750	0.168	0.050	0.019	0.014
0.100	0.288	0.357	0.198	0.102	0.055	0.732	0.163	0.060	0.028	0.017
0.150	0.435	0.357	0.133	0.051	0.025	0.682	0.176	0.080	0.039	0.024
0.200	0.544	0.331	0.084	0.027	0.014	0.617	0.195	0.101	0.053	0.034
0.250	0.630	0.291	0.055	0.015	0.009	0.552	0.213	0.121	0.068	0.046
0.300	0.697	0.246	0.039	0.011	0.007	0.485	0.231	0.140	0.085	0.059
0.350	0.754	0.200	0.032	0.007	0.007	0.420	0.249	0.156	0.102	0.073
0.400	0.791	0.169	0.028	0.005	0.008	0.352	0.266	0.171	0.121	0.091
0.450	0.815	0.147	0.025	0.004	0.009	0.286	0.278	0.186	0.140	0.109
0.500	0.837	0.124	0.025	0.004	0.011	0.216	0.290	0.205	0.158	0.132
0.550	0.853	0.109	0.023	0.004	0.010	0.146	0.296	0.224	0.177	0.157
0.600	0.864	0.096	0.025	0.003	0.012	0.083	0.289	0.243	0.196	0.188
0.650	0.869	0.090	0.027	0.002	0.011	0.031	0.264	0.262	0.219	0.224
0.700	0.876	0.083	0.019	0.002	0.019	0.004	0.201	0.281	0.245	0.269
0.750	0.901	0.079	0.013	0.005	0.002	0.000	0.116	0.283	0.278	0.322
0.800	0.908	0.046	0.029	0.004	0.013	0.000	0.042	0.246	0.320	0.393
0.850	0.937	0.032	0.021	0.000	0.011	0.000	0.004	0.149	0.352	0.494
0.900	0.833	0.167	0.000	0.000	0.000	0.000	0.000	0.036	0.297	0.666
0.950	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.002	0.089	0.909

Effects of thresholding on edge retention in the Gordon atlas using different ICC intervals. For each absolute and relative threshold we show the proportion of edges that are consistently retained. As a measure of consistency, we use the number of participants in which the edge was retained at both timepoints divided by the ones in which it was retained at least once. For convenience, we then use the values defined in (3) to compute the ratio of edges having slight (<0.20), fair (0.20-0.40), moderate (0.40-0.60), substantial (0.60-0.80), and perfect (>0.80) consistency. For absolute thresholds, all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained.

Table S19

	Absolute					Relative				
Threshold	Slight edges ratio	Fair edges ratio	Moderate edges ratio	Substantial edges ratio	Perfect edges ratio	Slight edges ratio	Fair edges ratio	Moderate edges ratio	Substantial edges ratio	Perfect edges ratio
0.050	0.099	0.432	0.429	0.040	0.000	0.114	0.133	0.447	0.212	0.095
0.100	0.125	0.484	0.359	0.031	0.000	0.096	0.123	0.495	0.206	0.080
0.150	0.159	0.511	0.299	0.028	0.003	0.080	0.119	0.540	0.192	0.069
0.200	0.199	0.512	0.256	0.025	0.008	0.068	0.109	0.587	0.182	0.054
0.250	0.247	0.499	0.219	0.025	0.010	0.061	0.108	0.626	0.161	0.045
0.300	0.298	0.470	0.195	0.026	0.012	0.057	0.107	0.655	0.142	0.039
0.350	0.346	0.429	0.178	0.032	0.015	0.054	0.104	0.681	0.129	0.032
0.400	0.388	0.380	0.170	0.041	0.021	0.054	0.108	0.699	0.113	0.026
0.450	0.421	0.343	0.155	0.048	0.034	0.053	0.115	0.714	0.099	0.019
0.500	0.448	0.304	0.150	0.057	0.041	0.050	0.123	0.729	0.086	0.013
0.550	0.450	0.293	0.145	0.059	0.052	0.044	0.132	0.744	0.074	0.006
0.600	0.459	0.279	0.142	0.060	0.060	0.034	0.150	0.751	0.063	0.002
0.650	0.471	0.263	0.137	0.062	0.067	0.028	0.169	0.750	0.052	0.001
0.700	0.472	0.259	0.142	0.056	0.072	0.023	0.191	0.737	0.049	0.000
0.750	0.484	0.235	0.139	0.066	0.076	0.020	0.219	0.712	0.049	0.000
0.800	0.467	0.264	0.131	0.074	0.063	0.020	0.250	0.679	0.051	0.000
0.850	0.479	0.182	0.115	0.079	0.145	0.022	0.276	0.648	0.055	0.000
0.900	0.514	0.229	0.171	0.057	0.029	0.027	0.287	0.626	0.060	0.000
0.950	0.000	0.500	0.000	0.500	0.000	0.048	0.263	0.622	0.066	0.000

Effects of thresholding on ICC in the Brainnetome atlas using different ICC intervals. For each absolute and relative threshold we show the proportion of edges having slight (<0.20), fair (0.20-0.40), moderate (0.40-0.60), substantial (0.60-0.80), and perfect (>0.80) consistency. In this calculation, only subjects for which the edge was retained in both sessions were considered. For absolute thresholds (left) all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. Abbreviations: ICC=intraclass correlation coefficient.

