Supplementary Tables

Supplementary Table S1: imaging acquisition details ADHD working group

Name sample	Site/Country/Cohort	Scanner vendor and type	Matrix size	N slices	Voxel Size (mm)
ACPU	Victoria, AUS	3T Siemens TrioTim	208x230	192	0.9x0.9x0.9
ADHD-WUE	Würzburg, DEU	3T Siemens Avanto	256x256	160	1 × 1 × 1
ADHD200KKI	Baltimore, USA	1.5T Philips Gyroscan NT	256x200	200	1x1x1
ADHD200NYU	New York, USA	3T Magnetom Allegra	256x256	128	1.3x1.0x1.3
ADHD200OHSU	Oregon, USA	3T Siemens TrioTim	256x240	160	1.0 x 1.0 x 1.1
ADHD200Peking	Peking, CHN, I	3T Siemens TrioTim	256x256	128	1.3×1.0×1.3
	Peking, CHN, II	3T Siemens TrioTim	256x256	176	1x1x1
ADHD-DUB	Dublin, IRL, I	3T Philips Achieva	256x240	na	1x1x1
	Dublin, IRL, II	1.5T Siemens Vision	512x512	126	0.45×0.45×1.5
ADHD-Konrad	Aachen, DEU, I	1.5T Siemens Sonata	256x256	160	1x1x1
	Aachen, DEU, II	1.5T Siemens Sonata	180x256	160	1x1x1
	Aachen, DEU, III	3T Siemens Trio	256x256	160	1x1x1
	Aachen, DEU, IV	3T Siemens Trio	256x256	176	0.98x0.98x1
	Aachen, DEU, V	3T Siemens Trio	256x256	176	1x1x1
	Aachen, DEU, VI	3T Siemens Trio	240x240	170	1x1x1
ADHD-Mattos	Rio de Janeiro, BRA	3T Philips Achieva	256x256	166	1.0156x1.0156x1.2
ADHD-Rubia	London, GBR	3T GE Signa	320x320	172	1x1x1.2
ADHD-Russia	Moskou, RUS	3T GE medical systems Signa	256x256	240	0.9375x0.9375x1
Clinic Barcelona	Barcelona, ESP	3T Siemens Trio	256x256	180	1x1x1
Bergen-adultADHD	Bergen, NOR	3T GE medical systems	256x256	180	1x1x1
Bergen-SVG	Bergen, NOR	3T GE medical systems	240x240	160	1x1x1.1
CAPS-UZH	Zurich, CHE, I	3T Philips Achieva XT	270x254	176	1x1x1.1
	Zurich, CHE, II	3T Philips Achieva XT	256x256	196	1.1x1.1x1.1
DAT-london	London, GBR	3T GE Medical systems Signa	256x256	176	0.8x0.8x1
Dundee	Dundee, GBR	3T Siemens Trio	256x256	120	0.875x0.875x1.2
EPOD	Amsterdam, NLD, I	3T Philips Intera	256x256	120	0.875x0.875x1.2
	Amsterdam, NLD, II	3T Philips Achieva	208x256	176	1x1x1
Hartford-Olin	Hartfort,USA	3T Siemens Allegra	256x256	176	1x1x1

IMpACT-NL	Nijmegen, NLD	1.5T Siemens Avanto	256x256	158	1x1x1.5
MGH-ADHD	New York, USA	1.5T Siemens Avanto	na	166	1x1x1.2
MTA	Irvine, USA, I	3T GE Medical systems Signa	na	166	1x1x1.2
	Irvine, USA, II	3T GE Medical systems Discovery 750	na	160	1x1x1.2
	Irvine, USA, III	3T Siemens Trio	na	160	1x1x1.2
	Irvine, USA, IV	3T Siemens Trio	na	160	1x1x1.2
	Irvine, USA, V	3T Siemens Trio	na	160	1x1x1.2
	Irvine, USA, VI	3T Siemens Trio	256x256	176	1x1x1
NeuroImageADAM	Amsterdam, NLD	1.5T, Siemens Sonata	256x256	176	1x1x1
NeuroImageNIJM	Nijmegen, NLD	1.5T Siemens Avanto	256x232	176	0.9x0.9x0.9
NICAP	Victoria, AUS	3T Siemens Timtrio	256x192	124	0.9375x0.9375x1.5
NIH	Bethesda, USA	1.5T GE Medical systems Signa	256x256	128	1x1x1.3
NYU ADHD	New York, USA	3T Siemens Allegra	256x256	160	1x1x1.1
OHSU2018	Oregon, USA	3T Siemens TrioTim	192x192	160	1.36x1.36x1.2
SAOPAULO	Sao Paulo, BRA	1.5T Siemens Espree	256x240	192	1x1x1
Sussex	Sussex, GBR	1.5T Siemens Avanto	256x256	176	1x1x1
Tuebingen	Tübingen, DEU	3T Siemens Prisma	256x256	180	0.94x0.94x1
UAB-ADHD	Barcelona, ESP	3T Phillips Achieva	256x256	96	0.86x0.86x1.6
UCHZ	Zurich, CHE	3T GE Medical Systems Signa	192x256	172	1x1x1
ZI-CAPS	Mannheim, DEU	3T Siemens TrioTim	256x256	192	1x1x1

Supplementary Table S2: imaging acquisition details ASD working group

Name sample	Site/Country/Cohort	Scanner vendor and type	Matrix size	N slices	Voxel Size
ABIDE_CALTECH	Pasadena, USA	3T Siemens Trio	256x256	176	1x1x1
ABIDE_KKI	Baltimore, USA	3T Philips Achieva	256x256	200	1x1x1
ABIDE_LEUVEN_1	Leuven, BEL, 1	3T Philips Interna	256x256	182	1x1x1
ABIDE_LEUVEN_2	Leuven, BEL, 2	3T Philips Interna	256x256	182	1x1x1
ABIDE_MAX_MUN	Munster, DEU	3T Siemens Verio	256x256	160	1x1x1
ABIDE_NYU	New-York, USA, 1	3T Siemens Allegra	256x256	128	1.3x1x1.3
ABIDE_OLIN	Hartford, USA, 1	3T Siemens Allegra	256x256	176	1x1x1
ABIDE_PITT	Pittsburgh, USA	3T Siemens Allegra	269x269	176	1x1x1
ABIDE_SBL	Groningen, NLD	3T Philips Interna	256x231	170	1x1x1
ABIDE_SDSU	San Diego, USA	3T GE MR750	256x256	180	1x1x1
ABIDE_STANFORD	Stanford, USA	3T GR Signa	256x256	132	0.859x1.5x0.859
ABIDE_TCD	Dublin, IRL	3T Philips Achieva	256x256	160	1x1x1
ABIDE_UM_1	Michigan, USA, 1	3T GE Signa	256x256	128	1x1x1
ABIDE_UM_2	Michigan, USA, 2	3T GE Signa	256x256	128	1x1x1
ABIDE_USM	Salt Lake City, USA	3T Siemens Trio	256x240	192	1x1x1.2
ABIDE_YALE	New Haven, USA	3T Siemens Trio	256x256	160	1x1x1
ABIDEII-BNI_1	Phoenix, USA	3T Philips Ingenia	244x227	170	1.11x1.11x1.2
ABIDEII-EMC_1	Rotterdam, NLD	3T GE MR750	256x256	186	0.9x0.9x0.9
ABIDEII-ETH_1	Zurich, CHE	3T Philips Achieva	256x256	162	0.89x0.89x0.89
ABIDEII-GU_1	Georgetown, WA, USA	3T Siemens TrioTim	256x256	176	1x1x1
ABIDEII-IP_1	Paris, FRA	3T Siemens TrioTim	256x256	170	1x1x1
ABIDEII-IU_1	Bloomington, USA	3T Philips Achieva	256x256	180	0.7x0.7x0.7
ABIDEII-KKI_1	Baltimore, USA	3T Philips Achieva	256x200	200	1x1x1
ABIDEII-KUL	Leuven, BEL, 3	3T Philips Achieva	256x256	182	1.2x1.2x1.2
ABIDEII-NYU_1	New-York, USA, 2	3T Siemens Allegra	256x256	128	1.3x1x1.3
ABIDEII-NYU_2	New-York, USA, 3	3T Siemens Allegra	256x256	128	1.3x1x1.3
ABIDEII-OILH_2	Hartford, USA, 2	3T Siemens Trio	256x256	208	0.8x0.8x0.8
ABIDEII-SDSU_1	San Diego, USA	3T GE MR750	256x192	176	1x1x1

ABIDEII-UCD_1	Davis, CA, USA	3T Siemens TrioTim	256x256	192	1x1x1
ABIDEII-UCLA_1	Los Angeles, USA	3T Siemens TrioTim	256x240	160	1x1x1.2
ABIDEII-USM_1	Miami, USA	3T Siemens TrioTim	256x256	220	1x1x1
Barcelona	Barcelona, ESP	3T Siemens Trio	NA	NA	NA
BRC	London, GBR	3T GE Signa HDx	256x256	166	1x1x1
CMU	Pittsburg, USA	3T Siemens Trio	256x256	NA	1x1x1
FAIR	Portland, USA	3T Siemens Trio	256x256	160	1x1x1.1
FRANKFURT	Frankfurt, DEU	1.5 T Siemens Sonata	256x240	160	1x1x1
FSM	Pisa, ITA	1.5T GE Signa	NA	NA	1x1x1
MRC	London, GBR	3T GE Signa HDx	256x256	176	1x1x1
MYAD	Marseille, FRA	1.5T Siemens Symphony	256x256	160	1x1x1
NIJMEGEN	Nijmegen, NLD, 1	1.5T Siemens Avanto	256x256	160	1x1x1
	Nijmegen, NLD, 2	1.5T Siemens Avanto	256x256	176	1x1x1
	Nijmegen, NLD, 3	1.5T Siemens Avanto	256x256	176	1x1x1
PHGGM	Madrid, ESP	1.5T Philips Intera	256x256	176	1x1x1
PITT	Pittsburgh, USA	3T Siemens Allegra	256x256	176	1.05x1.05x1.05
SAOPAULO	Sao Paulo, BRA	3T Philips Achieva	192x192	160	1.36x1.36x1.2
TCD	Dublin, IRL	3T Philips Achieva	256x256	160	1x1x1
TORONTO	Toronto, CAN	3T Siemens Allegra	256x208	208	0.82x0.82x0.82
UMCU	Utrecht, NLD, 1	1.5T Philips Intera	256x256	130	1x1x1.5
	Utrecht, NLD, 2	1.5T Philips Intera	256x256	160	1x1x1.2

Supplementary Table S3: imaging acquisition details OCD working group

PI/name sample	Site/Country/Cohort	Scanner vendor and type	Matrix size	N slices	Voxel Size
Arnold	Ontario, CAN	3T Siemens Trio VB17	192x240	256	1x1x1
Benedetti	Milan, ITA	3T Philips Gyroscan Intera	256x256	220	1x1x1
Beucke	Berlin, GER	1.5T Siemens Sonata	256x224	176	1x1x1
Brennan	Massachusetts, USA	3T Siemens TrioTim syngo MR B17	256x256	128	1.3x1.0x1.3
Buitelaar	Nijmegen, NLD	3T Siemens PrismaFit	256x256	192	1x1x1
Cheng	Kunming, CHN I	1.5T GE Signa Excite	256x256	172	0.93x0.93x0.9
	Kunming, CHN II	3T Philips Achieva	228x228	230	1.1x1.1x0.6
Denys	Amsterdam, NLD	3T Philips Intera	256x256	182/180	1x0.5x0.5
Fitzgerald	Michigan, USA	3T GE Signa	256x256	124	1.02x1.02x1.2
Gruner	Connecticut, USA	3T GE Signa	256x256	216	0.976x0.976x1.0
van den Heuvel	Amsterdam, NLD I	1.5T Siemens Sonata	256x160	160	1x1x1.5
	Amsterdam, NLD II	3T GE Healthcare Signa HDxt	256x256	172	1x0.977x0.977
Hirano	Chiba, JPN I	3T GE Discovery MR750	256x256	178	1x1x1
	Chiba, JPN II	3T GE Discovery MR750	256x256	178	1x1x1
Hoexter	Sao Paulo, BRA I	1.5T GE Signa	256x192	248	0.94x0.94x0.80
	Sao Paulo, BRA II	3T Philips Achieva	256x256	208	1x0.977x0.977
Huyser	Amsterdam, NLD	3T Philips Intera MR	256x256	182	1x1x1.2
James	Oxford, GBR	1.5T Siemens Sonata	256x256	208	1x1x1
Koch	Munchen, GER	3T Philips Ingenia	240x240	170	1x1x1
Kvale	Bergen, NOR	3T GE Discovery MR750	256x256	192	1x1x1
Kwon	Seoul, KOR I	1.5T GE Signa	256x256	124	0.82x0.82x1.5
	Seoul, KOR II	1.5T Siemens Avanto	416x512	160-208	0.45x0.45x0.9
	Seoul, KOR III	3T Siemens Trio	256x256	208	1x0.977x0.977
Lazaro	Barcelona, ESP I	1.5T GE Signa LX	256x256	128	1x1x1
	Barcelona, ESP II	3T Siemens TrioTim	256x256	240	1x1x1

