

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

SUPPLEMENTAL MATERIAL

Table S1: Areas with a significant dorsal anterior cingulate cortex (dACC) connectivity in healthy controls

Table S2: Areas with a significant dorsal anterior cingulate cortex (dACC) connectivity in first episode psychosis patients

Table S3: Differences in dorsal anterior cingulate cortex (dACC) connectivity between healthy controls and first-episode psychosis patients.

Table S4: Relationship between dorsal anterior cingulate cortex (dACC) connectivity and neurochemical levels in healthy controls

Table S5: Relationship between dorsal anterior cingulate cortex (dACC) connectivity and neurochemical levels in first episode psychosis patients

Table S6: Differences in the relationship of dorsal anterior cingulate cortex (dACC) connectivity and neurochemicals in healthy controls and first episode psychosis patients

Figure S1: Relationship between glutamate and dorsal anterior cingulate cortex (dACC) connectivity in healthy controls

Figure S2: Relationship between glutamate and dorsal anterior cingulate cortex (dACC) connectivity in first episode psychosis patients

Figure S3: Relationship between γ -aminobutyric acid (GABA) and dorsal anterior cingulate cortex (dACC) connectivity in healthy controls

Figure S4: Relationship between γ -aminobutyric acid (GABA) and dorsal anterior cingulate cortex (dACC) connectivity in first episode psychosis patients

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

Table S1: Areas with a significant dorsal anterior cingulate cortex (dACC) connectivity in healthy controls

Region	Hemisphere	x, y, z	Voxels	Peak t-value
Positive Connectivity				
Cluster 1		3, 12, 33	113075	20.5
Superior Frontal Lobe	B		3015	
Middle Frontal Lobe	B		3504	
Inferior Frontal Lobe	B		1663	
Medial Frontal Lobe	B		254	
Orbital Frontal Lobe	B		102	
Olfactory	B		105	
Supplementary Motor Area	B		6733	
Paracentral Lobule	B		1103	
Precentral Gyrus	B		4624	
Superior Temporal Lobe	B		6134	
Middle Temporal Lobe	B		160	
Heschl Gyrus	B		1070	
Fusiform Gyrus	B		791	
Superior Parietal Lobe	B		3111	
Inferior Parietal Lobe	B		278	
Postcentral Gyrus	B		5434	
Supramarginal Gyrus	B		4625	
Precuneus	B		5759	
Lingual Gyrus	B		5554	
Superior Occipital Lobe	B		2182	
Middle Occipital Lobe	B		706	
Cuneus	B		4806	
Calcarine	B		4362	
Anterior Cingulum	B		3171	
Middle Cingulum	B		6957	
Posterior Cingulum	B		134	
Rolandic Operculum	B		4586	
Insula	B		7130	
Caudate	B		293	
Putamen	B		2715	
Pallidum	B		274	
Thalamus	B		2751	
Amygdala	B		308	
Hippocampus	B		68	
Parahippocampal Gyrus	B		185	
Cerebellum	B		5237	
Cluster 2		35, 44, 24	2802	8.13
Superior Frontal Lobe	R		73	
Middle Frontal Lobe	R		2446	
Negative Connectivity				
Cluster 1		-48, -62, 44	54278	8.77

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

Superior Frontal Lobe	B		6584	
Middle Frontal Lobe	B		6273	
Inferior Frontal Lobe	B		2004	
Medial Frontal Lobe	B		4297	
Orbital Frontal Lobe	B		7003	
Gyrus Rectus	B		1141	
Supplementary Motor Area	B		77	
Precentral Gyrus	L		65	
Superior Temporal Lobe	B		519	
Middle Temporal Lobe	B		534	
Inferior Parietal Lobe	B		2648	
Superior Parietal Lobe	B		682	
Angular Gyrus	B		5811	
Precuneus	B		2564	
Superior Occipital Lobe	B		125	
Middle Occipital Lobe	B		922	
Cuneus	B		74	
Calcarine	B		64	
Anterior Cingulum	R		282	
Middle Cingulum	B		815	
Posterior Cingulum	B		517	
Cluster 2		68, -24, -17	4109	8.14
Middle Temporal Lobe	B		2606	
Inferior Temporal Lobe	L		1347	
Cluster 3		-68, 26, -12	4846	6.91
Middle Temporal Lobe	B		3398	
Cluster 4		-24, -84, -26	575	4.81
Cerebellum	L		575	