Table S20

	Absolute					Relative				
Threshold	Slight edges ratio	Fair edges ratio	Moderate edges ratio	Substantial edges ratio	Perfect edges ratio	Slight edges ratio	Fair edges ratio	Moderate edges ratio	Substantial edges ratio	Perfect edges ratio
0.050	0.072	0.467	0.415	0.046	0.000	0.096	0.077	0.363	0.346	0.118
0.100	0.135	0.468	0.353	0.040	0.003	0.085	0.081	0.420	0.310	0.103
0.150	0.232	0.426	0.292	0.042	0.010	0.077	0.080	0.468	0.283	0.091
0.200	0.318	0.366	0.247	0.050	0.019	0.069	0.079	0.505	0.266	0.081
0.250	0.383	0.310	0.219	0.057	0.032	0.060	0.079	0.545	0.246	0.069
0.300	0.421	0.275	0.197	0.063	0.043	0.052	0.080	0.581	0.231	0.056
0.350	0.441	0.253	0.189	0.064	0.053	0.045	0.078	0.622	0.211	0.043
0.400	0.448	0.238	0.184	0.071	0.059	0.040	0.080	0.657	0.193	0.029
0.450	0.449	0.225	0.181	0.074	0.070	0.033	0.082	0.701	0.168	0.016
0.500	0.458	0.215	0.176	0.077	0.074	0.027	0.086	0.740	0.141	0.008
0.550	0.452	0.204	0.167	0.088	0.088	0.021	0.093	0.767	0.115	0.003
0.600	0.442	0.212	0.184	0.084	0.079	0.017	0.101	0.787	0.093	0.001
0.650	0.436	0.228	0.163	0.080	0.093	0.015	0.113	0.793	0.078	0.000
0.700	0.453	0.227	0.160	0.087	0.073	0.013	0.130	0.787	0.069	0.000
0.750	0.420	0.283	0.145	0.058	0.094	0.014	0.151	0.770	0.066	0.000
0.800	0.471	0.294	0.118	0.039	0.078	0.015	0.179	0.741	0.065	0.000
0.850	0.158	0.263	0.368	0.158	0.053	0.018	0.212	0.704	0.067	0.000
0.900	0.250	0.250	0.250	0.250	0.000	0.024	0.244	0.663	0.069	0.000
0.950	-	-	-	-	-	0.038	0.260	0.630	0.073	0.000

Effects of thresholding on ICC in the Glasser atlas using different ICC intervals. For each absolute and relative threshold we show the proportion of edges having slight (<0.20), fair (0.20-0.40), moderate (0.40-0.60), substantial (0.60-0.80), and perfect (>0.80) consistency. In this calculation, only subjects for which the edge was retained in both sessions were considered. For absolute thresholds (left) all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. A dash indicates that ICC could not be computed for that threshold (not enough remaining consistent edges). Abbreviations: ICC=intraclass correlation coefficient.