Mataix-Cols	Stockholm, SWE	1.5T GE Signa/HDx	256x256	124	0.94x0.94x1.5
Menchon	Barcelona, ESP	1.5T GE Signa Excite	256x256	130	1.2x1.2x1.2
Morgado	Braga, PRT	1.5T Siemens Avanto	256x256	176	1x1x1
Nakamae	Kyoto, JPN I	1.5T Philips Gyroscan Intera	256x256	130	0.98x0.98x1.5
	Kyoto, JPN II	3T Philips Gyroscan Intera	256x256	170	1x1x1
Nakao	Fukuoka, JPN	3T Philips Achieva TX	240x240	190	1.8x1.8x1.8
Nurmi	California, USA I	3T Siemens Trio	256x256	176	1x1x1
	California, USA II	3T Siemens Trio	256x256	176	1x1x1
Reddy	Bangalore, IND I	1.5T Siemens Vision	256x160	160	0.98x0.98x1
	Bangalore, IND II	3T Siemens Skyra	256x256	192	1x1x1
	Bangalore, IND III	3T Philips Achieva	256x256	165	1x1x1
Simpson/Marsh	New York, USA	3T GE Signa	256x256	164	0.976x0.976x1.0
	New York, USA	3T GE Signa	512x512	na	na
Soreni	Ontario, CAN	3T GE Excite	512x512	148	0.468x0.469x1
Spalletta	Rome, ITA	3T Siemens Allegra	256x256	176	1x1x1
Stein	Cape Town, ZAF	3T Siemens Allegra	256x256	160	1.3x1.0x1.0
Stern	New York, USA	3T Siemens Allegra	256x256	208	0.82x0.82x0.82
Stewart	British Columbia, CAN	3T GE Discovery 750	256x256	164	1x1x1
Tolin	Connecticut, USA	3T Siemens Allegra	64x64	29	1x1x1
Walitza	Zurich, CHE I	3T Philips Achieva	240x240	160	1x1x1
	Zurich, CHE II	3T Philips Achieva	240x240	160	1x1x1
Wang	Shanghai, CHN	3T Siemens Verio	256x256	192	1x1x1

Supplementary Table S4: demographics, clinical characteristics, age, sex, and numbers breakdown separately for patient groups and control subjects for the full sample

ALL		OCD (N total patients=2323)			ADHD (N total patients=2271)			ASD (N total patients=1777)			controls (N total controls= 5827)		
		number of sites included (47)			number of sites included (46)			number of sites included (55)			number of sites included (139)		
		data available for N patients	mean	sd	data available for N patients	mean	sd	data available for N patients	mean	sd	data available for N subjects	mean	sd
age		2323	27.80	11.40	2271	19.04	11.29	1777	15.26	8.70	5827	20.57	11.59
IQ		614	106.47	13.88	2021	105.29	14.89	1432	103.74	19.24	3836	111.27	13.95
		numbers with available data	N	%	numbers with available data	N	%	numbers with available data	N	%	numbers with available data	N	%
male		2323	1194	51.40	2271	1666	73.36	1777	1512	85.09	5827	3568	61.23
medication		2300	1039	45.17	1575	457	29.02	866	217	25.06	NA		
comorbid	OCD	-	-	-	1647	3	0.18	257	3	1.17			
	ADHD	1582	92	5.82	-	-	-	257	24	9.34			
	ASD	1504	14	0.93	930	7	0.75	-	-	-			
	TD	1615	51	3.16	901	6	0.67	257	1	0.39			
	Anx	1936	426	22.00	1628	42	2.58	257	7	2.72			
	Dep	1959	224	11.43	1587	12	0.76	257	9	3.50			

Abbreviations: sd= standard deviation; TD = Tourette's Disorder; Anx = Anxiety Disorder; Dep= Major Depressive Disorder

Supplementary Table S5*:* mega-analytic results for each subcortical structure comparing pediatric ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC					Leave-site out crossvalidation			ADHD vs HC					Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI		p-mean	p-min	p-max	Effect size	P-value	FDR P-value	95% CI		p-mean	p-min	p-max
thalamus	0.08	0.280	0.393	-0.064	0.222	0.05	0.02	0.25	0.05	0.170	0.170	-0.022	0.125	0.162	0.145	0.185
caudate	-0.10	0.292	0.393	-0.293	0.088	0.29	0.04	0.14	**-0.09**	**0.048**	**0.064**	**-0.181**	**-0.001**	0.046	0.026	0.090
putamen	0.10	0.264	0.393	-0.077	0.280	0.28	0.18	0.56	**-0.13**	**0.002**	**0.008**	**-0.212**	**-0.045**	0.003	0.001	0.009
pallidum	-0.06	0.543	0.621	-0.247	0.130	0.55	0.12	0.55	-0.07	0.104	0.119	-0.155	0.014	0.103	0.056	0.184
hippocampus	0.14	0.064	0.256	-0.008	0.296	0.07	0.19	0.92	**-0.08**	**0.036**	**0.058**	**-0.150**	**-0.005**	0.036	0.014	0.075
amygdala	0.14	0.295	0.393	-0.120	0.396	0.05	0.02	0.16	**-0.10**	**0.011**	**0.022**	**-0.174**	**-0.022**	0.013	0.005	0.089
accumbens	0.02	0.788	0.788	-0.156	0.206	0.80	0.02	0.56	**-0.13**	**0.003**	**0.008**	**-0.215**	**-0.044**	0.003	0.001	0.006
ICV	0.15	0.053	0.256	-0.002	0.303	**0.06**	0.60	0.90	**-0.13**	**0.001**	**0.008**	**-0.199**	**-0.055**	0.056	0.017	0.255

ROI	ASD vs HC					Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI		p-mean	p-min	p-max
thalamus	-0.01	0.842	0.842	-0.109	0.089	0.323	0.287	0.349
caudate	-0.03	0.498	0.752	-0.118	0.057	0.511	0.484	0.567
putamen	-0.03	0.564	0.752	-0.148	0.081	0.487	0.466	0.533
pallidum	-0.02	0.691	0.790	-0.100	0.066	0.596	0.568	0.635
hippocampus	-0.05	0.215	0.430	-0.116	0.026	0.264	0.245	0.280
amygdala	**-0.09**	**0.022**	**0.176**	**-0.161**	**-0.012**	0.053	0.050	0.055
accumbens	-0.09	0.153	0.408	-0.218	0.034	0.120	0.111	0.131
ICV	0.10	0.122	0.408	-0.027	0.231	0.133	0.125	0.153

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Leave-site-out crossvalidation shows the resulting p-value distribution after a crossvalidation loop has been run over all sites, consisting of the mean, min and max p-values obtained.

Supplementary Table S6*:* mega-analytic results for cortical thickness of each structure comparing pediatric ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex and scan site.

ROI	OCD vs HC				Leave-site out crossvalidation			ADHD vs HC				Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI	p-mean	p-min	p-max	Effect size	P-value	FDR P-value	95% CI	p-mean	p-min	p-max
banks superior temporal sulcus	-0.10	0.358	0.609	-0.321 – 0.116	0.367	0.131	0.716	-0.03	0.566	0.861	-0.133 – 0.073	0.565	0.425	0.684
caudal anterior cingulate cortex	0.05	0.664	0.801	-0.159 – 0.250	0.673	0.480	0.997	-0.02	0.749	0.903	-0.111 – 0.080	0.741	0.391	0.997
caudal middle frontal gyrus	-0.18	0.075	0.565	-0.375 – 0.018	0.082	0.027	0.265	-0.05	0.330	0.679	-0.139 – 0.047	0.334	0.216	0.658
cuneus cortex	-0.05	0.615	0.769	-0.243 – 0.144	0.629	0.334	0.956	-0.04	0.454	0.768	-0.127 – 0.057	0.471	0.249	0.684
entorhinal cortex	0.06	0.529	0.686	-0.134 – 0.262	0.528	0.328	0.965	-0.04	0.371	0.721	-0.127 – 0.047	0.383	0.294	0.495
fusiform gyrus	-0.01	0.894	0.920	-0.209 – 0.183	0.891	0.571	0.999	**-0.14**	**0.003**	**0.053**	**-0.227 – -0.045**	0.003	0.002	0.005
inferior parietal cortex	**-0.23**	**0.028**	**0.565**	**-0.435 – -0.024**	0.030	0.013	0.064	-0.06	0.241	0.562	-0.150 – 0.038	0.243	0.206	0.351
inferior temporal gyrus	-0.01	0.893	0.920	-0.204 – 0.178	0.883	0.645	0.982	-0.05	0.278	0.608	-0.138 – 0.040	0.278	0.179	0.394
isthmus cingulate cortex	0.14	0.198	0.565	-0.071 – 0.343	0.198	0.109	0.548	0.01	0.934	0.961	-0.146 – 0.159	0.726	0.402	1.000
lateral occipital cortex	-0.07	0.490	0.660	-0.263 – 0.126	0.496	0.300	0.869	**-0.10**	**0.034**	**0.298**	**-0.188 – -0.008**	0.037	0.023	0.064
lateral orbitofrontal cortex	-0.07	0.449	0.655	-0.250 – 0.110	0.454	0.212	0.729	0.00	0.979	0.979	-0.086 – 0.083	0.963	0.725	0.994
lingual gyrus	0.08	0.414	0.630	-0.105 – 0.255	0.413	0.227	0.686	-0.08	0.070	0.363	-0.164 – 0.006	0.070	0.042	0.097
medial orbitofrontal cortex	-0.10	0.256	0.609	-0.283 – 0.076	0.263	0.142	0.608	0.03	0.523	0.832	-0.057 – 0.111	0.533	0.288	0.930
middle temporal gyrus	-0.14	0.185	0.565	-0.340 – 0.066	0.187	0.040	0.402	-0.01	0.824	0.915	-0.106 – 0.085	0.820	0.672	0.891
parahippocampal gyrus	0.02	0.813	0.918	-0.180 – 0.229	0.810	0.563	0.975	-0.09	0.070	0.363	-0.183 – 0.007	0.072	0.056	0.116
paracentral lobule	-0.11	0.296	0.609	-0.307 – 0.094	0.304	0.137	0.831	-0.07	0.170	0.541	-0.161 – 0.028	0.175	0.099	0.300
pars opercularis	-0.09	0.383	0.609	-0.297 – 0.114	0.389	0.132	0.657	-0.09	0.083	0.363	-0.182 – 0.011	0.085	0.064	0.154
pars orbitalis	-0.10	0.348	0.609	-0.294 – 0.103	0.366	0.217	0.533	0.01	0.774	0.903	-0.080 – 0.108	0.784	0.618	0.935
pars triangularis	-0.14	0.150	0.565	-0.340 – 0.052	0.159	0.088	0.379	-0.02	0.664	0.903	-0.113 – 0.072	0.656	0.454	0.774
pericalcarine cortex	0.03	0.748	0.873	-0.160 – 0.223	0.758	0.455	0.973	-0.06	0.220	0.555	-0.147 – 0.034	0.213	0.114	0.344
postcentral gyrus	-0.01	0.945	0.945	-0.215 – 0.200	0.911	0.482	0.988	-0.07	0.154	0.539	-0.167 – 0.026	0.163	0.127	0.276
posterior cingulate cortex	0.14	0.175	0.565	-0.063 – 0.345	0.188	0.102	0.487	0.02	0.727	0.903	-0.078 – 0.112	0.732	0.586	0.926
precentral gyrus	-0.08	0.479	0.660	-0.283 – 0.133	0.486	0.225	0.898	**-0.16**	**0.001**	**0.035**	**-0.255 – -0.061**	0.002	0.001	0.005

precuneus cortex	-0.17	0.091	0.565	-0.369	–	0.027	0.099	0.041	0.267	-0.08	0.078	0.363	-0.179	–	0.010	0.082	0.062	0.125
rostral anterior cingulate cortex	-0.14	0.146	0.565	-0.326	–	0.048	0.155	0.080	0.572	0.06	0.452	0.768	-0.095	–	0.213	0.245	0.141	0.633
rostral middle frontal gyrus	-0.10	0.283	0.609	-0.273	–	0.080	0.295	0.175	0.486	-0.02	0.594	0.866	-0.106	–	0.060	0.589	0.350	0.728
superior frontal gyrus	-0.14	0.152	0.565	-0.325	–	0.051	0.160	0.069	0.434	0.01	0.837	0.915	-0.078	–	0.097	0.841	0.648	1.000
superior parietal cortex	-0.18	0.069	0.565	-0.380	–	0.014	0.073	0.015	0.200	-0.06	0.211	0.555	-0.151	–	0.033	0.217	0.164	0.312
superior temporal gyrus	-0.10	0.324	0.609	-0.296	–	0.098	0.324	0.167	0.536	-0.02	0.718	0.903	-0.108	–	0.075	0.718	0.570	0.896
supramarginal gyrus	-0.17	0.106	0.565	-0.371	–	0.036	0.112	0.045	0.278	-0.06	0.222	0.555	-0.151	–	0.035	0.224	0.135	0.306
frontal pole	0.11	0.289	0.609	-0.090	–	0.301	0.291	0.145	0.455	-0.01	0.909	0.961	-0.098	–	0.087	0.895	0.556	0.990
temporal pole	0.02	0.868	0.920	-0.177	–	0.210	0.878	0.686	0.974	**-0.10**	**0.028**	**0.298**	**-0.193**	–	**-0.011**	0.028	0.014	0.051
transverse temporal cortex	-0.09	0.370	0.609	-0.288	–	0.107	0.373	0.251	0.900	0.04	0.461	0.768	-0.058	–	0.129	0.473	0.342	0.778
insula	-0.12	0.210	0.565	-0.313	–	0.069	0.216	0.091	0.547	-0.02	0.679	0.903	-0.107	–	0.070	0.674	0.487	0.953
average thickness	-0.13	0.179	0.565	-0.324	–	0.060	0.182	0.076	0.362	-0.07	0.117	0.455	-0.164	–	0.018	0.119	0.073	0.182