Regions containing >50 voxels are included in table; B, bilateral; L, left; R, right

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

Table S2: Areas with a significant dorsal anterior cingulate (dACC) connectivity in first episode psychosis patients

Region	Hemisphere	x, y, z	Voxels	Peak t-value
Positive Connectivity				
Cluster 1		3, 14, 32	124047	22.13
Superior Frontal Lobe	B		4198	
Middle Frontal Lobe	B		5089	
Inferior Frontal Lobe	B		2801	
Medial Frontal Lobe	B		330	
Orbital Frontal Lobe	B		225	
Olfactory	B		181	
Supplementary Motor Area	B		7468	
Paracentral Lobule	B		831	
Precentral Gyrus	B		5796	
Superior Temporal Lobe	B		6708	
Middle Temporal Lobe	B		428	
Heschl Gyrus	B		935	
Fusiform Gyrus	B		320	
Superior Parietal Lobe	B		2310	
Inferior Parietal Lobe	B		1043	
Postcentral Gyrus	B		6510	
Supramarginal Gyrus	B		5680	
Precuneus	B		6909	
Superior Occipital Lobe	B		1775	
Cuneus	B		4665	
Calcarine	B		4512	
Lingual Gyrus	B		4687	
Anterior Cingulum	B		3437	
Middle Cingulum	B		7042	
Posterior Cingulum	B		282	
Rolandic Operculum	B		4482	
Insula	B		7398	
Caudate	B		709	
Putamen	B		3004	
Pallidum	B		517	
Thalamus	B		3334	
Amygdala	B		219	
Hippocampus	B		136	
Parahippocampal Gyrus	B		72	
Cerebellum	B		4251	
Cluster 2		33, 434, 23	3753	4.70
Middle Frontal Lobe	R		2944	
Inferior Frontal Lobe	R		122	
Cluster 3		523, -59, 2	467	4.78
Middle Temporal Lobe	R		442	
Negative Connectivity				
Cluster 1		41, 42, -12	42296	8.94
Superior Frontal Lobe	B		4620	
Middle Frontal Lobe	B		4986	

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

Inferior Frontal Lobe	B		1243	
Medial Frontal Lobe	B		5656	
Orbital Frontal Lobe	B		7857	
Gyrus Rectus	B		1776	
Precentral Gyrus	L		187	
Superior Temporal Lobe	B		659	
Middle Temporal Lobe	B		6303	
Inferior Temporal Lobe	B		1732	
Anterior Cingulum	B		110	
Caudate	B		371	
Hippocampus	R		85	
Parahippocampal Gyrus	R		92	
Cluster 2		-37.5, -69, 45	4812	8.64
Middle Temporal Lobe	L		170	
Superior Parietal Lobe	L		380	
Inferior Parietal Lobe	L		924	
Angular Gyrus	L		2158	
Middle Occipital Lobe	L		582	
Cluster 3		40.5, -69, 47	4548	7.5
Superior Temporal Lobe	R		77	
Middle Temporal Lobe	R		169	
Superior Parietal Lobe	R		315	
Inferior Parietal Lobe	R		645	
Angular Gyrus	R		2921	
Superior Occipital Lobe	R		64	
Middle Occipital Lobe	R		170	
Cluster 4		7.5, -51, 30	2572	7.12
Precuneus	B		1399	
Middle Cingulum	B		526	
Posterior Cingulum	B		468	
Cluster 5		21, -4.5, 29	364	4.99
No regions greater than 50 voxels				
Cluster 6		-20, -9, -20	454	4.61
Fusiform Gyrus	L		138	
Hippocampus	L		152	
Parahippocampal Gyrus	L		136	
Cluster 7		-21, -96, -12	914	4.60
Middle Occipital Lobe	L		255	
Inferior Occipital Lobe	L		206	
Lingual Gyrus	L		137	
Cerebellum	L		190	
Cluster 8		24, -85.5, 0	1055	4.510
Middle Occipital Lobe	R		303	
Superior Occipital Lobe	R		53	
Inferior Occipital Lobe	R		407	
Calcarine	R		89	
Lingual Gyrus	R		123	
Cluster 9		30, -51, 18	358	4.42

Regions containing >50 voxels are included in table; B, bilateral; L, left; R, right

Table S3: Differences in dorsal anterior cingulate cortex (dACC) connectivity between healthy controls and first-episode psychosis patients.