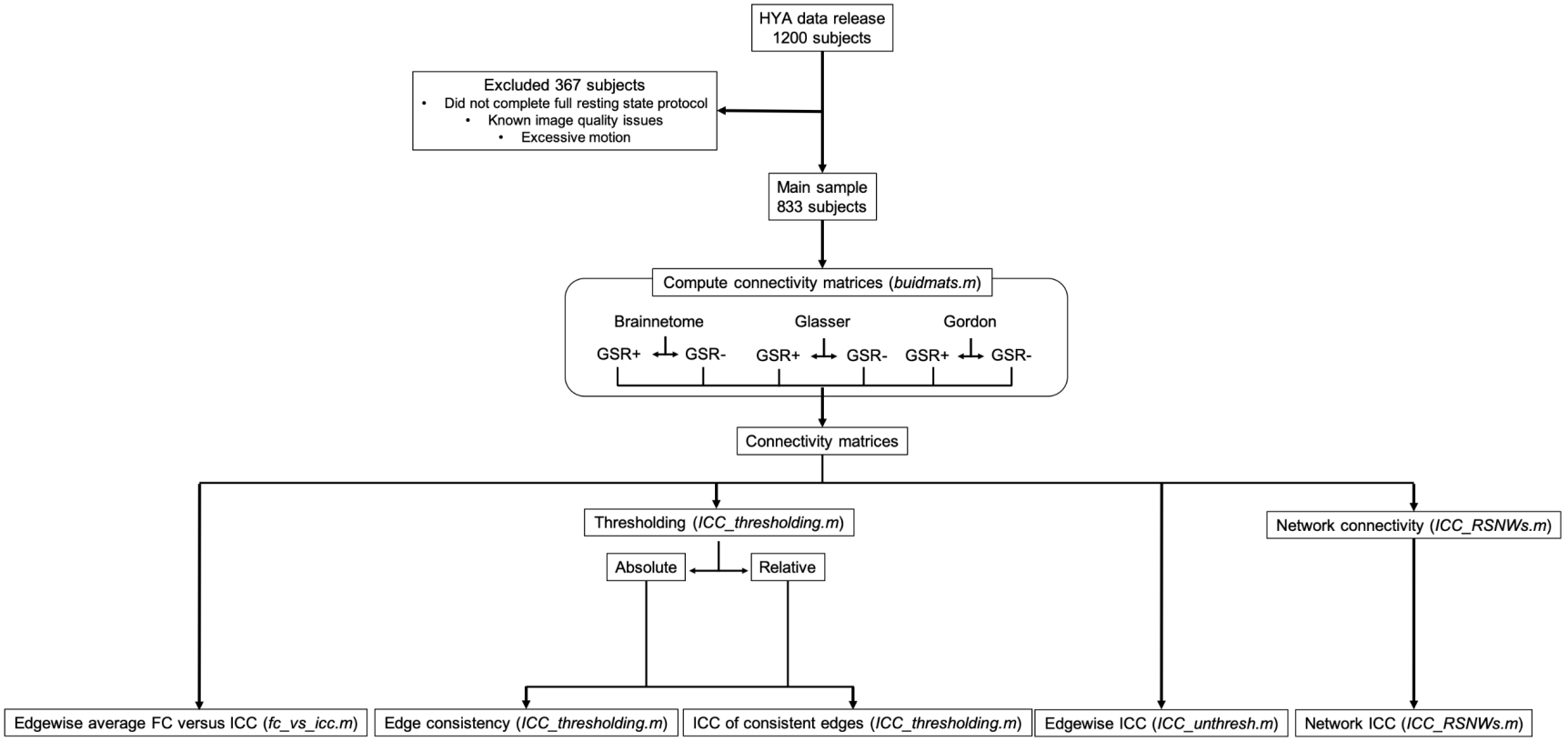
Table S21

	Absolute					Relative				
Threshold	Slight edges ratio	Fair edges ratio	Moderate edges ratio	Substantial edges ratio	Perfect edges ratio	Slight edges ratio	Fair edges ratio	Moderate edges ratio	Substantial edges ratio	Perfect edges ratio
0.050	0.152	0.493	0.326	0.030	0.000	0.105	0.094	0.381	0.304	0.116
0.100	0.236	0.442	0.282	0.033	0.007	0.091	0.098	0.448	0.269	0.093
0.150	0.321	0.386	0.236	0.040	0.016	0.083	0.099	0.497	0.237	0.083
0.200	0.381	0.333	0.208	0.050	0.028	0.074	0.102	0.534	0.218	0.071
0.250	0.424	0.287	0.194	0.056	0.039	0.072	0.104	0.564	0.199	0.061
0.300	0.449	0.254	0.180	0.067	0.050	0.071	0.115	0.586	0.181	0.048
0.350	0.469	0.228	0.172	0.071	0.061	0.070	0.123	0.620	0.157	0.030
0.400	0.462	0.223	0.168	0.080	0.067	0.061	0.137	0.656	0.131	0.015
0.450	0.472	0.209	0.159	0.081	0.079	0.052	0.154	0.687	0.101	0.006
0.500	0.448	0.221	0.159	0.086	0.086	0.045	0.176	0.702	0.076	0.001
0.550	0.433	0.214	0.176	0.087	0.090	0.041	0.200	0.701	0.058	0.000
0.600	0.410	0.248	0.160	0.095	0.088	0.038	0.233	0.680	0.048	0.000
0.650	0.443	0.241	0.151	0.087	0.078	0.039	0.267	0.649	0.044	0.000
0.700	0.468	0.197	0.133	0.104	0.098	0.042	0.308	0.607	0.043	0.000
0.750	0.500	0.192	0.128	0.115	0.064	0.048	0.346	0.562	0.044	0.000
0.800	0.520	0.160	0.120	0.120	0.080	0.057	0.378	0.519	0.046	0.000
0.850	0.400	0.200	0.200	0.200	0.000	0.073	0.393	0.486	0.048	0.000
0.900	0.500	0.000	0.500	0.000	0.000	0.095	0.390	0.465	0.050	0.000
0.950	-	-	-	-	-	0.119	0.370	0.459	0.052	0.000

Effects of thresholding on ICC in the Gordon atlas using different ICC intervals. For each absolute and relative threshold we show the proportion of edges having slight (<0.20), fair (0.20-0.40), moderate (0.40-0.60), substantial (0.60-0.80), and perfect (>0.80) consistency. In this calculation, only subjects for which the edge was retained in both sessions were considered. For absolute thresholds (left) all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. A dash indicates that ICC could not be computed for that threshold (not enough remaining consistent edges). Abbreviations: ICC=intraclass correlation coefficient.