ROI	ASD vs HC						Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI			p-mean	p-min	p-max
banks superior temporal sulcus	-0.13	0.087	0.160	-0.285	–	0.019	0.116	0.101	0.121
caudal anterior cingulate cortex	-0.11	0.192	0.269	-0.285	–	0.057	0.172	0.159	0.183
caudal middle frontal gyrus	-0.14	0.138	0.210	-0.316	–	0.044	0.167	0.147	0.178
cuneus cortex	0.00	0.994	0.994	-0.171	–	0.170	0.655	0.614	0.692
entorhinal cortex	**-0.23**	**0.003**	**0.053**	**-0.380**	–	**-0.081**	0.009	0.007	0.009
fusiform gyrus	**-0.23**	**0.005**	**0.058**	**-0.390**	–	**-0.068**	0.009	0.009	0.010
inferior parietal cortex	-0.14	0.137	0.210	-0.331	–	0.045	0.162	0.155	0.167
inferior temporal gyrus	**-0.19**	**0.036**	**0.118**	**-0.369**	–	**-0.013**	0.053	0.051	0.058
isthmus cingulate cortex	0.05	0.348	0.420	-0.051	–	0.144	0.593	0.574	0.617
lateral occipital cortex	-0.17	0.066	0.142	-0.347	–	0.011	0.175	0.154	0.210
lateral orbitofrontal cortex	-0.12	0.120	0.200	-0.271	–	0.031	0.129	0.126	0.132
lingual gyrus	-0.07	0.404	0.456	-0.221	–	0.089	0.407	0.384	0.425

medial orbitofrontal cortex	-0.06	0.504	0.535	-0.252	–	0.124	0.515	0.504	0.526
middle temporal gyrus	**-0.23**	**0.009**	**0.063**	**-0.405**	–	**-0.056**	0.014	0.013	0.015
parahippocampal gyrus	**-0.18**	**0.012**	**0.070**	**-0.315**	–	**-0.039**	0.020	0.019	0.021
paracentral lobule	-0.14	0.065	0.142	-0.280	–	0.008	0.086	0.084	0.088
pars opercularis	**-0.19**	**0.033**	**0.118**	**-0.362**	–	**-0.015**	0.043	0.041	0.044
pars orbitalis	-0.10	0.258	0.334	-0.264	–	0.071	0.279	0.241	0.305
pars triangularis	-0.18	0.081	0.158	-0.376	–	0.022	0.102	0.093	0.111
pericalcarine cortex	**0.11**	**0.017**	**0.085**	**0.020**	–	**0.199**	0.175	0.172	0.184
postcentral gyrus	**-0.11**	**0.025**	**0.109**	**-0.205**	–	**-0.013**	0.079	0.076	0.081
posterior cingulate cortex	-0.07	0.421	0.460	-0.242	–	0.101	0.367	0.342	0.383
precentral gyrus	**-0.19**	**0.008**	**0.063**	**-0.333**	–	**-0.051**	0.016	0.015	0.017
precuneus cortex	-0.12	0.214	0.288	-0.304	–	0.068	0.352	0.343	0.357
rostral anterior cingulate cortex	-0.07	0.333	0.416	-0.219	–	0.074	0.354	0.337	0.360
rostral middle frontal gyrus	-0.09	0.378	0.441	-0.285	–	0.108	0.420	0.383	0.457
superior frontal gyrus	-0.13	0.144	0.210	-0.300	–	0.044	0.157	0.145	0.167
superior parietal cortex	**-0.17**	**0.037**	**0.118**	**-0.331**	–	**-0.010**	0.049	0.048	0.051
superior temporal gyrus	-0.16	0.097	0.170	-0.354	–	0.029	0.081	0.078	0.083
supramarginal gyrus	-0.18	0.062	0.142	-0.377	–	0.009	0.074	0.067	0.077
frontal pole	-0.05	0.537	0.553	-0.215	–	0.112	0.530	0.469	0.573
temporal pole	**-0.24**	**0.001**	**0.035**	**-0.371**	–	**-0.099**	0.000	0.000	0.000
transverse temporal cortex	-0.19	0.054	0.142	-0.392	–	0.004	0.037	0.035	0.039
insula	-0.13	0.069	0.142	-0.276	–	0.011	0.073	0.068	0.077
average thickness	-0.20	0.056	0.142	-0.400	–	0.005	0.071	0.069	0.072

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.

A negative Effect size indicates a thinner cortex of region x in patient group y versus healthy controls; a positive Effect size indicates a thicker cortex of region x in patient group y versus healthy controls.
Leave-site-out crossvalidation shows the resulting p-value distribution after a crossvalidation loop has been run over all sites, consisting of the mean, min and max p-values obtained.

Supplementary Table S7*:* mega-analytic results for each subcortical structure comparing adolescent ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC								Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI					p-mean	p-min	p-max
thalamus	**0.11**	**0.030**	**0.240**	**0.011**	–	**0.211**			0.034	0.027	0.141
caudate	0.05	0.414	0.915	-0.071	–	0.173			0.393	0.176	0.560
putamen	-0.01	0.91	0.915	-0.126	–	0.112			0.956	0.9120	0.975
pallidum	-0.01	0.826	0.915	-0.135	–	0.108			0.547	0.188	0.920
hippocampus	0.04	0.511	0.915	-0.073	–	0.147			0.567	0.522	0.663
amygdala	0.02	0.701	0.915	-0.094	–	0.139			0.753	0.620	0.959
accumbens	-0.05	0.393	0.915	-0.169	–	0.066			0.399	0.312	0.496
ICV	0.01	0.915	0.915	-0.114	–	0.127			0.916	0.908	0.951

ROI	ADHD vs HC						Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI			p-mean	p-min	p-max
thalamus	0.04	0.428	0.608	-0.056	–	0.133	0.524	0.456	0.859
caudate	-0.05	0.402	0.608	-0.158	–	0.063	0.461	0.265	0.690
putamen	-0.05	0.334	0.608	-0.156	–	0.053	0.300	0.291	0.398
pallidum	-0.07	0.186	0.608	-0.173	–	0.034	0.103	0.056	0.184
hippocampus	-0.01	0.873	0.873	-0.106	–	0.090	0.844	0.789	0.899
amygdala	-0.03	0.558	0.638	-0.132	–	0.071	0.521	0.512	0.577
accumbens	-0.04	0.456	0.608	-0.145	–	0.065	0.451	0.388	0.501
ICV	**-0.19**	**0.000**	**0.000**	**-0.280**	–	**-0.093**	0.001	0.000	0.002

ROI	ASD vs HC						Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI			p-mean	p-min	p-max
thalamus	-0.05	0.238	0.476	-0.124	–	0.031	0.323	0.217	0.349
caudate	-0.08	0.114	0.304	-0.172	–	0.018	0.111	0.104	0.267
putamen	-0.12	0.08	0.304	-0.259	–	0.014	0.048	0.046	0.093
pallidum	-0.12	0.06	0.304	-0.242	–	0.005	0.059	0.056	0.063
hippocampus	0.01	0.801	0.842	-0.095	–	0.123	0.841	0.755	0.952
amygdala	-0.01	0.842	0.842	-0.146	–	0.119	0.053	0.050	0.055
accumbens	-0.07	0.463	0.617	-0.257	–	0.117	0.444	0.421	0.489
ICV	0.04	0.433	0.617	-0.057	–	0.134	0.388	0.380	0.510

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.

A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Leave-site-out crossvalidation shows the resulting p-value distribution after a crossvalidation loop has been run over all sites, consisting of the mean, min and max p-values obtained.

Supplementary Table S8*:* mega-analytic results for surface area of each structure comparing adolescent ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC					Leave-site out crossvalidation			ADHD vs HC					Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI		p-mean	p-min	p-max	Effect size	P-value	FDR P-value	95% CI		p-mean	p-min	p-max
banks superior temporal sulcus	-0.01	0.909	0.982	-0.133	0.118	0.925	0.539	0.981	-0.01	0.828	0.856	-0.105	0.084	0.541	0.457	0.965
caudal anterior cingulate cortex	-0.07	0.263	0.837	-0.195	0.053	0.265	0.128	0.481	-0.03	0.498	0.772	-0.127	0.062	0.507	0.323	0.885
caudal middle frontal gyrus	-0.02	0.803	0.969	-0.136	0.105	0.797	0.544	0.954	-0.08	0.081	0.627	-0.175	0.010	0.084	0.052	0.194
cuneus cortex	-0.06	0.297	0.866	-0.187	0.057	0.305	0.189	0.602	-0.07	0.140	0.627	-0.165	0.023	0.143	0.078	0.362
entorhinal cortex	0.03	0.670	0.969	-0.109	0.169	0.635	0.425	0.932	0.03	0.533	0.772	-0.069	0.134	0.547	0.191	0.989
fusiform gyrus	-0.03	0.555	0.950	-0.142	0.076	0.563	0.271	0.978	-0.04	0.407	0.772	-0.119	0.048	0.415	0.328	0.872
inferior parietal cortex	-0.07	0.201	0.812	-0.188	0.039	0.205	0.112	0.434	-0.02	0.578	0.772	-0.109	0.061	0.584	0.494	0.955
inferior temporal gyrus	0.03	0.652	0.969	-0.104	0.165	0.702	0.254	0.982	**-0.12**	**0.022**	**0.627**	**-0.224**	**-0.017**	0.082	0.018	0.385
isthmus cingulate cortex	0.08	0.175	0.812	-0.036	0.199	0.163	0.050	0.339	-0.06	0.214	0.681	-0.149	0.033	0.212	0.123	0.356
lateral occipital cortex	0.00	0.954	0.982	-0.112	0.106	0.942	0.586	0.994	-0.06	0.179	0.627	-0.142	0.026	0.184	0.115	0.357
lateral orbitofrontal cortex	-0.09	0.097	0.566	-0.195	0.016	0.107	0.029	0.352	0.02	0.557	0.772	-0.057	0.106	0.564	0.436	0.872
lingual gyrus	0.02	0.781	0.969	-0.108	0.144	0.783	0.519	0.972	-0.02	0.619	0.772	-0.122	0.073	0.605	0.325	0.842
medial orbitofrontal cortex	**-0.20**	**0.000**	**0.000**	**-0.307**	**-0.094**	0.000	0.000	0.011	0.02	0.657	0.772	-0.063	0.100	0.655	0.332	0.982
middle temporal gyrus	-0.03	0.570	0.950	-0.134	0.074	0.584	0.432	0.977	-0.01	0.798	0.856	-0.090	0.069	0.782	0.414	0.974
parahippocampal gyrus	-0.01	0.910	0.982	-0.133	0.119	0.892	0.571	0.996	0.02	0.662	0.772	-0.075	0.119	0.670	0.272	0.964
paracentral lobule	**-0.16**	**0.010**	**0.117**	**-0.283**	**-0.038**	0.014	0.004	0.099	0.02	0.652	0.772	-0.073	0.117	0.630	0.449	0.775
pars opercularis	-0.01	0.850	0.982	-0.136	0.112	0.887	0.634	0.984	-0.09	0.148	0.627	-0.221	0.033	0.113	0.010	0.242
pars orbitalis	-0.07	0.232	0.812	-0.185	0.045	0.245	0.081	0.652	0.04	0.418	0.772	-0.052	0.126	0.418	0.257	0.636
pars triangularis	-0.06	0.335	0.902	-0.182	0.062	0.374	0.202	0.819	-0.06	0.177	0.627	-0.159	0.029	0.175	0.098	0.503
pericalcarine cortex	0.00	0.988	0.988	-0.130	0.128	0.969	0.631	0.999	-0.10	0.057	0.627	-0.197	0.003	0.055	0.011	0.132
postcentral gyrus	-0.04	0.483	0.939	-0.148	0.070	0.494	0.246	0.899	0.02	0.583	0.772	-0.060	0.106	0.578	0.430	0.908
posterior cingulate cortex	**-0.20**	**0.001**	**0.018**	**-0.312**	**-0.083**	0.001	0.000	0.020	-0.07	0.111	0.627	-0.160	0.017	0.112	0.046	0.227
precentral gyrus	0.02	0.672	0.969	-0.084	0.130	0.641	0.448	0.956	-0.01	0.879	0.879	-0.088	0.076	0.867	0.499	1.000