Region	Hemisphere	x, y, z	Voxels	Peak t-value
FEP>HC				
Cluster 1		-48, -51, 23	9404	5.00
Middle Temporal Lobe	L		405	
Inferior Parietal Lobe	L		574	
Supramarginal Gyrus	B		531	
Angular Gyrus	L		440	
Precuneus	B		2821	
Superior Occipital Lobe	B		62	
Cuneus	B		562	
Calcarine	B		178	
Middle Cingulum	B		372	
Hippocampus	B		107	
Cluster 2		-20, 48, 23	7272	4.63
Superior Frontal Lobe	L		1226	
Middle Frontal Lobe	L		2114	
Inferior Frontal Lobe	L		1159	
Orbital Frontal Lobe	L		73	
Precentral Gyrus	L		339	
Superior Temporal Lobe	L		209	
Postcentral Gyrus	L		70	
Anterior Cingulum	B		253	
Rolandic Operculum	L		173	
Insula	L		663	
Cluster 3		-14, 6, 66	2112	3.87
Superior Frontal Lobe	L		384	
Middle Frontal Lobe	L		84	
Supplementary Motor Area	B		1121	
Cluster 4		44, 11, -6	1638	3.74
Insula	R		567	
Inferior Frontal Lobe	R		171	
Olfactory	R		69	
Superior Temporal Lobe	R		148	
Rolandic Operculum	R		317	
Putamen	R		69	
Cluster 5		39, 33, 12	1299	3.38
Superior Frontal Lobe	R		341	
Middle Frontal Lobe	R		536	
Inferior Frontal Lobe	R		184	
HC>FEP				

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

Cluster 1		26, -86, 0	2082	3.82
Fusiform Gyrus	R		125	
Superior Occipital Lobe	R		173	
Middle Occipital Lobe	R		617	
Inferior Occipital Lobe	R		455	
Cuneus	R		106	
Lingual Gyrus	R		308	
Cerebellum	R		94	

Regions containing >50 voxels are included in table; B, bilateral; L, left; R, right; HC, healthy control; FEP, first episode psychosis patient

Table S4: Relationship between dorsal anterior cingulate cortex (dACC) connectivity and neurochemical levels in healthy controls

Region	Hemisphere	x, y, z	Voxels	Peak t-value
Glutamate Positive				
Cluster 1		9, 30, 29	1513	5.68
Superior Frontal Lobe	B		52	
Medial Frontal Lobe	B		388	
Anterior Cingulum	B		563	
Middle Cingulum	B		349	
Cluster 2		-63, 6, 26	1805	4.82
Inferior Frontal Lobe	L		54	
Precentral Gyrus	L		342	
Superior Temporal Lobe	L		347	
Postcentral	L		420	
Supramarginal Gyrus	L		348	
Cluster 3		48, -24, 33	1563	4.66
Postcentral	R		564	
Supramarginal Gyrus	R		486	
Superior Parietal Lobe	R		51	
Inferior Parietal Lobe	R		188	
Cluster 4		3 -84, -36	2012	3.12
Cerebellum	B		950	
Glutamate Negative				
Cluster 1		-24, -98, 8	2301	5.83
Middle Temporal Lobe	L		202	
Angular Gyrus	L		908	
Middle Occipital Lobe	L		981	
Cluster 2		-35, -84, -35	9795	5.14
Cerebellum	B		8040	
Lingual	B		126	
Cluster 3		-44, -41, -11	1591	4.67
Middle Temporal Lobe	L		55	
Inferior Temporal Lobe	L		429	
Fusiform Gyrus	L		457	
Parahippocampal gyrus	L		145	
Cerebellum	L		139	
Cluster 4		-68, -30, -2	1707	4.57

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

Superior Temporal Lobe	R		527	
Middle Temporal Lobe	R		969	
Inferior Temporal Lobe	R		149	
GABA Positive				
Cluster 1		14, 59, -8	4360	6.97
Medial Frontal Lobe	R		75	
Orbital Frontal Lobe	B		505	
Olfactory	L		123	
Anterior Cingulum	B		844	
Middle Cingulum	B		314	
Amygdala	L		162	
Caudate	B		184	
Putamen	B		77	
Hippocampus	L		82	
ParaHippocampus	L		66	
GABA Negative				
Cluster 1		-21, -87, 30	2180	5.00
Middle Temporal Lobe	L		93	
Inferior Temporal Lobe	L		45	
Superior Parietal Lobe	L		158	
Superior Occipital Lobe	L		776	
Middle Occipital Lobe	L		647	
Inferior Occipital Lobe	L			
Cluster 2		-47, 10.5, -29	1482	4.80
Superior Temporal Lobe	L		76	
Middle Temporal Lobe	L		498	
Inferior Temporal Lobe	L		307	
Putamen	L		124	
Hippocampus	L		120	
Cluster 3		12, -95, 17	2018	3.90
Superior Parietal Lobe	R		84	
Precuneus	R		63	
Calcarine Sulcus	B		241	
Superior Occipital Lobe	R		685	
Middle Occipital Lobe	R		258	
Cuneus	B		631	