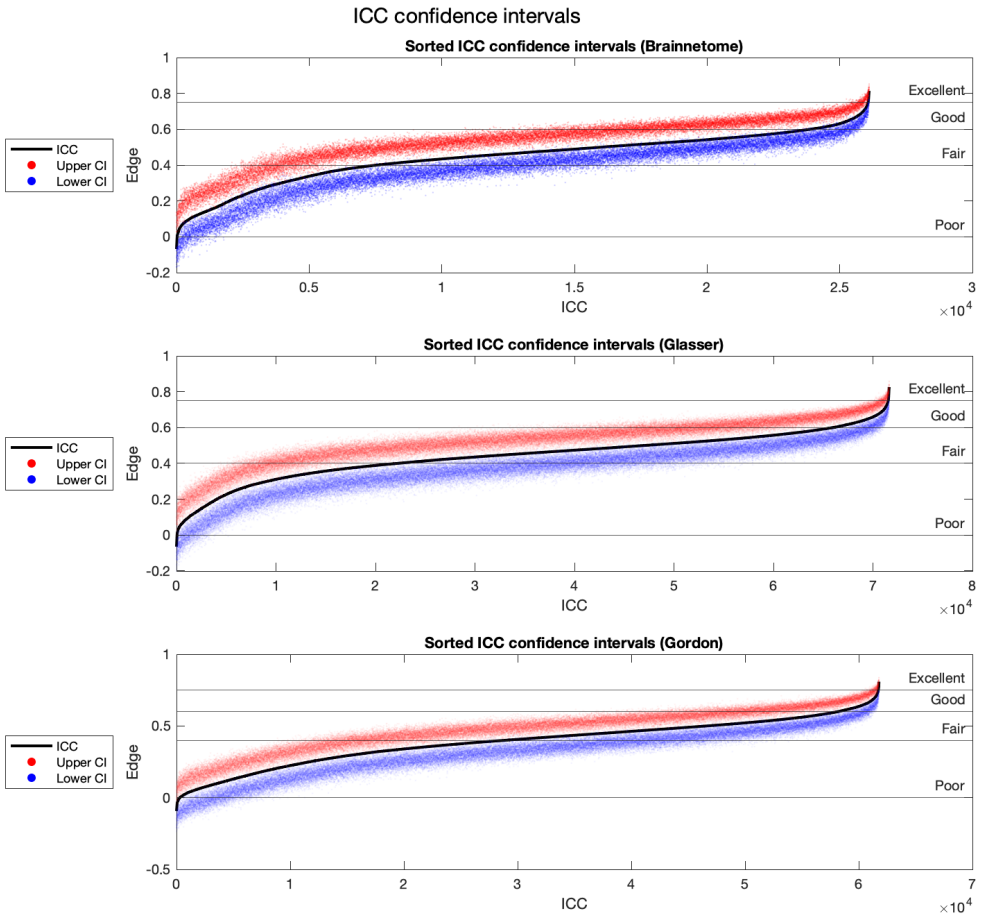
Supplementary Figures

Figure S1



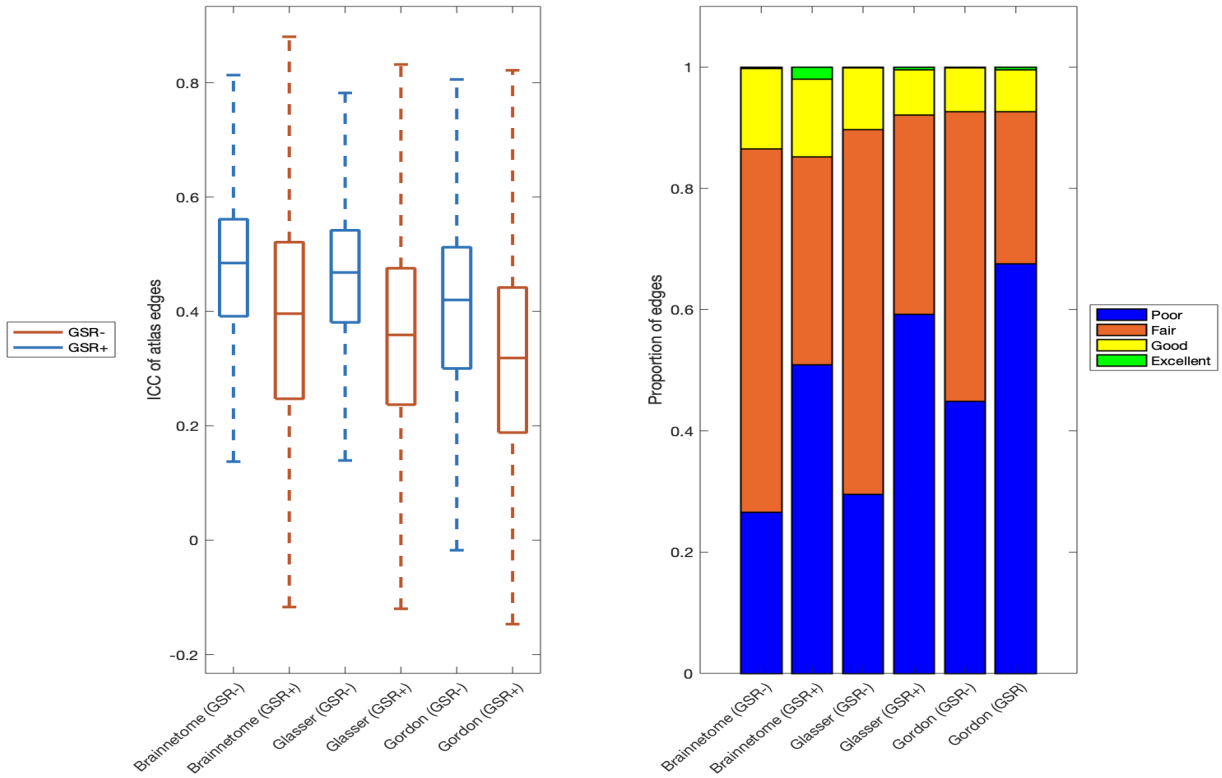
Study flow. In this diagram, the selection of the final sample and analysis steps are summarized. For each analysis step, we report the name of the GitHub script available at https://github.com/leotozzi88/repeatability_study to reproduce the results. Abbreviations: HYA=healthy young adult, GSR-=no global signal regression, GSR+=global signal regression, ICC=intraclass correlation coefficient, FC=functional connectivity.