precuneus cortex	0.02	0.749	0.969	-0.090	–	0.125	0.740	0.311	0.994	-0.03	0.533	0.772	-0.109	–	0.056	0.546	0.153	0.955
rostral anterior cingulate cortex	-0.05	0.371	0.928	-0.166	–	0.062	0.389	0.216	0.721	-0.03	0.430	0.772	-0.122	–	0.052	0.433	0.232	0.768
rostral middle frontal gyrus	-0.10	0.052	0.455	-0.211	–	0.001	0.057	0.017	0.237	-0.02	0.580	0.772	-0.105	–	0.059	0.579	0.332	0.978
superior frontal gyrus	-0.09	0.096	0.566	-0.189	–	0.015	0.108	0.039	0.340	-0.06	0.148	0.627	-0.135	–	0.020	0.151	0.094	0.272
superior parietal cortex	-0.02	0.770	0.969	-0.130	–	0.097	0.789	0.365	0.950	**-0.09**	**0.047**	**0.627**	**-0.176**	–	**-0.001**	0.051	0.024	0.130
superior temporal gyrus	0.00	0.936	0.982	-0.112	–	0.103	0.924	0.548	0.996	0.01	0.832	0.856	-0.073	–	0.091	0.833	0.310	0.962
supramarginal gyrus	0.04	0.452	0.939	-0.070	–	0.158	0.454	0.189	0.831	-0.03	0.468	0.772	-0.116	–	0.053	0.477	0.363	0.665
frontal pole	0.06	0.403	0.939	-0.074	–	0.184	0.406	0.192	0.999	-0.04	0.384	0.772	-0.145	–	0.056	0.398	0.085	0.587
temporal pole	0.02	0.726	0.969	-0.107	–	0.153	0.756	0.497	0.994	0.01	0.814	0.856	-0.089	–	0.113	0.810	0.616	0.981
transverse temporal cortex	0.05	0.474	0.939	-0.079	–	0.171	0.466	0.220	0.798	0.03	0.521	0.772	-0.066	–	0.129	0.544	0.351	0.696
insula	-0.07	0.212	0.812	-0.175	–	0.039	0.220	0.102	0.576	0.03	0.460	0.772	-0.050	–	0.111	0.465	0.365	0.665
average thickness	-0.03	0.547	0.950	-0.110	–	0.058	0.560	0.308	0.951	-0.03	0.371	0.772	-0.095	–	0.036	0.377	0.239	0.616

ROI	ASD vs HC						Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI			p-mean	p-min	p-max
banks superior temporal sulcus	-0.07	0.255	0.743	-0.178	–	0.047	0.294	0.257	0.240
caudal anterior cingulate cortex	-0.05	0.371	0.743	-0.145	–	0.054	0.425	0.390	0.463
caudal middle frontal gyrus	-0.06	0.190	0.743	-0.162	–	0.032	0.251	0.228	0.278
cuneus cortex	-0.03	0.705	0.886	-0.162	–	0.110	0.701	0.653	0.750
entorhinal cortex	0.04	0.450	0.743	-0.065	–	0.146	0.495	0.434	0.556
fusiform gyrus	-0.06	0.309	0.743	-0.188	–	0.146	0.321	0.293	0.342
inferior parietal cortex	-0.02	0.788	0.890	-0.135	–	0.103	0.798	0.757	0.850
inferior temporal gyrus	-0.04	0.651	0.876	-0.202	–	0.126	0.369	0.332	0.392
isthmus cingulate cortex	-0.02	0.712	0.886	-0.113	–	0.077	0.974	0.922	0.998
lateral occipital cortex	-0.01	0.881	0.934	-0.143	–	0.123	0.924	0.881	0.990
lateral orbitofrontal cortex	-0.07	0.364	0.743	-0.210	–	0.077	0.336	0.307	0.372
lingual gyrus	-0.05	0.358	0.743	-0.150	–	0.054	0.319	0.273	0.340

medial orbitofrontal cortex	-0.09	0.128	0.743	-0.206	–	0.026	0.143	0.131	0.158
middle temporal gyrus	-0.05	0.382	0.743	-0.162	–	0.062	0.388	0.350	0.426
parahippocampal gyrus	0.07	0.150	0.743	-0.027	–	0.176	0.381	0.352	0.406
paracentral lobule	0.00	0.996	0.996	-0.100	–	0.099	0.989	0.910	1.000
pars opercularis	-0.04	0.467	0.743	-0.137	–	0.063	0.433	0.402	0.463
pars orbitalis	0.02	0.638	0.876	-0.071	–	0.115	0.628	0.579	0.671
pars triangularis	-0.07	0.178	0.743	-0.167	–	0.031	0.241	0.206	0.276
pericalcarine cortex	**-0.11**	**0.043**	**0.743**	**-0.212**	–	**-0.003**	0.058	0.037	0.067
postcentral gyrus	-0.07	0.270	0.743	-0.198	–	0.055	0.335	0.307	0.368
posterior cingulate cortex	-0.08	0.083	0.743	-0.175	–	0.011	0.168	0.145	0.185
precentral gyrus	0.00	0.951	0.979	-0.083	–	0.088	0.899	0.841	0.946
precuneus cortex	-0.02	0.764	0.890	-0.150	–	0.110	0.821	0.770	0.857
rostral anterior cingulate cortex	-0.05	0.453	0.743	-0.176	–	0.078	0.454	0.421	0.497
rostral middle frontal gyrus	-0.03	0.530	0.773	-0.113	–	0.058	0.555	0.522	0.597
superior frontal gyrus	-0.04	0.455	0.743	-0.147	–	0.066	0.471	0.439	0.510
superior parietal cortex	-0.04	0.420	0.743	-0.129	–	0.054	0.589	0.527	0.633
superior temporal gyrus	-0.03	0.506	0.770	-0.112	–	0.055	0.571	0.547	0.628
supramarginal gyrus	**-0.10**	**0.036**	**0.743**	**-0.184**	–	**-0.006**	0.102	0.035	0.110
frontal pole	0.08	0.237	0.743	-0.054	–	0.217	0.244	0.212	0.301
temporal pole	-0.04	0.423	0.743	-0.148	–	0.062	0.417	0.385	0.450
transverse temporal cortex	-0.02	0.734	0.886	-0.149	–	0.105	0.696	0.653	0.763
insula	-0.01	0.853	0.933	-0.132	–	0.109	0.848	0.827	0.888
average thickness	-0.06	0.328	0.743	-0.168	–	0.056	0.353	0.322	0.380

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.

A negative Effect size indicates a smaller surface area of region x in patient group y versus healthy controls; a positive Effect size indicates a larger surface area of region x in patient group y versus healthy controls.

Leave-site-out crossvalidation shows the resulting p-value distribution after a crossvalidation loop has been run over all sites, consisting of the mean, min and max p-values obtained.

Supplementary Table S9*:* mega-analytic results for cortical cortical thickness of each structure comparing adolescent ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex and scan site.

ROI	OCD vs HC					Leave-site out crossvalidation			ADHD vs HC					Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI		p-mean	p-min	p-max	Effect size	P-value	FDR P-value	95% CI		p-mean	p-min	p-max
banks superior temporal sulcus	-0.06	0.389	0.469	-0.196	0.076	0.382	0.235	0.880	0.06	0.224	0.738	-0.039	0.166	0.220	0.072	0.455
caudal anterior cingulate cortex	0.06	0.333	0.469	-0.066	0.196	0.353	0.151	0.701	0.02	0.723	0.910	-0.082	0.118	0.734	0.401	0.979
caudal middle frontal gyrus	-0.10	0.294	0.469	-0.294	0.089	0.095	0.025	0.609	-0.06	0.251	0.738	-0.157	0.041	0.239	0.110	0.388
cuneus cortex	-0.09	0.179	0.392	-0.223	0.042	0.186	0.078	0.757	0.02	0.674	0.910	-0.080	0.124	0.678	0.416	0.926
entorhinal cortex	-0.07	0.347	0.469	-0.201	0.070	0.358	0.207	0.985	-0.07	0.164	0.738	-0.168	0.028	0.174	0.055	0.575
fusiform gyrus	-0.09	0.134	0.361	-0.213	0.028	0.139	0.062	0.348	**-0.10**	**0.029**	**0.338**	**-0.196**	**-0.011**	0.032	0.016	0.197
inferior parietal cortex	-0.14	0.163	0.380	-0.341	0.058	0.006	0.000	0.257	0.04	0.406	0.840	-0.054	0.135	0.414	0.152	0.628
inferior temporal gyrus	**-0.14**	**0.027**	**0.236**	**-0.262**	**-0.016**	0.030	0.015	0.163	0.00	0.987	0.987	-0.094	0.096	0.969	0.221	1.000
isthmus cingulate cortex	-0.07	0.269	0.469	-0.204	0.057	0.269	0.128	0.498	0.01	0.798	0.910	-0.087	0.114	0.791	0.425	0.983
lateral occipital cortex	**-0.17**	**0.007**	**0.158**	**-0.286**	**-0.045**	0.010	0.002	0.171	0.05	0.341	0.796	-0.048	0.138	0.349	0.147	0.622
lateral orbitofrontal cortex	-0.04	0.538	0.628	-0.167	0.087	0.549	0.328	0.818	-0.07	0.150	0.738	-0.171	0.026	0.152	0.086	0.277
lingual gyrus	-0.07	0.264	0.469	-0.197	0.054	0.270	0.133	0.524	-0.06	0.255	0.738	-0.153	0.041	0.261	0.052	0.480
medial orbitofrontal cortex	-0.01	0.831	0.856	-0.147	0.118	0.825	0.504	0.997	0.06	0.215	0.738	-0.037	0.166	0.220	0.126	0.327
middle temporal gyrus	-0.10	0.146	0.365	-0.225	0.033	0.154	0.049	0.616	-0.03	0.616	0.910	-0.124	0.073	0.616	0.400	0.959
parahippocampal gyrus	-0.03	0.695	0.760	-0.165	0.110	0.689	0.330	0.961	**-0.12**	**0.023**	**0.338**	**-0.229**	**-0.017**	0.024	0.012	0.053
paracentral lobule	-0.08	0.376	0.469	-0.257	0.097	0.203	0.031	0.666	-0.06	0.247	0.738	-0.156	0.040	0.255	0.144	0.708
pars opercularis	-0.13	0.063	0.276	-0.260	0.007	0.067	0.025	0.215	-0.02	0.643	0.910	-0.126	0.078	0.648	0.514	0.970
pars orbitalis	-0.11	0.125	0.361	-0.244	0.030	0.135	0.054	0.355	0.00	0.974	0.987	-0.104	0.107	0.968	0.777	0.999
pars triangularis	-0.10	0.116	0.361	-0.231	0.025	0.122	0.059	0.281	0.02	0.704	0.910	-0.080	0.118	0.710	0.542	0.858
pericalcarine cortex	-0.08	0.212	0.436	-0.214	0.047	0.221	0.088	0.623	-0.07	0.146	0.738	-0.176	0.026	0.156	0.097	0.353
postcentral gyrus	**-0.14**	**0.045**	**0.276**	**-0.267**	**-0.003**	0.049	0.030	0.151	-0.03	0.557	0.910	-0.131	0.070	0.557	0.328	0.814
posterior cingulate cortex	**-0.16**	**0.018**	**0.210**	**-0.286**	**-0.027**	0.020	0.005	0.177	0.04	0.421	0.840	-0.059	0.141	0.428	0.247	0.775
precentral gyrus	-0.13	0.061	0.276	-0.259	0.006	0.066	0.028	0.216	-0.10	0.057	0.499	-0.200	0.003	0.061	0.032	0.301

precuneus cortex	-0.08	0.389	0.469	-0.264	–	0.103	0.090	0.019	0.709	-0.02	0.712	0.910	-0.115	–	0.078	0.715	0.345	0.999
rostral anterior cingulate cortex	0.01	0.832	0.856	-0.115	–	0.143	0.834	0.559	0.997	0.01	0.780	0.910	-0.084	–	0.112	0.785	0.343	0.956
rostral middle frontal gyrus	-0.11	0.090	0.315	-0.235	–	0.017	0.098	0.043	0.205	0.01	0.904	0.982	-0.091	–	0.103	0.914	0.706	0.980
superior frontal gyrus	-0.12	0.079	0.307	-0.249	–	0.013	0.085	0.037	0.265	0.06	0.278	0.738	-0.044	–	0.155	0.300	0.139	0.438
superior parietal cortex	-0.17	0.057	0.276	-0.344	–	0.005	0.003	0.000	0.114	0.00	0.926	0.982	-0.091	–	0.100	0.918	0.472	1.000
superior temporal gyrus	-0.07	0.267	0.469	-0.207	–	0.057	0.267	0.174	0.615	0.02	0.667	0.910	-0.079	–	0.123	0.661	0.276	0.796
supramarginal gyrus	-0.09	0.309	0.469	-0.269	–	0.085	0.109	0.033	0.560	0.01	0.792	0.910	-0.084	–	0.110	0.801	0.496	0.988
frontal pole	-0.06	0.386	0.469	-0.197	–	0.076	0.394	0.167	0.847	-0.04	0.432	0.840	-0.148	–	0.063	0.436	0.170	0.693
temporal pole	-0.03	0.613	0.692	-0.168	–	0.099	0.623	0.458	0.851	**-0.14**	**0.007**	**0.245**	**-0.246**	–	**-0.040**	0.008	0.003	0.077
transverse temporal cortex	-0.07	0.302	0.469	-0.195	–	0.061	0.307	0.095	0.747	-0.01	0.792	0.910	-0.113	–	0.086	0.783	0.526	0.979
insula	-0.01	0.927	0.927	-0.129	–	0.117	0.909	0.503	0.959	-0.05	0.295	0.738	-0.142	–	0.043	0.298	0.199	0.749
average thickness	**-0.17**	**0.009**	**0.158**	**-0.290**	–	**-0.042**	0.011	0.003	0.131	-0.01	0.806	0.910	-0.108	–	0.084	0.801	0.653	0.998