Regions containing >50 voxels are included in table; B, bilateral; L, left; R, right

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

Table S5: Relationship between dorsal anterior cingulate cortex (dACC) connectivity and neurochemical levels in first episode psychosis patients

Region	Hemisphere	x, y, z	Voxels	Peak t-value
Glutamate Positive				
Cluster 1		39, -26, 27	5184	6.68
Precentral Gyrus	R		157	
Superior Temporal Lobe	R		182	
Rolandic Operculum	R		328	
Inferior Parietal Lobe	R		137	
Supramarginal Gyrus	R		1715	
Postcentral Gyrus	R		1139	
Insula	R		434	
Cluster 2		15, -35, 54	10453	6.66
Precentral Gyrus	L		340	
Paracentral Lobule	B		344	
Superior Temporal Lobe	L		374	
Heschl's Gyrus	L		69	
Rolandic Operculum	L		569	
Superior Parietal Lobe	B		808	
Inferior Parietal Lobe	L		439	
Postcentral Gyrus	B		1914	
Supramarginal Gyrus	L		1133	
Precuneus	B		1014	
Middle Cingulum	B		566	
Insula	L		713	
Thalamus	B		187	
Putamen	L		59	
Cluster 3		32, -90, 14	4010	6.27
Superior Occipital Lobe	R		724	
Middle Occipital Lobe	R		498	
Calcarine Sulcus	B		1095	
Cuneus	B		912	
Lingual Gyrus	B		193	
Cerebellum	B		408	
Glutamate Negative				
Cluster 1		21, -3, -9	2247	5.71
Orbital Frontal Lobe	R		71	
Superior Temporal Lobe	R		293	
Middle Temporal Lobe	R		392	
Insula	R		82	
Hippocampus	R		107	
Putamen	R		93	
Pallidum	R		88	
Cluster 2		-32, -27, -8	13528	5.60
Superior Frontal Lobe	B		235	
Middle Frontal Lobe	L		219	
Orbital Frontal Lobe	B		1376	
Rectus	B		995	

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

Superior Temporal Lobe	L		575	
Inferior Temporal Lobe	L		413	
Middle Temporal Lobe	L		2562	
Fusiform Gyrus	B		51	
Precuneus	B		1104	
Lingual Gyrus	B		210	
Cuneus	B		193	
Calcarine Sulcus	B		191	
Middle Cingulum	B		360	
Posterior Cingulum	B		771	
Insula	L		84	
Hippocampus	B		467	
Parahippocampal Gyrus	B		177	
Thalamus	B		103	
Cerebellum	B		173	
Cluster 3		-8, 59, 42	2785	5.25
Superior Frontal Lobe	B		248	
Medial Frontal Lobe	B		1667	
Anterior Cingulum	B		147	
Middle Cingulum	B		146	
Cluster 4		62, -60, 20	1227	5.14
Superior Temporal Lobe	R		118	
Middle Temporal Lobe			112	
Superior Parietal Lobe	R		251	
Angular Gyrus	R		701	
Cluster 5		2, 14, 72	1550	4.63
Superior Frontal Lobe	B		106	
Medial Frontal Lobe	B		162	
Supplementary Motor Area	B		741	
GABA Positive				
Cluster 1		8, 3, -24	1744	7.03
Olfactory Bulb	B		268	
Parahippocampal Gyrus	B		146	
Caudate	B		93	
Cluster 2		-9, -33, 6	2080	5.33
Posterior Cingulum	B		593	
Middle Cingulum	B		396	
Precuneus	B		190	
Cerebellum	L		98	
GABA Negative				
Cluster 1		62, 6, 26	19538	6.94
Middle Frontal Lobe	L		395	
Inferior Frontal Lobe	B		291	
Orbital Frontal Lobe	B		279	
Precentral Gyrus	B		785	
Postcentral Gyrus	B		847	
Superior Temporal Lobe	B		1303	
Middle Temporal Lobe	R		205	
Inferior Temporal Lobe	L		888	
Heschl's Gyrus	B		401	
Rolandic Operculum	B		1248	