Figure S2



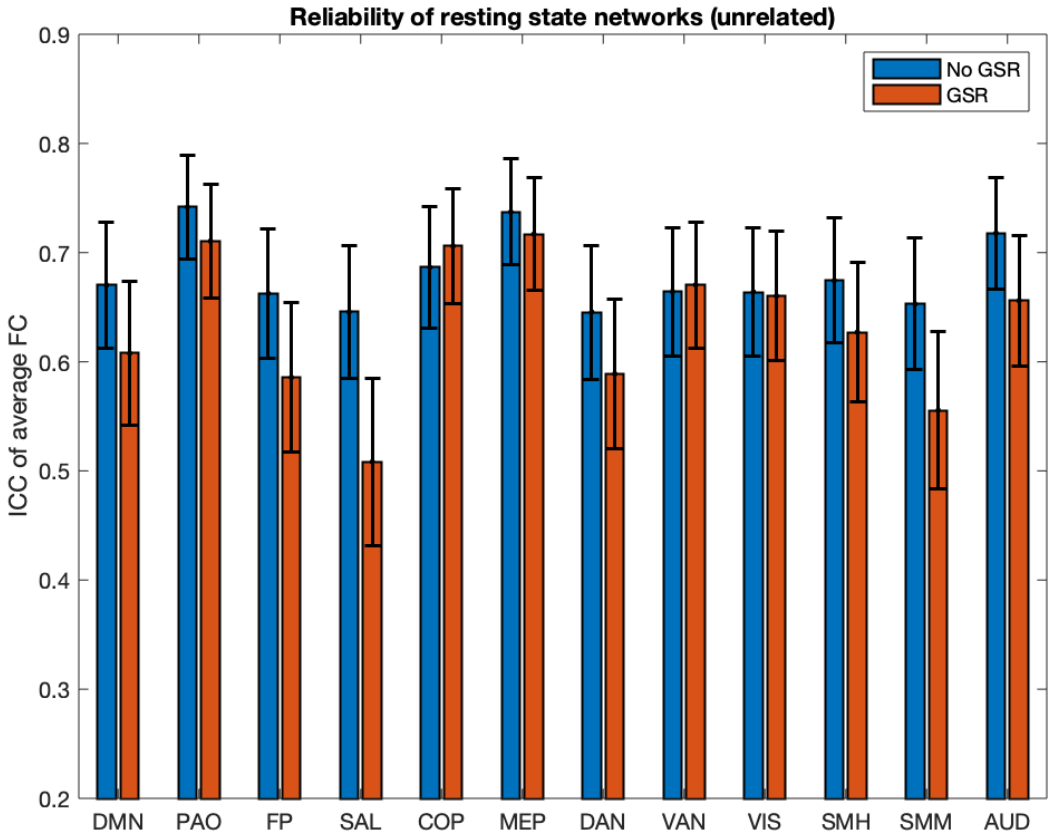
Confidence intervals of edge-wise ICC. For the Brainnetome, Glasser and Gordon atlases we show the upper (red) and lower bounds (blue) of the confidence interval of ICC estimates. We also show the boundaries of ICC bins as defined by (1): poor (ICC<0.40), fair (ICC=0.40-0.60), good (ICC=0.60-0.75) or excellent (ICC>0.75). ICC were sorted in increasing order for visualization. Abbreviations: ICC=intraclass correlation coefficient.

Figure S3



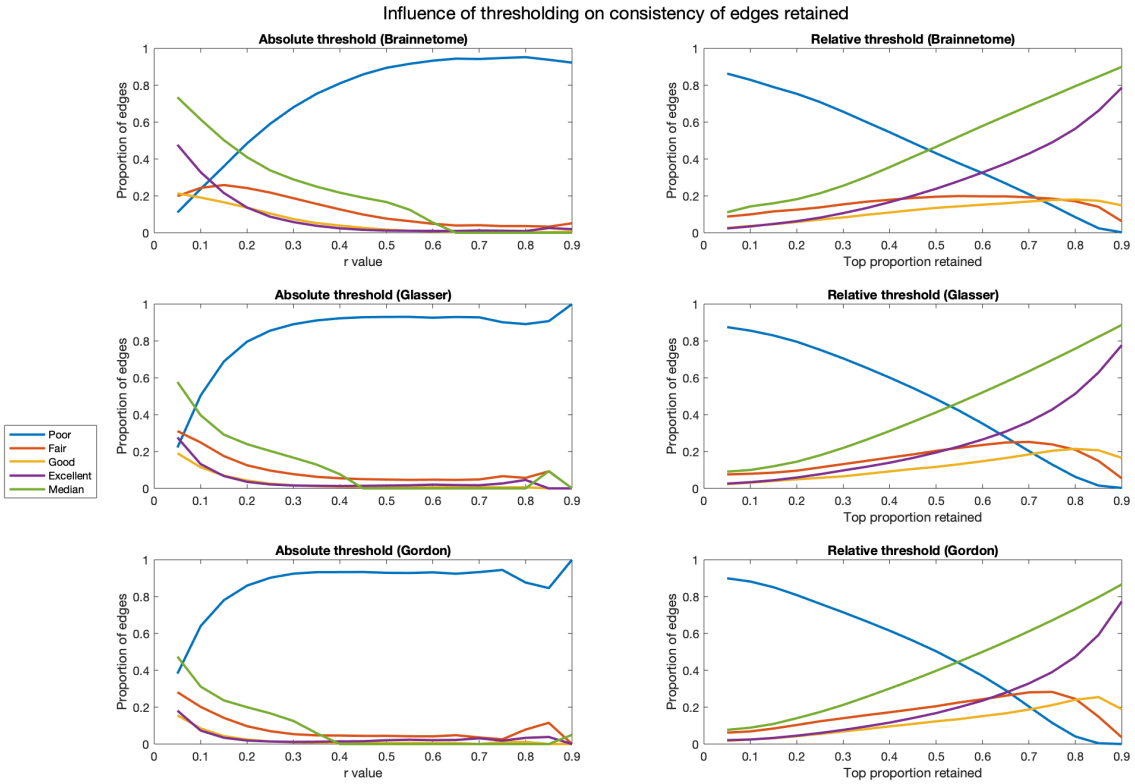
Reliability of functional connectome edges in unrelated participants. Left: For the Brainnetome, Glasser and Gordon atlases with and without performing GSR we show boxplots of ICC of all atlas edges. Right: For the Brainnetome, Glasser and Gordon atlases with and without performing GSR we show the proportion of edges having poor (ICC<0.40), fair (ICC=0.40-0.60), good (ICC=0.60-0.75) or excellent (ICC>0.75) reliability, defined in accordance to (1). Abbreviations: ICC=intraclass correlation coefficient, GSR-=no global signal regression, GSR+=global signal regression.