ROI	ASD vs HC						Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI			p-mean	p-min	p-max
banks superior temporal sulcus	-0.13	0.161	0.365	-0.308	–	0.051	0.135	0.126	0.141
caudal anterior cingulate cortex	-0.09	0.285	0.453	-0.249	–	0.073	0.177	0.154	0.213
caudal middle frontal gyrus	-0.12	0.203	0.365	-0.303	–	0.064	0.160	0.118	0.188
cuneus cortex	-0.06	0.551	0.622	-0.245	–	0.131	0.573	0.543	0.610
entorhinal cortex	**-0.18**	**0.020**	**0.365**	**-0.327**	–	**-0.028**	0.037	0.030	0.042
fusiform gyrus	-0.14	0.086	0.365	-0.304	–	0.020	0.101	0.093	0.106
inferior parietal cortex	-0.03	0.736	0.736	-0.219	–	0.154	0.723	0.684	0.779
inferior temporal gyrus	-0.08	0.345	0.464	-0.243	–	0.085	0.332	0.309	0.349
isthmus cingulate cortex	-0.04	0.678	0.719	-0.230	–	0.150	0.559	0.525	0.606
lateral occipital cortex	-0.05	0.585	0.640	-0.242	–	0.137	0.585	0.554	0.623
lateral orbitofrontal cortex	-0.12	0.164	0.365	-0.292	–	0.050	0.223	0.203	0.249
lingual gyrus	-0.07	0.492	0.574	-0.286	–	0.137	0.484	0.469	0.506

medial orbitofrontal cortex	-0.04	0.699	0.720	-0.214	–	0.144	0.748	0.700	0.818
middle temporal gyrus	-0.11	0.153	0.365	-0.268	–	0.042	0.179	0.169	0.190
parahippocampal gyrus	**-0.11**	**0.048**	**0.365**	**-0.220**	–	**-0.001**	0.045	0.036	0.053
paracentral lobule	-0.15	0.059	0.365	-0.306	–	0.005	0.062	0.056	0.069
pars opercularis	-0.15	0.059	0.365	-0.311	–	0.006	0.068	0.064	0.076
pars orbitalis	-0.08	0.365	0.464	-0.240	–	0.088	0.380	0.354	0.401
pars triangularis	-0.11	0.219	0.365	-0.296	–	0.068	0.234	0.221	0.255
pericalcarine cortex	-0.08	0.340	0.464	-0.251	–	0.086	0.529	0.487	0.579
postcentral gyrus	-0.09	0.219	0.365	-0.245	–	0.056	0.257	0.233	0.277
posterior cingulate cortex	-0.12	0.200	0.365	-0.292	–	0.061	0.111	0.099	0.128
precentral gyrus	-0.13	0.108	0.365	-0.281	–	0.028	0.117	0.109	0.125
precuneus cortex	-0.10	0.216	0.365	-0.263	–	0.059	0.229	0.214	0.253
rostral anterior cingulate cortex	-0.10	0.148	0.365	-0.237	–	0.036	0.132	0.114	0.153
rostral middle frontal gyrus	-0.10	0.358	0.464	-0.313	–	0.113	0.385	0.352	0.421
superior frontal gyrus	-0.14	0.150	0.365	-0.322	–	0.049	0.094	0.076	0.113
superior parietal cortex	-0.06	0.472	0.570	-0.225	–	0.104	0.505	0.455	0.582
superior temporal gyrus	-0.11	0.211	0.365	-0.271	–	0.060	0.176	0.172	0.180
supramarginal gyrus	-0.14	0.126	0.365	-0.319	–	0.040	0.146	0.131	0.159
frontal pole	-0.14	0.139	0.365	-0.317	–	0.044	0.149	0.135	0.164
temporal pole	-0.07	0.353	0.464	-0.225	–	0.080	0.377	0.331	0.406
transverse temporal cortex	-0.10	0.371	0.464	-0.305	–	0.114	0.311	0.301	0.321
insula	-0.11	0.147	0.365	-0.259	–	0.039	0.120	0.107	0.137
average thickness	-0.14	0.136	0.365	-0.334	–	0.046	0.152	0.142	0.161

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus healthy controls; a positive Effect size indicates a thicker cortex of region x in patient group y versus healthy controls.
Leave-site-out crossvalidation shows the resulting p-value distribution after a crossvalidation loop has been run over all sites, consisting of the mean, min and max p-values obtained.

Supplementary Table S10*:* mega-analytic results for each subcortical structure comparing adult ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC								Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI					p-mean	p-min	p-max
thalamus	-0.05	0.053	0.106	-0.109	–	0.001			0.013	0.001	0.067
caudate	0.01	0.806	0.902	-0.045	–	0.057			0.798	0.582	0.997
putamen	0.00	0.902	0.902	-0.043	–	0.049			0.884	0.543	0.994
pallidum	**0.09**	**0.007**	**0.028**	**0.025**	–	**0.154**			0.000	0.000	0.005
hippocampus	**-0.09**	**0.001**	**0.008**	**-0.135**	–	**-0.037**			0.001	0.000	0.007
amygdala	**-0.06**	**0.022**	**0.059**	**-0.106**	–	**-0.008**			0.024	0.008	0.056
accumbens	-0.03	0.254	0.406	-0.073	–	0.019			0.261	0.142	0.663
ICV	-0.01	0.594	0.792	-0.061	–	0.035			0.598	0.293	0.965

ROI	ADHD vs HC								Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI					p-mean	p-min	p-max
thalamus	-0.05	0.053	0.106	-0.109	–	0.001			0.855	0.340	0.983
caudate	0.01	0.806	0.902	-0.045	–	0.057			0.731	0.370	0.994
putamen	0.00	0.902	0.902	-0.043	–	0.049			0.823	0.227	0.983
pallidum	**0.09**	**0.007**	**0.028**	**0.025**	–	**0.154**			0.265	0.146	0.481
hippocampus	**-0.09**	**0.001**	**0.008**	**-0.135**	–	**-0.037**			0.864	0.477	0.981
amygdala	**-0.06**	**0.022**	**0.059**	**-0.106**	–	**-0.008**			0.638	0.299	0.888
accumbens	-0.03	0.254	0.406	-0.073	–	0.019			0.197	0.068	0.470
ICV	-0.01	0.594	0.792	-0.061	–	0.035			0.673	0.394	0.948

ROI	ASD vs HC								Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI					p-mean	p-min	p-max
thalamus	0.05	0.367	0.603	-0.061	–	0.166			0.500	0.385	0.548
caudate	0.01	0.914	0.914	-0.089	–	0.099			0.741	0.642	0.810
putamen	-0.10	0.293	0.603	-0.275	–	0.083			0.738	0.687	0.879
pallidum	0.03	0.666	0.888	-0.124	–	0.194			0.680	0.532	0.702
hippocampus	**-0.11**	**0.023**	**0.184**	**-0.197**	–	**-0.014**			0.119	0.059	0.212
amygdala	-0.08	0.274	0.603	-0.222	–	0.063			0.329	0.311	0.483
accumbens	-0.07	0.377	0.603	-0.241	–	0.091			0.621	0.480	0.730
ICV	-0.01	0.910	0.914	-0.147	–	0.131			0.939	0.815	0.978

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Leave-site-out crossvalidation shows the resulting p-value distribution after a crossvalidation loop has been run over all sites, consisting of the mean, min and max p-values obtained.

Supplementary Table S11: mega-analytic results for cortical thickness of each structure comparing adult ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex and scan site.

ROI	OCD vs HC					Leave-site out crossvalidation			ADHD vs HC					Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI		p-mean	p-min	p-max	Effect size	P-value	FDR P-value	95% CI		p-mean	p-min	p-max
banks superior temporal sulcus	-0.05	0.204	0.397	-0.129	0.028	0.167	0.046	0.438	0.04	0.303	0.758	-0.037	0.121	0.308	0.179	0.592
caudal anterior cingulate cortex	0.01	0.763	0.861	-0.046	0.063	0.764	0.433	0.923	**-0.08**	**0.049**	**0.574**	**-0.161**	**0.000**	0.053	0.028	0.230
caudal middle frontal gyrus	-0.08	0.099	0.289	-0.171	0.015	0.014	0.000	0.105	-0.03	0.487	0.821	-0.100	0.048	0.496	0.293	0.927
cuneus cortex	0.01	0.845	0.924	-0.063	0.077	0.719	0.177	0.913	0.05	0.222	0.758	-0.030	0.129	0.218	0.130	0.313
entorhinal cortex	-0.02	0.585	0.758	-0.077	0.043	0.582	0.289	0.881	-0.08	0.082	0.574	-0.165	0.010	0.087	0.021	0.309
fusiform gyrus	-0.08	0.058	0.226	-0.161	0.003	0.017	0.001	0.098	-0.03	0.464	0.821	-0.102	0.047	0.479	0.321	0.846
inferior parietal cortex	**-0.11**	**0.018**	**0.189**	**-0.205**	**-0.019**	0.000	0.000	0.005	0.05	0.159	0.696	-0.021	0.128	0.163	0.047	0.310
inferior temporal gyrus	**-0.10**	**0.014**	**0.189**	**-0.178**	**-0.020**	0.006	0.002	0.030	0.00	0.921	0.921	-0.077	0.085	0.899	0.663	0.996
isthmus cingulate cortex	-0.04	0.302	0.503	-0.125	0.039	0.079	0.023	0.344	0.03	0.519	0.821	-0.056	0.111	0.525	0.273	0.941
lateral occipital cortex	-0.07	0.077	0.270	-0.142	0.007	0.022	0.007	0.136	**0.10**	**0.013**	**0.455**	**0.021**	**0.178**	0.013	0.004	0.052
lateral orbitofrontal cortex	-0.07	0.056	0.226	-0.146	0.002	0.044	0.002	0.219	-0.02	0.671	0.905	-0.090	0.058	0.688	0.401	0.942
lingual gyrus	-0.02	0.538	0.724	-0.092	0.048	0.390	0.108	0.801	0.05	0.268	0.758	-0.035	0.128	0.261	0.156	0.371
medial orbitofrontal cortex	**-0.10**	**0.000**	**0.000**	**-0.148**	**-0.043**	0.000	0.000	0.004	-0.05	0.227	0.758	-0.126	0.030	0.233	0.138	0.468
middle temporal gyrus	**-0.10**	**0.027**	**0.189**	**-0.182**	**-0.011**	0.006	0.000	0.049	0.01	0.803	0.921	-0.069	0.089	0.794	0.482	0.995
parahippocampal gyrus	-0.03	0.277	0.503	-0.088	0.025	0.282	0.117	0.501	0.05	0.266	0.758	-0.037	0.136	0.271	0.140	0.528
paracentral lobule	-0.01	0.711	0.858	-0.085	0.058	0.584	0.350	0.996	-0.01	0.699	0.906	-0.090	0.060	0.712	0.391	0.975
pars opercularis	-0.06	0.140	0.335	-0.149	0.021	0.077	0.003	0.341	-0.03	0.494	0.821	-0.099	0.048	0.494	0.386	0.744
pars orbitalis	-0.06	0.127	0.335	-0.133	0.017	0.147	0.014	0.395	0.00	0.913	0.921	-0.087	0.078	0.906	0.596	1.000
pars triangularis	-0.06	0.153	0.335	-0.143	0.022	0.066	0.010	0.295	-0.01	0.762	0.921	-0.087	0.064	0.754	0.396	0.999
pericalcarine cortex	0.02	0.390	0.593	-0.027	0.070	0.390	0.074	0.624	0.02	0.672	0.905	-0.057	0.088	0.662	0.514	0.849
postcentral gyrus	0.00	0.949	0.954	-0.076	0.081	0.735	0.441	0.969	0.03	0.377	0.821	-0.041	0.109	0.386	0.072	0.652
posterior cingulate cortex	**-0.07**	**0.025**	**0.189**	**-0.139**	**-0.009**	0.006	0.001	0.043	-0.07	0.068	0.574	-0.143	0.005	0.074	0.024	0.346
precentral gyrus	-0.04	0.430	0.627	-0.126	0.053	0.322	0.056	0.963	-0.03	0.338	0.789	-0.105	0.036	0.352	0.137	0.573