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

Supramarginal Gyrus	B		1582	
Insula	B		1912	
Thalamus	B		747	
Putamen	B		694	
Caudate	B		1026	
Pallidum	B		179	
Cluster 2		20, -74, 12	4833	5.29
Superior Occipital Lobe	B		381	
Middle Occipital Lobe	B		489	
Inferior Occipital Lobe	R		238	
Calcarine	B		1561	
Lingual	B		737	
Cuneus	B		335	
Cerebellum	B		728	
Cluster 6		-47, 15, 36	1433	3.83
Middle Frontal Lobe	L		255	
Inferior Frontal Lobe	L		617	
Precentral Gyrus	L		502	
Cluster 7		57, 11, 14	3173	3.80
Middle Frontal Lobe	R		678	
Inferior Frontal Lobe	R		1769	
Precentral Gyrus	R		453	

Regions containing >50 voxels are included in table; B, bilateral; L, left; R, right

Table S6: Differences in the relationship of dorsal anterior cingulate cortex (dACC) connectivity and neurochemicals in healthy controls and first episode psychosis patients

Region	Hemisphere	x, y, z	Voxels	Peak t-value
FEP>HC Glutamate				
Cluster 1		57, -32, 17	1418	4.55
Superior Temporal Lobe	R		299	
Heschl Gyrus	R		52	
Inferior Parietal Lobe	R		78	
Postcentral Gyrus	R		55	
Supramarginal Gyrus	R		515	
Cluster 2		24, -63, 65	1499	4.41
Superior Parietal Lobe	R		290	
Precuneus	B		1107	
Cluster 3		8, -56, -42	3494	4.15
Cerebellum	B		3158	
Cluster 4		-48, -38, 35	1890	3.76
Inferior Parietal Lobe	L		836	
Supramarginal Gyrus	L		322	
Angular Gyrus	L		258	
HC>FEP Glutamate				
Cluster 1		32, 56, -14	2349	4.98
Superior Frontal Lobe	B		57	
Middle Frontal Lobe	R		81	
Medial Frontal Lobe	B		498	
Orbital Frontal Lobe	R		566	
Anterior Cingulum	B		693	
Cluster 2		-24, -41, 26	1534	4.38
Precuneus	B		127	
Middle Cingulum	R		64	
Posterior Cingulum	B		397	
Cluster 3		-2, 12, 66	1323	4.33
Superior Frontal Lobe	L		124	
Supplementary Motor Area	B		1017	
Cluster 4		-59, -44, -2	1719	3.84
Superior Temporal Lobe	L		81	
Middle Temporal Lobe	L		1439	
FEP>HC GABA				
No significant regions				
HC>FEP GABA				
Cluster 1		56, -32, 18	1704	5.47
Superior Temporal Lobe	R		286	
Heschl Gyrus	R		101	
Supramarginal Gyrus	R		419	
Rolandic Operculum	R		112	
Cluster 2		-18, 18, 9	7631	5.25
Inferior Frontal Lobe	L		114	
Olfactory	B		84	
Superior Temporal Lobe	L		462	
Middle Temporal Lobe	L		17	
Heschl Gyrus	L		80	

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

Rolandic Operculum	L	85
Anterior Cingulum	B	435
Middle Cingulum	B	226
Insula	B	213
Caudate	B	1105
Putamen	B	421
Pallidum	B	99
Thalamus	L	210

Regions containing >50 voxels are included in table; B, bilateral; L, left; R, right; FEP, first episode psychosis; HC, healthy control

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

Figure S1: Relationship between glutamate and dorsal anterior cingulate cortex (dACC) connectivity in healthy controls