Figure S4



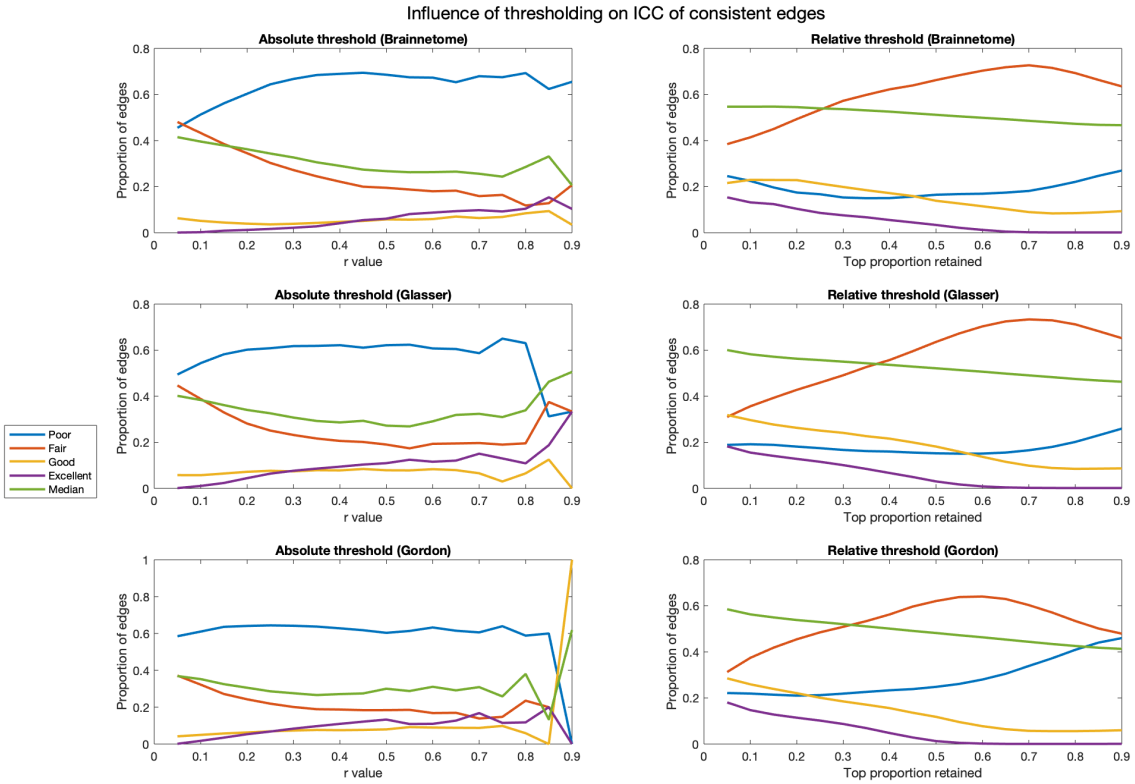
Reliability of known resting state networks in unrelated participants. We show the ICC and confidence intervals for the average connectivity within known resting state networks defined in accordance to (2). Abbreviations: ICC=intraclass correlation coefficient, GSR-=no global signal regression, GSR+=global signal regression, CI=confidence interval, DMN=default mode network, PAO=parieto-occipital, FP=fronto-parietal, SAL=salience, COP=cingulo-opercular, MEP=medial parietal, DAN=dorsal attention network, VAN=ventral attention network, VIS=visual, SMH=supplementary motor (hand), SMM=supplementary motor (mouth), AUD=auditory.