precuneus cortex	-0.10	0.051	0.226	-0.198	–	0.000	0.001	0.000	0.024	0.03	0.522	0.821	-0.052	–	0.102	0.513	0.267	0.807
rostral anterior cingulate cortex	0.00	0.954	0.954	-0.050	–	0.053	0.932	0.509	0.999	-0.06	0.101	0.589	-0.140	–	0.012	0.104	0.040	0.435
rostral middle frontal gyrus	**-0.08**	**0.041**	**0.226**	**-0.152**	–	**-0.003**	0.007	0.001	0.047	0.01	0.851	0.921	-0.067	–	0.081	0.840	0.360	0.954
superior frontal gyrus	-0.05	0.301	0.503	-0.148	–	0.046	0.139	0.014	0.488	-0.02	0.563	0.821	-0.098	–	0.053	0.580	0.284	0.951
superior parietal cortex	-0.04	0.349	0.555	-0.127	–	0.045	0.084	0.023	0.535	0.07	0.082	0.574	-0.008	–	0.141	0.086	0.012	0.286
superior temporal gyrus	-0.02	0.524	0.724	-0.073	–	0.037	0.531	0.268	0.972	0.01	0.856	0.921	-0.073	–	0.088	0.861	0.478	0.975
supramarginal gyrus	-0.08	0.144	0.335	-0.183	–	0.027	0.009	0.002	0.060	0.02	0.560	0.821	-0.053	–	0.098	0.574	0.199	0.910
frontal pole	0.00	0.953	0.954	-0.059	–	0.056	0.929	0.432	0.994	0.05	0.282	0.758	-0.038	–	0.132	0.268	0.095	0.722
temporal pole	0.01	0.762	0.861	-0.049	–	0.066	0.773	0.439	0.981	-0.07	0.134	0.670	-0.155	–	0.021	0.138	0.070	0.416
transverse temporal cortex	-0.01	0.666	0.833	-0.067	–	0.043	0.674	0.387	0.989	0.00	0.915	0.921	-0.090	–	0.080	0.891	0.379	0.991
insula	-0.05	0.198	0.397	-0.124	–	0.026	0.289	0.043	0.618	-0.03	0.455	0.821	-0.107	–	0.048	0.470	0.357	0.803
average thickness	-0.08	0.087	0.277	-0.171	–	0.012	0.007	0.000	0.077	0.01	0.824	0.921	-0.064	–	0.080	0.810	0.405	0.996

ROI	ASD vs HC						Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI			p-mean	p-min	p-max
banks superior temporal sulcus	0.01	0.857	0.876	-0.087	–	0.105	0.864	0.789	0.955
caudal anterior cingulate cortex	0.08	0.296	0.609	-0.067	–	0.221	0.314	0.231	0.359
caudal middle frontal gyrus	0.06	0.452	0.715	-0.095	–	0.213	0.415	0.348	0.517
cuneus cortex	0.15	0.172	0.411	-0.064	–	0.357	0.035	0.024	0.042
entorhinal cortex	-0.12	0.282	0.609	-0.341	–	0.099	0.207	0.161	0.283
fusiform gyrus	-0.12	0.176	0.411	-0.288	–	0.053	0.218	0.178	0.260
inferior parietal cortex	-0.01	0.850	0.876	-0.144	–	0.119	0.985	0.890	1.000
inferior temporal gyrus	-0.14	0.123	0.411	-0.312	–	0.037	0.137	0.119	0.166
isthmus cingulate cortex	0.08	0.155	0.411	-0.028	–	0.179	0.206	0.169	0.264
lateral occipital cortex	-0.02	0.814	0.876	-0.187	–	0.147	0.395	0.334	0.495
lateral orbitofrontal cortex	0.12	0.069	0.268	-0.010	–	0.259	0.070	0.037	0.091
lingual gyrus	0.07	0.470	0.715	-0.121	–	0.263	0.061	0.044	0.075

medial orbitofrontal cortex	**0.21**	**0.003**	**0.035**	**0.071**	–	**0.341**	0.011	0.009	0.018
middle temporal gyrus	-0.06	0.527	0.769	-0.228	–	0.117	0.592	0.522	0.618
parahippocampal gyrus	-0.08	0.382	0.704	-0.270	–	0.103	0.445	0.393	0.552
paracentral lobule	0.06	0.458	0.715	-0.097	–	0.215	0.274	0.212	0.345
pars opercularis	**0.11**	**0.017**	**0.099**	**0.020**	–	**0.201**	0.121	0.071	0.165
pars orbitalis	**0.16**	**0.022**	**0.110**	**0.023**	–	**0.296**	0.027	0.012	0.037
pars triangularis	**0.24**	**0.000**	**0.000**	**0.150**	–	**0.337**	0.001	0.001	0.002
pericalcarine cortex	0.05	0.586	0.820	-0.127	–	0.225	0.186	0.121	0.208
postcentral gyrus	-0.01	0.854	0.876	-0.160	–	0.133	0.987	0.883	1.000
posterior cingulate cortex	**0.17**	**0.011**	**0.077**	**0.040**	–	**0.299**	0.017	0.011	0.023
precentral gyrus	-0.05	0.446	0.715	-0.187	–	0.082	0.561	0.416	0.701
precuneus cortex	0.01	0.842	0.876	-0.085	–	0.105	0.532	0.416	0.577
rostral anterior cingulate cortex	0.10	0.172	0.411	-0.043	–	0.240	0.287	0.178	0.383
rostral middle frontal gyrus	0.16	0.055	0.241	-0.004	–	0.331	0.040	0.033	0.060
superior frontal gyrus	**0.19**	**0.005**	**0.044**	**0.056**	–	**0.320**	0.016	0.013	0.021
superior parietal cortex	0.02	0.835	0.876	-0.143	–	0.177	0.450	0.364	0.522
superior temporal gyrus	-0.03	0.787	0.876	-0.239	–	0.181	0.976	0.901	0.999
supramarginal gyrus	0.02	0.723	0.876	-0.077	–	0.111	0.883	0.775	0.988
frontal pole	**0.19**	**0.000**	**0.000**	**0.090**	–	**0.300**	0.002	0.000	0.003
temporal pole	-0.15	0.172	0.411	-0.372	–	0.066	0.132	0.107	0.169
transverse temporal cortex	-0.02	0.819	0.876	-0.200	–	0.158	0.908	0.809	0.981
insula	-0.01	0.876	0.876	-0.150	–	0.128	0.975	0.898	0.998
average thickness	0.04	0.325	0.632	-0.044	–	0.134	0.300	0.232	0.383

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus healthy controls; a positive Effect size indicates a thicker cortex of region x in patient group y versus healthy controls.
Leave-site-out crossvalidation shows the resulting p-value distribution after a crossvalidation loop has been run over all sites, consisting of the mean, min and max p-values obtained.

Supplementary Table S12*:* mega-analytic results for surface area of each structure comparing adult ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				Leave-site out crossvalidation			ADHD vs HC				Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI	p-mean	p-min	p-max	Effect size	P-value	FDR P-value	95% CI	p-mean	p-min	p-max
banks superior temporal sulcus	0.01	0.698	0.865	-0.046 – 0.069	0.649	0.384	0.923	0.01	0.840	0.961	-0.072 – 0.088	0.963	0.695	0.999
caudal anterior cingulate cortex	-0.02	0.601	0.865	-0.073 – 0.042	0.606	0.271	0.817	-0.05	0.216	0.814	-0.135 – 0.030	0.220	0.112	0.474
caudal middle frontal gyrus	-0.01	0.735	0.865	-0.083 – 0.058	0.902	0.183	0.999	-0.03	0.477	0.831	-0.108 – 0.050	0.487	0.238	0.756
cuneus cortex	-0.02	0.667	0.865	-0.089 – 0.057	0.940	0.170	0.999	0.01	0.776	0.961	-0.070 – 0.094	0.784	0.544	0.983
entorhinal cortex	0.00	0.925	0.925	-0.068 – 0.061	0.925	0.485	0.995	0.01	0.826	0.961	-0.081 – 0.101	0.880	0.544	0.987
fusiform gyrus	-0.01	0.642	0.865	-0.077 – 0.048	0.878	0.294	1.000	-0.03	0.386	0.828	-0.111 – 0.043	0.386	0.147	0.616
inferior parietal cortex	0.02	0.393	0.865	-0.030 – 0.075	0.392	0.188	0.860	-0.03	0.425	0.828	-0.105 – 0.044	0.428	0.143	0.782
inferior temporal gyrus	0.01	0.649	0.865	-0.039 – 0.063	0.639	0.385	0.880	-0.02	0.575	0.839	-0.099 – 0.055	0.577	0.411	0.813
isthmus cingulate cortex	-0.01	0.583	0.865	-0.067 – 0.038	0.598	0.157	0.874	-0.02	0.680	0.904	-0.093 – 0.061	0.691	0.341	0.894
lateral occipital cortex	-0.03	0.457	0.865	-0.101 – 0.045	0.807	0.126	0.959	-0.01	0.853	0.961	-0.082 – 0.068	0.869	0.637	0.991
lateral orbitofrontal cortex	0.00	0.885	0.911	-0.062 – 0.054	0.705	0.340	0.858	-0.02	0.546	0.831	-0.093 – 0.049	0.553	0.206	0.970
lingual gyrus	-0.03	0.487	0.865	-0.096 – 0.046	0.829	0.105	0.984	0.01	0.879	0.961	-0.078 – 0.092	0.873	0.636	0.992
medial orbitofrontal cortex	0.01	0.634	0.865	-0.037 – 0.061	0.613	0.387	0.818	-0.03	0.426	0.828	-0.102 – 0.043	0.428	0.259	0.751
middle temporal gyrus	0.02	0.437	0.865	-0.031 – 0.071	0.428	0.217	0.681	-0.01	0.697	0.904	-0.090 – 0.060	0.697	0.482	0.996
parahippocampal gyrus	0.04	0.155	0.865	-0.015 – 0.097	0.161	0.078	0.461	**-0.09**	**0.046**	**0.537**	**-0.169 – -0.002**	0.047	0.016	0.145
paracentral lobule	0.02	0.523	0.865	-0.037 – 0.072	0.500	0.309	0.970	0.03	0.524	0.831	-0.054 – 0.105	0.505	0.348	0.705
pars opercularis	-0.05	0.064	0.621	-0.109 – 0.003	0.065	0.006	0.130	0.00	0.994	0.997	-0.081 – 0.080	0.960	0.617	0.999
pars orbitalis	-0.01	0.689	0.865	-0.063 – 0.041	0.701	0.180	0.929	-0.05	0.190	0.814	-0.127 – 0.025	0.194	0.058	0.502
pars triangularis	-0.07	0.055	0.621	-0.139 – 0.001	0.035	0.002	0.116	**-0.09**	**0.033**	**0.537**	**-0.167 – -0.007**	0.039	0.007	0.239
pericalcarine cortex	-0.01	0.832	0.904	-0.078 – 0.063	0.775	0.275	0.972	-0.05	0.269	0.814	-0.133 – 0.037	0.264	0.150	0.566
postcentral gyrus	-0.03	0.454	0.865	-0.091 – 0.040	0.675	0.095	0.988	-0.04	0.342	0.814	-0.112 – 0.039	0.353	0.171	0.556
posterior cingulate cortex	-0.04	0.264	0.865	-0.120 – 0.033	0.276	0.044	0.507	-0.05	0.186	0.814	-0.130 – 0.025	0.203	0.036	0.652
precentral gyrus	-0.01	0.707	0.865	-0.059 – 0.040	0.708	0.265	0.977	0.00	0.997	0.997	-0.072 – 0.072	0.978	0.836	1.000

precuneus cortex	-0.01	0.652	0.865	-0.061	–	0.038	0.669	0.167	0.909	-0.04	0.240	0.814	-0.117	–	0.029	0.249	0.149	0.506
rostral anterior cingulate cortex	0.01	0.852	0.904	-0.049	–	0.059	0.832	0.374	1.000	0.00	0.951	0.997	-0.081	–	0.076	0.930	0.513	0.999
rostral middle frontal gyrus	-0.01	0.847	0.904	-0.066	–	0.054	0.608	0.360	0.880	-0.05	0.138	0.814	-0.124	–	0.017	0.138	0.063	0.257
superior frontal gyrus	-0.03	0.355	0.865	-0.091	–	0.033	0.766	0.040	0.995	-0.03	0.321	0.814	-0.102	–	0.034	0.331	0.198	0.625
superior parietal cortex	-0.05	0.108	0.756	-0.121	–	0.012	0.205	0.007	0.350	-0.04	0.261	0.814	-0.120	–	0.033	0.268	0.166	0.418
superior temporal gyrus	-0.05	0.071	0.621	-0.101	–	0.004	0.073	0.003	0.227	-0.02	0.523	0.831	-0.100	–	0.051	0.525	0.356	0.772
supramarginal gyrus	-0.02	0.402	0.865	-0.078	–	0.031	0.396	0.044	0.644	0.02	0.546	0.831	-0.052	–	0.098	0.560	0.395	0.882
frontal pole	-0.01	0.691	0.865	-0.070	–	0.047	0.699	0.232	0.888	-0.02	0.616	0.862	-0.108	–	0.064	0.624	0.363	0.864
temporal pole	0.01	0.664	0.865	-0.047	–	0.073	0.628	0.348	0.854	-0.04	0.349	0.814	-0.130	–	0.046	0.344	0.230	0.868
transverse temporal cortex	**-0.12**	**0.001**	**0.035**	**-0.187**	–	**-0.051**	0.001	0.000	0.002	-0.05	0.217	0.814	-0.141	–	0.032	0.226	0.121	0.359
insula	-0.01	0.741	0.865	-0.056	–	0.040	0.751	0.159	0.958	**-0.08**	**0.022**	**0.537**	**-0.153**	–	**-0.012**	0.023	0.012	0.068
average thickness	-0.03	0.370	0.865	-0.082	–	0.030	0.845	0.032	0.970	-0.03	0.286	0.814	-0.096	–	0.028	0.296	0.158	0.473