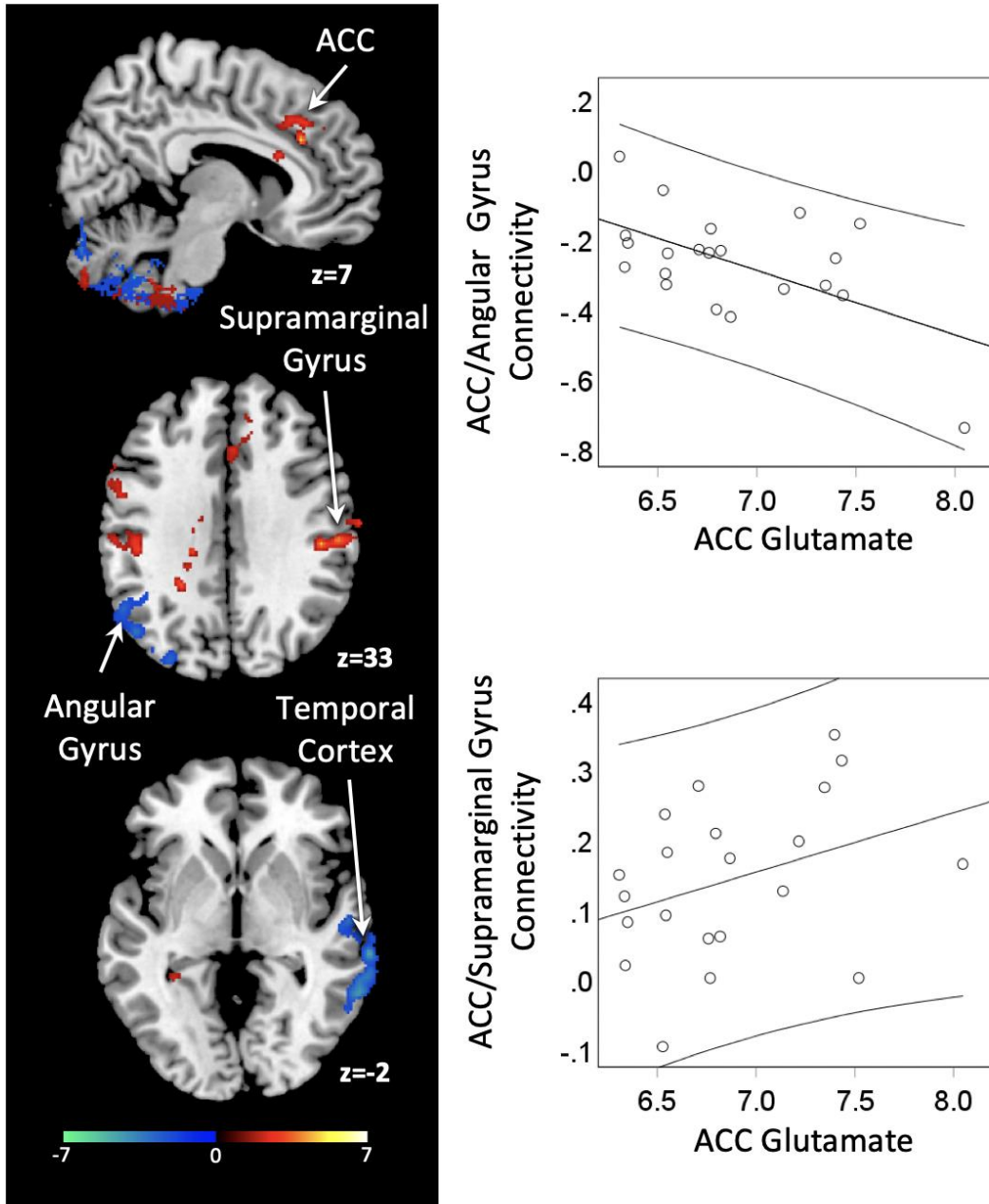
Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