Figure S5



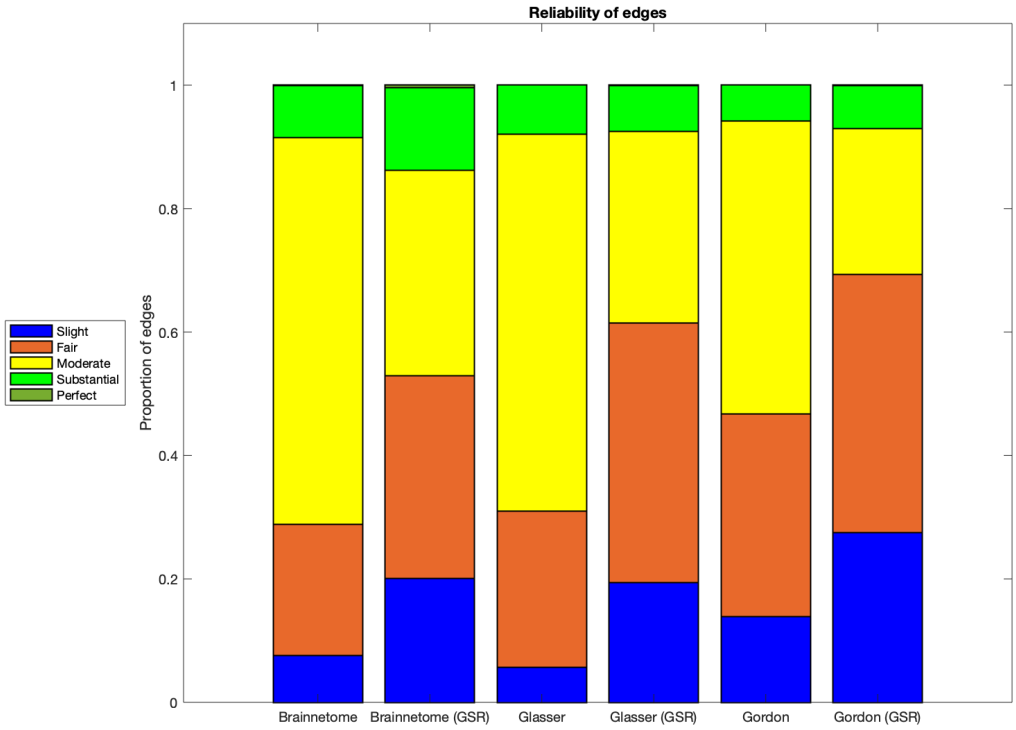
Effects of thresholding on edge retention in unrelated participants. In the Brainnetome, Glasser and Gordon atlases, for each absolute and relative threshold we show the proportion of edges that are consistently retained. As a measure of consistency, we use the number of participants in which the edge was retained at both timepoints divided by the ones in which it was retained at least once. For convenience, we then use the values defined in (1) to plot the ratio of edges having poor (ratio<0.40), fair (ratio=0.40-0.60), good (ratio=0.60-0.75) or excellent (ratio >0.75) consistency. For absolute thresholds (left) all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. Abbreviations: r=Pearson correlation coefficient.

Figure S6



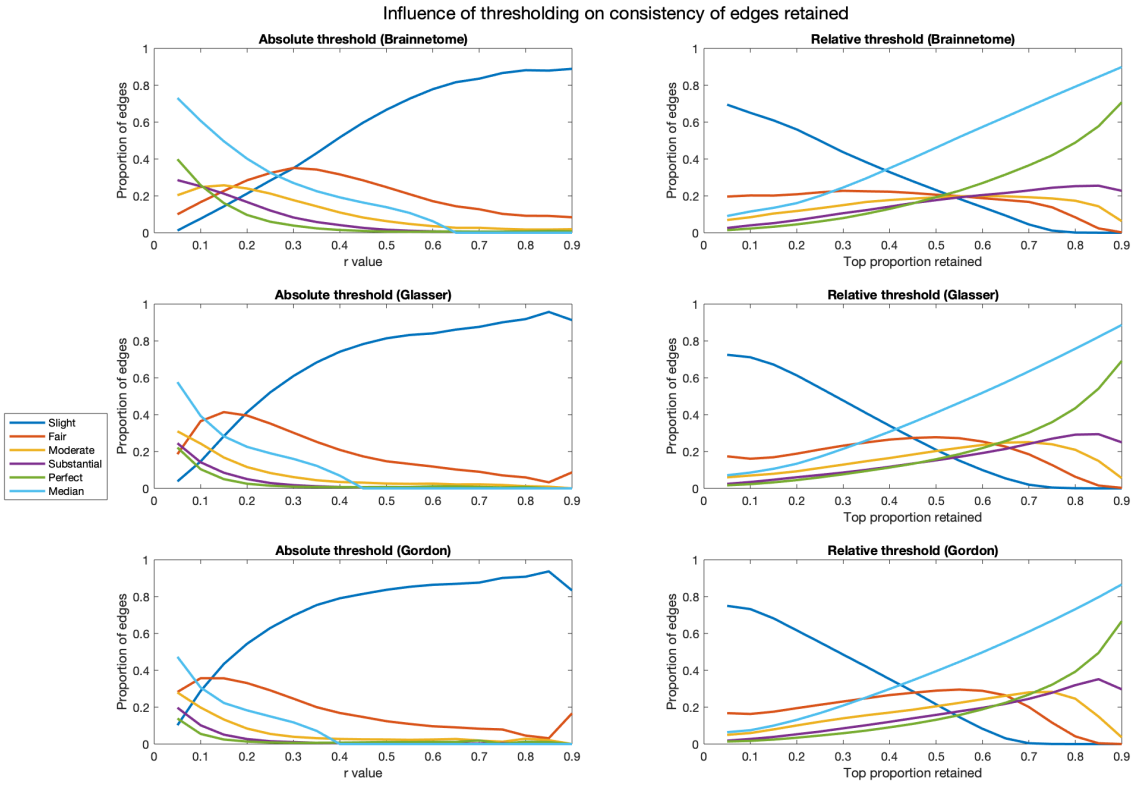
Effects of thresholding on reliability in unrelated participants. In the Brainnetome, Glasser and Gordon atlases, for each absolute and relative threshold we show the proportion of edges having poor (ICC<0.40), fair (ICC=0.40-0.60), good (ICC=0.60-0.75) or excellent (ICC>0.75) reliability. In this calculation, only subjects for which the edge was retained in both sessions were considered. For absolute thresholds (left) all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. Abbreviations: r=Pearson correlation coefficient, ICC=intraclass correlation coefficient.