ROI	ASD vs HC						Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI			p-mean	p-min	p-max
banks superior temporal sulcus	-0.09	0.161	0.691	-0.215	–	0.036	0.380	0.263	0.473
caudal anterior cingulate cortex	-0.05	0.471	0.749	-0.193	–	0.089	0.456	0.390	0.550
caudal middle frontal gyrus	0.03	0.615	0.791	-0.073	–	0.124	0.826	0.611	0.990
cuneus cortex	-0.09	0.103	0.691	-0.187	–	0.017	0.186	0.102	0.324
entorhinal cortex	-0.07	0.207	0.691	-0.178	–	0.039	0.286	0.189	0.416
fusiform gyrus	-0.05	0.252	0.691	-0.146	–	0.038	0.324	0.238	0.566
inferior parietal cortex	-0.04	0.444	0.749	-0.129	–	0.057	0.645	0.468	0.789
inferior temporal gyrus	-0.06	0.203	0.691	-0.153	–	0.032	0.205	0.146	0.310
isthmus cingulate cortex	0.05	0.330	0.710	-0.048	–	0.143	0.209	0.153	0.323
lateral occipital cortex	0.05	0.292	0.691	-0.043	–	0.144	0.132	0.100	0.202
lateral orbitofrontal cortex	-0.01	0.831	0.855	-0.099	–	0.079	0.761	0.555	0.894
lingual gyrus	-0.05	0.345	0.710	-0.153	–	0.053	0.450	0.311	0.542

medial orbitofrontal cortex	0.02	0.703	0.791	-0.073	0.108	0.507	0.426	0.648
middle temporal gyrus	-0.10	0.140	0.691	-0.228	0.032	0.219	0.157	0.290
parahippocampal gyrus	0.03	0.551	0.791	-0.070	0.132	0.674	0.463	0.905
paracentral lobule	0.07	0.158	0.691	-0.028	0.170	0.029	0.010	0.101
pars opercularis	0.04	0.444	0.749	-0.061	0.140	0.657	0.562	0.854
pars orbitalis	0.03	0.604	0.791	-0.070	0.120	0.513	0.296	0.605
pars triangularis	0.07	0.153	0.691	-0.027	0.173	0.100	0.083	0.150
pericalcarine cortex	-0.02	0.676	0.791	-0.128	0.083	0.703	0.554	0.817
postcentral gyrus	0.05	0.280	0.691	-0.042	0.144	0.385	0.280	0.443
posterior cingulate cortex	-0.06	0.198	0.691	-0.160	0.033	0.588	0.369	0.783
precentral gyrus	0.10	0.135	0.691	-0.031	0.230	0.191	0.153	0.266
precuneus cortex	-0.04	0.417	0.749	-0.129	0.054	0.959	0.865	0.992
rostral anterior cingulate cortex	-0.02	0.717	0.791	-0.115	0.079	0.823	0.655	0.930
rostral middle frontal gyrus	0.03	0.466	0.749	-0.055	0.120	0.315	0.231	0.452
superior frontal gyrus	0.00	0.909	0.909	-0.080	0.090	0.703	0.501	0.884
superior parietal cortex	0.03	0.606	0.791	-0.070	0.120	0.738	0.590	0.870
superior temporal gyrus	0.02	0.813	0.855	-0.116	0.148	0.908	0.868	0.997
supramarginal gyrus	0.02	0.677	0.791	-0.073	0.113	0.938	0.878	0.950
frontal pole	-0.02	0.675	0.791	-0.130	0.084	0.937	0.470	0.975
temporal pole	-0.06	0.289	0.691	-0.164	0.049	0.389	0.267	0.717
transverse temporal cortex	0.06	0.296	0.691	-0.049	0.160	0.383	0.198	0.544
insula	0.07	0.265	0.691	-0.057	0.206	0.300	0.174	0.373
average thickness	0.01	0.723	0.791	-0.063	0.091	0.628	0.468	0.736

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.

A negative Effect size indicates a smaller surface area of region x in patient group y versus healthy controls; a positive Effect size indicates a larger surface area of region x in patient group y versus healthy controls.
Leave-site-out crossvalidation shows the resulting p-value distribution after a crossvalidation loop has been run over all sites, consisting of the mean, min and max p-values obtained.

Supplementary Table S13*:* mega-analytic results for surface area of each structure comparing pediatric ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				Leave-site out crossvalidation			ADHD vs HC				Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI	p-mean	p-min	p-max	Effect size	P-value	FDR P-value	95% CI	p-mean	p-min	p-max
banks superior temporal sulcus	0.12	0.220	0.642	-0.069 – 0.301	0.062	0.019	0.338	0.00	0.944	0.944	-0.090 – 0.084	0.147	0.100	0.229
caudal anterior cingulate cortex	0.07	0.474	0.867	-0.114 – 0.246	0.470	0.259	0.941	-0.07	0.102	0.170	-0.156 – 0.014	0.102	0.036	0.164
caudal middle frontal gyrus	-0.06	0.520	0.867	-0.241 – 0.122	0.538	0.228	0.890	**-0.10**	**0.029**	**0.073**	**-0.183 – -0.010**	0.030	0.024	0.054
cuneus cortex	-0.15	0.102	0.642	-0.338 – 0.030	0.108	0.047	0.268	0.02	0.728	0.772	-0.073 – 0.104	0.731	0.582	0.987
entorhinal cortex	-0.05	0.653	0.914	-0.254 – 0.159	0.655	0.491	0.978	**-0.10**	**0.038**	**0.083**	**-0.192 – -0.005**	0.039	0.019	0.070
fusiform gyrus	-0.02	0.856	0.963	-0.180 – 0.149	0.851	0.596	0.972	**-0.09**	**0.018**	**0.057**	**-0.169 – -0.016**	0.018	0.008	0.041
inferior parietal cortex	-0.08	0.342	0.798	-0.248 – 0.086	0.342	0.173	0.798	**-0.08**	**0.044**	**0.091**	**-0.155 – -0.002**	0.045	0.021	0.080
inferior temporal gyrus	0.12	0.404	0.867	-0.164 – 0.407	0.375	0.124	0.731	**-0.14**	**0.003**	**0.026**	**-0.236 – -0.049**	0.144	0.114	0.233
isthmus cingulate cortex	-0.02	0.798	0.963	-0.209 – 0.160	0.786	0.437	0.953	**-0.11**	**0.014**	**0.053**	**-0.197 – -0.022**	0.013	0.005	0.024
lateral occipital cortex	0.00	0.954	0.982	-0.174 – 0.164	0.919	0.331	0.998	-0.06	0.151	0.220	-0.138 – 0.021	0.150	0.087	0.205
lateral orbitofrontal cortex	-0.10	0.199	0.642	-0.258 – 0.054	0.215	0.024	0.494	**-0.14**	**0.000**	**0.000**	**-0.212 – -0.065**	0.000	0.000	0.001
lingual gyrus	0.07	0.462	0.867	-0.114 – 0.250	0.474	0.260	0.861	-0.04	0.402	0.469	-0.125 – 0.050	0.403	0.268	0.620
medial orbitofrontal cortex	-0.13	0.099	0.642	-0.290 – 0.025	0.110	0.054	0.342	**-0.10**	**0.006**	**0.030**	**-0.179 – -0.031**	0.006	0.002	0.023
middle temporal gyrus	0.00	0.999	0.999	-0.157 – 0.157	0.951	0.500	0.998	-0.04	0.250	0.324	-0.117 – 0.030	0.249	0.201	0.324
parahippocampal gyrus	0.13	0.204	0.642	-0.068 – 0.321	0.215	0.105	0.381	-0.05	0.315	0.380	-0.138 – 0.045	0.315	0.187	0.516
paracentral lobule	-0.16	0.086	0.642	-0.337 – 0.022	0.092	0.006	0.199	**-0.12**	**0.007**	**0.031**	**-0.207 – -0.033**	0.006	0.002	0.013
pars opercularis	-0.17	0.075	0.642	-0.349 – 0.017	0.081	0.032	0.206	-0.03	0.449	0.507	-0.123 – 0.054	0.447	0.324	0.610
pars orbitalis	-0.13	0.130	0.642	-0.300 – 0.038	0.147	0.038	0.356	-0.08	0.058	0.107	-0.159 – 0.003	0.060	0.028	0.095
pars triangularis	-0.05	0.603	0.891	-0.234 – 0.136	0.606	0.350	0.829	-0.05	0.248	0.324	-0.143 – 0.037	0.247	0.148	0.313
pericalcarine cortex	-0.12	0.220	0.642	-0.314 – 0.072	0.233	0.139	0.370	0.01	0.875	0.901	-0.085 – 0.100	0.865	0.758	0.994
postcentral gyrus	-0.11	0.196	0.642	-0.285 – 0.058	0.201	0.130	0.342	-0.06	0.124	0.197	-0.144 – 0.017	0.124	0.083	0.212
posterior cingulate cortex	-0.01	0.925	0.981	-0.186 – 0.169	0.908	0.445	0.996	**-0.13**	**0.002**	**0.023**	**-0.213 – -0.046**	0.002	0.001	0.004
precentral gyrus	-0.11	0.201	0.642	-0.267 – 0.056	0.209	0.087	0.500	-0.06	0.151	0.220	-0.132 – 0.020	0.160	0.050	0.322

precuneus cortex	-0.05	0.519	0.867	-0.219	–	0.110	0.530	0.235	0.982	-0.07	0.102	0.170	-0.144	–	0.013	0.096	0.026	0.122
rostral anterior cingulate cortex	0.02	0.808	0.963	-0.141	–	0.181	0.751	0.319	0.976	**-0.11**	**0.004**	**0.028**	**-0.187**	–	**-0.036**	0.004	0.002	0.012
rostral middle frontal gyrus	-0.05	0.487	0.867	-0.209	–	0.099	0.497	0.200	0.880	-0.07	0.047	0.091	-0.147	–	-0.001	0.048	0.032	0.077
superior frontal gyrus	-0.12	0.112	0.642	-0.266	–	0.028	0.123	0.022	0.344	**-0.10**	**0.006**	**0.030**	**-0.165**	–	**-0.028**	0.006	0.003	0.016
superior parietal cortex	-0.09	0.334	0.798	-0.260	–	0.088	0.346	0.048	0.968	-0.04	0.295	0.369	-0.126	–	0.038	0.305	0.248	0.517
superior temporal gyrus	-0.01	0.880	0.963	-0.173	–	0.148	0.878	0.562	0.986	-0.08	0.036	0.083	-0.156	–	-0.005	0.036	0.019	0.049
supramarginal gyrus	-0.02	0.776	0.963	-0.197	–	0.147	0.734	0.536	0.866	-0.10	0.015	0.053	-0.178	–	-0.019	0.015	0.007	0.037
frontal pole	0.02	0.852	0.963	-0.171	–	0.208	0.823	0.365	0.996	0.02	0.701	0.767	-0.074	–	0.110	0.684	0.394	0.980
temporal pole	0.04	0.711	0.957	-0.156	–	0.229	0.709	0.341	0.922	-0.11	0.023	0.062	-0.200	–	-0.015	0.025	0.013	0.069
transverse temporal cortex	-0.05	0.611	0.891	-0.236	–	0.139	0.616	0.381	0.985	-0.06	0.206	0.288	-0.151	–	0.032	0.207	0.097	0.300
insula	-0.04	0.584	0.891	-0.199	–	0.112	0.597	0.230	0.961	-0.08	0.022	0.062	-0.156	–	-0.012	0.023	0.006	0.038
average thickness	-0.06	0.330	0.798	-0.187	–	0.063	0.340	0.132	0.644	**-0.09**	**0.002**	**0.023**	**-0.152**	–	**-0.034**	0.002	0.001	0.004