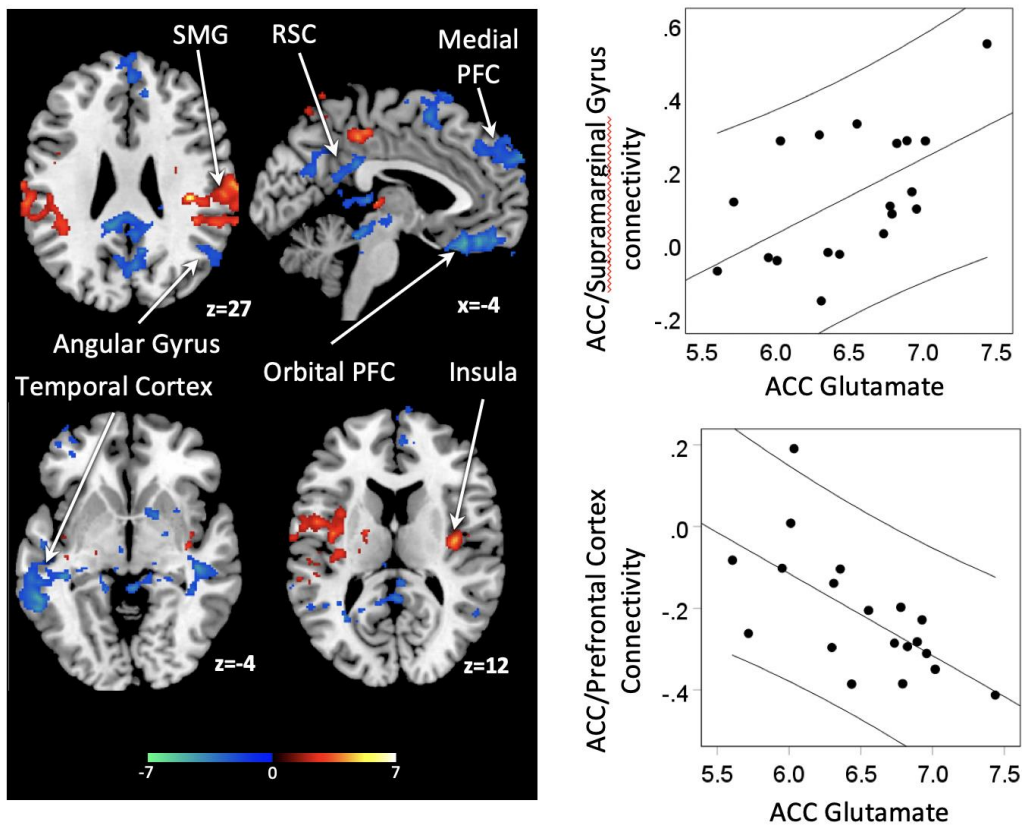
To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.



Abbreviations: ACC, anterior cingulate cortex

Figure S2: Relationship between glutamate and dorsal anterior cingulate cortex (dACC) connectivity in first episode psychosis patients



Abbreviations: ACC, anterior cingulate cortex; SMG, supramarginal gyrus; PFC, prefrontal cortex; RSC, retrosplenial cortex

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

Figure S3: Relationship between γ -aminobutyric acid (GABA) and dorsal anterior cingulate cortex (dACC) connectivity in healthy controls

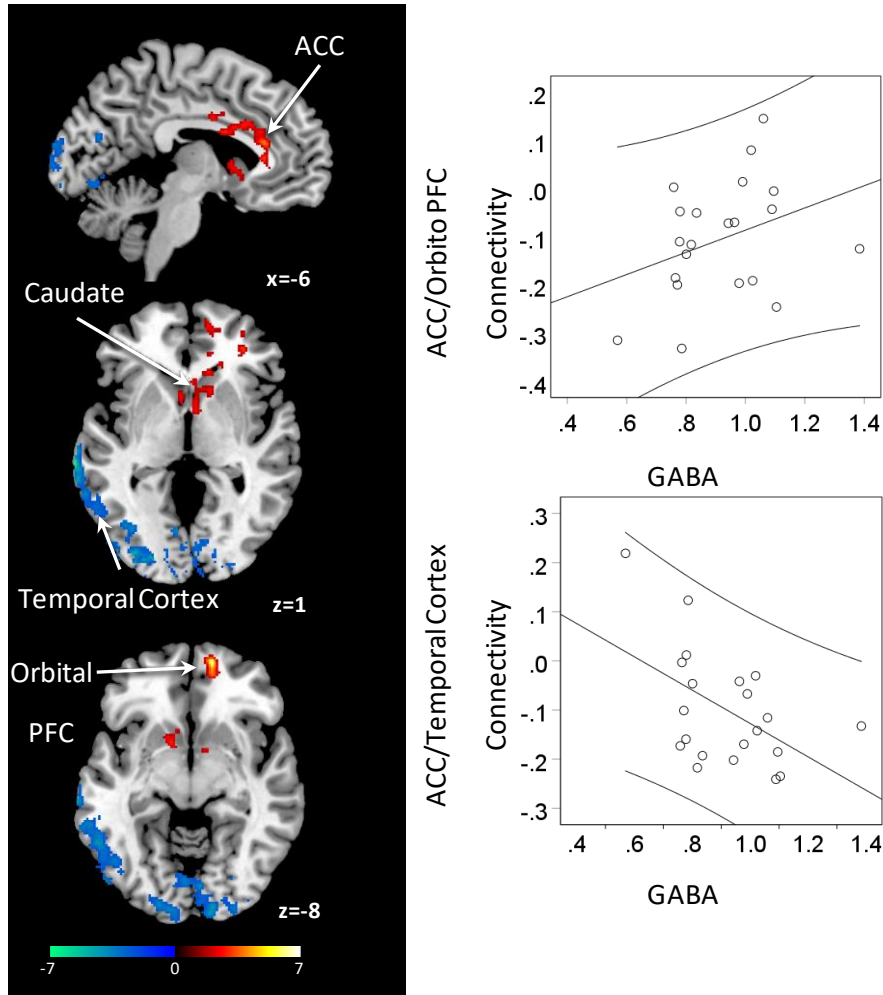
Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.