Figure S7



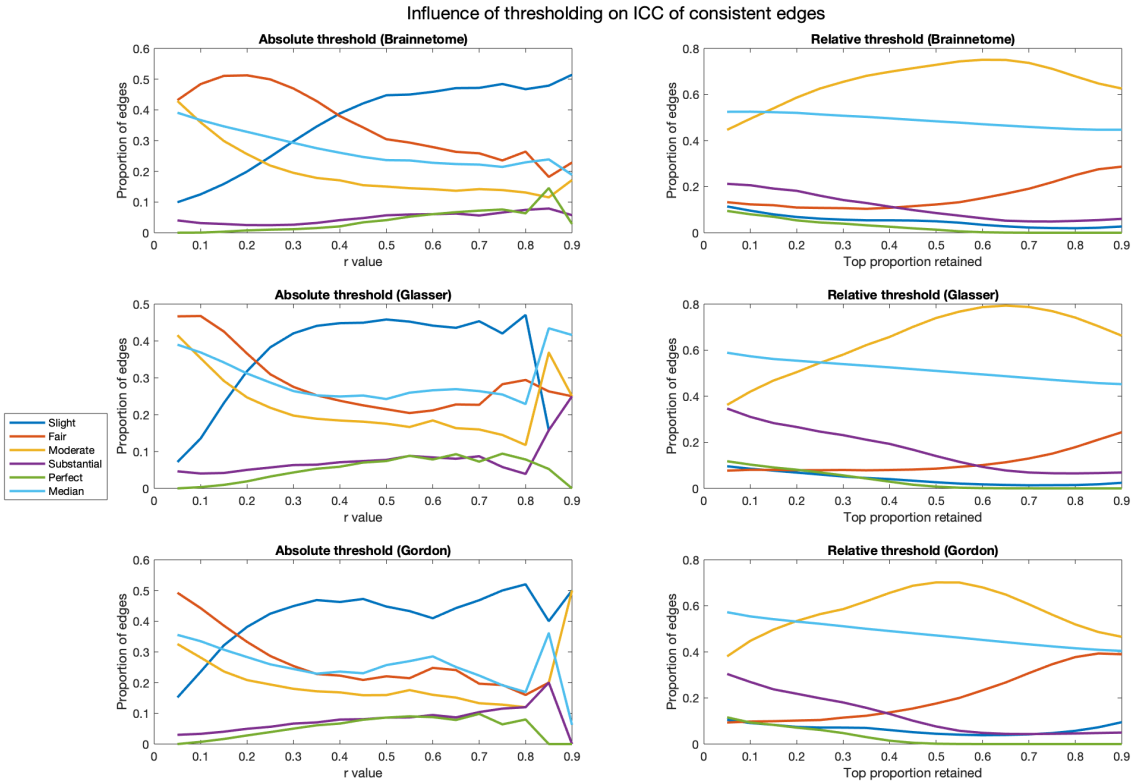
Reliability of functional connectome edges using different ICC intervals. For the Brainnetome, Glasser and Gordon atlases with and without performing GSR we show the proportion of edges having slight (<0.20), fair (0.20-0.40), moderate (0.40-0.60), substantial (0.60-0.80), and perfect (>0.80) in accordance to (3). Abbreviations: ICC=intraclass correlation coefficient, GSR-=no global signal regression, GSR+=global signal regression.

Figure S8



Effects of thresholding on edge retention using different ICC intervals. In the Brainnetome, Glasser and Gordon atlases, for each absolute and relative threshold we show the proportion of edges that are consistently retained. As a measure of consistency, we use the number of participants in which the edge was retained at both timepoints divided by the ones in which it was retained at least once. For convenience, we then use the values defined in (1) to plot the ratio of edges having slight (<0.20), fair (0.20-0.40), moderate (0.40-0.60), substantial (0.60-0.80), and perfect (>0.80) consistency. For absolute thresholds (left) all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. Abbreviations: r=Pearson correlation coefficient.

Figure S9



Effects of thresholding on reliability using different ICC intervals. In the Brainnetome, Glasser and Gordon atlases, for each absolute and relative threshold we show the proportion of edges having slight (<0.20), fair (0.20-0.40), moderate (0.40-0.60), substantial (0.60-0.80), and perfect (>0.80) reliability. In this calculation, only subjects for which the edge was retained in both sessions were considered. For absolute thresholds (left) all edges below the value are set to 0, for relative ones (right) only the top percent corresponding to the threshold is retained. Abbreviations: r=Pearson correlation coefficient, ICC=intraclass correlation coefficient

References

1. D. V. Cicchetti, Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological Assessment* **6**, 284–290 (1994).

2. E. M. Gordon, *et al.*, Generation and Evaluation of a Cortical Area Parcellation from Resting-State Correlations. *Cereb. Cortex* **26**, 288–303 (2016).

3. X.-X. Xing, X.-N. Zuo, The anatomy of reliability: a must read for future human brain mapping. *Sci. Bull.* **63**, 1606–1607 (2018).