Abbreviations: ACC, anterior cingulate cortex; PFC, prefrontal cortex

Appendix 1 to Overbeek G, Gawne TJ, Reid MA, et al. A multimodal neuroimaging study investigating resting-state connectivity, glutamate and GABA at 7 T in first-episode psychosis. *J Psychiatry Neurosci* 2021.

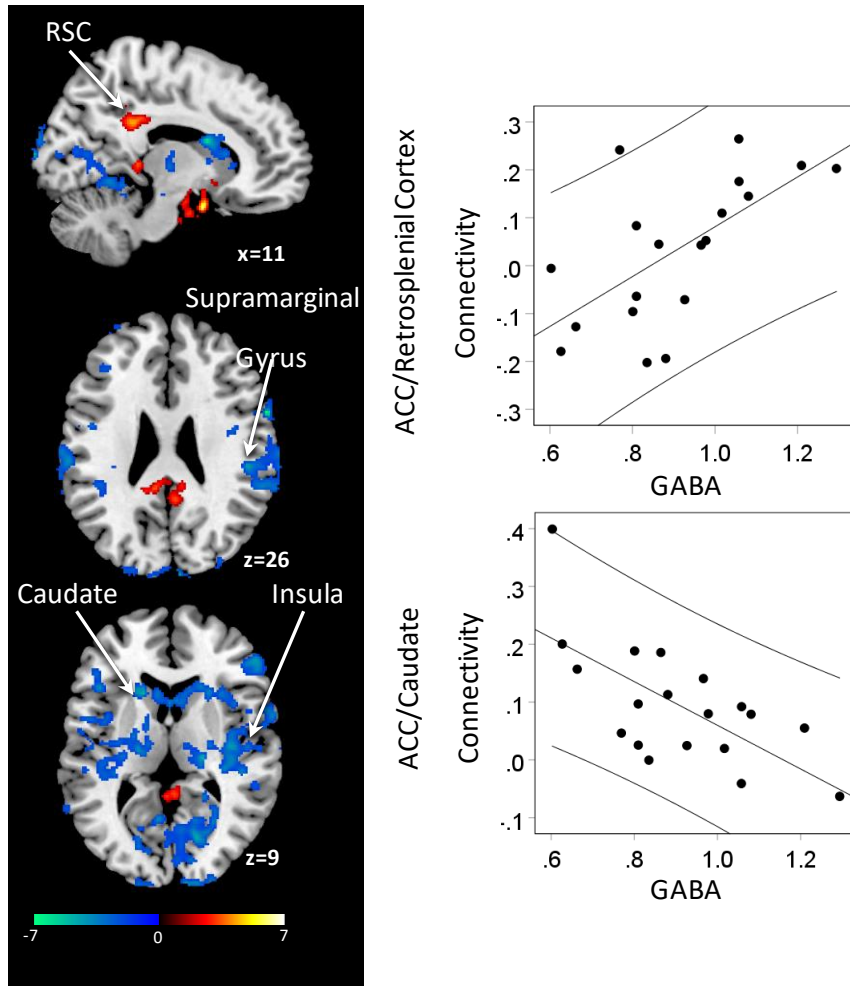
doi: 10.1503/jpn.210107

Copyright © 2021 The Author(s) or their employer(s).

To receive this resource in an accessible format, please contact us at cmajgroup@cmaj.ca.

Online appendices are unedited and posted as supplied by the authors.

Figure S4: Relationship between γ -aminobutyric acid (GABA) and dorsal anterior cingulate cortex (dACC) connectivity in first episode psychosis patients



Abbreviations: ACC, anterior cingulate cortex; RSC, retrosplenial cortex