ROI	ASD vs HC						Leave-site out crossvalidation		
	Effect size	P-value	FDR P-value	95% CI			p-mean	p-min	p-max
banks superior temporal sulcus	**-0.13**	**0.003**	**0.053**	**-0.220**	–	**-0.045**	0.147	0.123	0.166
caudal anterior cingulate cortex	-0.03	0.474	0.691	-0.119	–	0.055	0.480	0.455	0.522
caudal middle frontal gyrus	**-0.14**	**0.003**	**0.053**	**-0.224**	–	**-0.046**	0.003	0.002	0.003
cuneus cortex	-0.03	0.467	0.691	-0.125	–	0.057	0.451	0.420	0.485
entorhinal cortex	0.06	0.258	0.602	-0.040	–	0.151	0.308	0.257	0.338
fusiform gyrus	-0.06	0.294	0.605	-0.161	–	0.049	0.280	0.261	0.305
inferior parietal cortex	-0.10	0.094	0.411	-0.218	–	0.017	0.061	0.054	0.072
inferior temporal gyrus	0.01	0.910	0.950	-0.157	–	0.176	0.362	0.337	0.396
isthmus cingulate cortex	0.07	0.110	0.428	-0.017	–	0.163	0.554	0.470	0.619
lateral occipital cortex	0.03	0.537	0.723	-0.056	–	0.107	0.731	0.655	0.760
lateral orbitofrontal cortex	-0.08	0.182	0.528	-0.185	–	0.035	0.174	0.160	0.193
lingual gyrus	-0.02	0.594	0.770	-0.115	–	0.066	0.382	0.340	0.475

medial orbitofrontal cortex	-0.06	0.348	0.662	-0.181	–	0.064	0.322	0.293	0.357
middle temporal gyrus	**-0.14**	**0.009**	**0.079**	**-0.244**	–	**-0.034**	0.016	0.013	0.019
parahippocampal gyrus	-0.01	0.914	0.950	-0.099	–	0.089	0.774	0.735	0.832
paracentral lobule	0.06	0.201	0.528	-0.031	–	0.147	0.408	0.357	0.449
pars opercularis	**-0.09**	**0.045**	**0.263**	**-0.184**	–	**-0.002**	0.060	0.054	0.065
pars orbitalis	-0.06	0.154	0.490	-0.144	–	0.023	0.279	0.255	0.306
pars triangularis	**-0.13**	**0.007**	**0.079**	**-0.219**	–	**-0.035**	0.015	0.014	0.018
pericalcarine cortex	-0.06	0.211	0.528	-0.156	–	0.034	0.217	0.184	0.247
postcentral gyrus	-0.01	0.923	0.950	-0.124	–	0.113	0.939	0.924	0.981
posterior cingulate cortex	0.01	0.813	0.949	-0.075	–	0.096	0.953	0.901	0.997
precentral gyrus	0.02	0.656	0.792	-0.060	–	0.096	0.621	0.567	0.650
precuneus cortex	0.03	0.525	0.723	-0.054	–	0.107	0.878	0.813	0.932
rostral anterior cingulate cortex	-0.07	0.065	0.325	-0.149	–	0.005	0.342	0.311	0.378
rostral middle frontal gyrus	-0.04	0.438	0.691	-0.143	–	0.062	0.430	0.401	0.482
superior frontal gyrus	-0.05	0.376	0.662	-0.145	–	0.055	0.398	0.370	0.434
superior parietal cortex	0.01	0.874	0.950	-0.077	–	0.091	0.849	0.758	0.907
superior temporal gyrus	-0.08	0.149	0.490	-0.185	–	0.028	0.170	0.157	0.188
supramarginal gyrus	0.00	0.990	0.990	-0.082	–	0.080	0.771	0.735	0.896
frontal pole	**0.11**	**0.027**	**0.189**	**0.012**	–	**0.201**	0.068	0.063	0.075
temporal pole	-0.02	0.623	0.779	-0.119	–	0.071	0.569	0.544	0.605
transverse temporal cortex	0.05	0.283	0.605	-0.043	–	0.145	0.351	0.309	0.390
insula	-0.03	0.428	0.691	-0.103	–	0.044	0.521	0.494	0.543
average thickness	-0.05	0.378	0.662	-0.149	–	0.057	0.325	0.300	0.371

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.

A negative Effect size indicates a smaller surface area of region x in patient group y versus healthy controls; a positive Effect size indicates a larger surface area of region x in patient group y versus healthy controls.

Leave-site-out crossvalidation shows the resulting p-value distribution after a crossvalidation loop has been run over all sites, consisting of the mean, min and max p-values obtained.

Supplementary Table S14: mega-analytic results for each subcortical structure comparing pediatric ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD					ASD vs OCD					ASD vs ADHD				
	Effect size	P-value	FDR P-value	95% CI		Effect size	P-value	FDR P-value	95% CI		Effect size	P-value	FDR P-value	95% CI	
thalamus	-0,03	0,736	0,914	-0,187	0,132	-0,09	0,312	0,499	-0,261	0,083	-0,06	0,322	0,594	-0,183	0,060
caudate	0,01	0,914	0,914	-0,198	0,221	0,07	0,495	0,660	-0,135	0,280	0,06	0,335	0,594	-0,063	0,184
putamen	**-0,23**	**0,021**	**0,056**	**-0,427**	**-0,034**	-0,14	0,208	0,499	-0,346	0,075	0,10	0,183	0,594	-0,045	0,235
pallidum	-0,01	0,91	0,914	-0,217	0,194	0,04	0,69	0,690	-0,163	0,246	0,05	0,371	0,594	-0,064	0,170
hippocampus	**-0,22**	**0,009**	**0,036**	**-0,389**	**-0,054**	**-0,19**	**0,026**	**0,208**	**-0,356**	**-0,023**	0,03	0,525	0,700	-0,068	0,133
amygdala	-0,24	0,085	0,170	-0,504	0,032	-0,22	0,099	0,396	-0,493	0,043	0,01	0,836	0,836	-0,094	0,116
accumbens	-0,15	0,13	0,208	-0,354	0,046	-0,12	0,296	0,499	-0,336	0,102	0,04	0,631	0,721	-0,114	0,189
ICV	**-0,28**	**0,001**	**0,008**	**-0,446**	**-0,110**	-0,05	0,629	0,690	-0,247	0,149	**0,23**	**0,002**	**0,016**	**0,082**	**0,375**

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus patient group z; a positive Effect size indicates a larger volume of region x in patient group y versus patient group z.

Supplementary Table S15: mega-analytic results for cortical thickness of each structure comparing pediatric ADHD, ASD and OCD patients, controlling for age, sex and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0,07	0,554	0,693	-0,167 – 0,312	-0,03	0,820	0,978	-0,294 – 0,233	-0,10	0,265	0,532	-0,284 – 0,078
caudal anterior cingulate cortex	-0,06	0,594	0,693	-0,285 – 0,163	-0,16	0,237	0,933	-0,424 – 0,105	-0,10	0,319	0,532	-0,292 – 0,095
caudal middle frontal gyrus	0,13	0,229	0,606	-0,083 – 0,348	0,04	0,753	0,978	-0,222 – 0,307	-0,09	0,378	0,554	-0,291 – 0,110
cuneus cortex	0,01	0,894	0,920	-0,197 – 0,226	0,05	0,706	0,978	-0,206 – 0,303	0,03	0,724	0,768	-0,157 – 0,226
entorhinal cortex	-0,10	0,346	0,606	-0,318 – 0,112	**-0,29**	**0,019**	**0,630**	**-0,540 – -0,048**	**-0,19**	**0,029**	**0,333**	**-0,362 – -0,019**
fusiform gyrus	-0,12	0,264	0,606	-0,337 – 0,092	-0,22	0,093	0,819	-0,467 – 0,036	-0,09	0,317	0,532	-0,276 – 0,090
inferior parietal cortex	0,17	0,129	0,606	-0,051 – 0,397	0,09	0,538	0,978	-0,189 – 0,363	-0,09	0,414	0,572	-0,295 – 0,122
inferior temporal gyrus	-0,04	0,735	0,804	-0,246 – 0,174	-0,18	0,179	0,933	-0,438 – 0,081	-0,14	0,159	0,532	-0,339 – 0,056
isthmus cingulate cortex	-0,13	0,319	0,606	-0,384 – 0,125	-0,09	0,439	0,978	-0,316 – 0,137	0,04	0,659	0,744	-0,138 – 0,218
lateral occipital cortex	-0,03	0,788	0,836	-0,242 – 0,184	-0,10	0,459	0,978	-0,362 – 0,163	-0,07	0,490	0,635	-0,269 – 0,129
lateral orbitofrontal cortex	0,07	0,497	0,669	-0,129 – 0,266	-0,05	0,672	0,978	-0,284 – 0,183	-0,12	0,175	0,532	-0,290 – 0,053
lingual gyrus	-0,15	0,127	0,606	-0,352 – 0,044	-0,14	0,240	0,933	-0,376 – 0,094	0,01	0,884	0,884	-0,162 – 0,188
medial orbitofrontal cortex	0,13	0,191	0,606	-0,066 – 0,328	0,04	0,762	0,978	-0,218 – 0,298	-0,09	0,380	0,554	-0,296 – 0,113
middle temporal gyrus	0,13	0,266	0,606	-0,096 – 0,348	-0,09	0,488	0,978	-0,359 – 0,171	**-0,22**	**0,028**	**0,333**	**-0,417 – -0,023**
parahippocampal gyrus	-0,11	0,323	0,606	-0,336 – 0,111	-0,20	0,105	0,819	-0,445 – 0,042	-0,09	0,289	0,532	-0,254 – 0,076
paracentral lobule	0,04	0,717	0,804	-0,179 – 0,261	-0,03	0,818	0,978	-0,273 – 0,216	-0,07	0,425	0,572	-0,240 – 0,101
pars opercularis	0,01	0,959	0,959	-0,219 – 0,231	-0,10	0,475	0,978	-0,364 – 0,169	-0,10	0,304	0,532	-0,300 – 0,094
pars orbitalis	0,11	0,327	0,606	-0,109 – 0,327	0,00	0,990	0,990	-0,259 – 0,255	-0,11	0,254	0,532	-0,300 – 0,079
pars triangularis	0,12	0,261	0,606	-0,092 – 0,338	-0,03	0,815	0,978	-0,310 – 0,244	-0,16	0,159	0,532	-0,374 – 0,061
pericalcarine cortex	-0,09	0,413	0,662	-0,298 – 0,123	0,08	0,467	0,978	-0,132 – 0,288	**0,17**	**0,009**	**0,315**	**0,041 – 0,291**
postcentral gyrus	-0,06	0,587	0,693	-0,290 – 0,164	-0,10	0,377	0,978	-0,328 – 0,124	-0,04	0,568	0,686	-0,173 – 0,095
posterior cingulate cortex	-0,12	0,275	0,606	-0,348 – 0,099	-0,21	0,117	0,819	-0,476 – 0,053	-0,09	0,378	0,554	-0,282 – 0,107
precentral gyrus	-0,08	0,473	0,662	-0,311 – 0,144	-0,12	0,358	0,978	-0,365 – 0,132	-0,03	0,697	0,762	-0,202 – 0,135

precuneus cortex	0,09	0,436	0,662	-0,131	–	0,303	0,05	0,699	0,978	-0,216	–	0,322	-0,03	0,751	0,773	-0,239	–	0,173
rostral anterior cingulate cortex	0,20	0,107	0,606	-0,043	–	0,438	0,07	0,581	0,978	-0,170	–	0,303	-0,13	0,221	0,532	-0,342	–	0,079
rostral middle frontal gyrus	0,07	0,454	0,662	-0,120	–	0,268	0,01	0,950	0,978	-0,254	–	0,271	-0,07	0,543	0,679	-0,278	–	0,146
superior frontal gyrus	0,15	0,163	0,606	-0,059	–	0,352	0,01	0,942	0,978	-0,243	–	0,262	-0,14	0,159	0,532	-0,328	–	0,054
superior parietal cortex	0,12	0,261	0,606	-0,092	–	0,340	0,01	0,921	0,978	-0,239	–	0,265	-0,11	0,233	0,532	-0,294	–	0,072
superior temporal gyrus	0,08	0,455	0,662	-0,134	–	0,298	-0,06	0,649	0,978	-0,336	–	0,209	-0,15	0,176	0,532	-0,356	–	0,065
supramarginal gyrus	0,11	0,335	0,606	-0,113	–	0,332	-0,02	0,909	0,978	-0,294	–	0,262	-0,13	0,246	0,532	-0,338	–	0,087
frontal pole	-0,11	0,309	0,606	-0,325	–	0,103	-0,16	0,221	0,933	-0,409	–	0,095	-0,05	0,626	0,730	-0,232	–	0,139
temporal pole	-0,12	0,275	0,606	-0,331	–	0,094	**-0,25**	**0,036**	**0,630**	**-0,486**	–	**-0,017**	-0,13	0,106	0,532	-0,295	–	0,028
transverse temporal cortex	0,13	0,256	0,606	-0,091	–	0,343	-0,10	0,464	0,978	-0,381	–	0,174	**-0,23**	**0,038**	**0,333**	**-0,447**	–	**-0,013**
insula	0,10	0,334	0,606	-0,106	–	0,313	-0,01	0,930	0,978	-0,248	–	0,227	-0,11	0,181	0,532	-0,281	–	0,053
average thickness	0,06	0,584	0,693	-0,152	–	0,270	-0,07	0,641	0,978	-0,343	–	0,211	-0,12	0,267	0,532	-0,345	–	0,096

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus patient group z; a positive Effect size indicates a thicker cortex of region x in patient group y versus patient group z.

Supplementary Table S16*:* mega-analytic results for surface area of each structure comparing pediatric ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0,12	0,250	0,875	-0,321 – 0,084	**-0,25**	**0,016**	**0,560**	**-0,451 – -0,046**	**-0,13**	**0,036**	**0,252**	**-0,251 – -0,008**
caudal anterior cingulate cortex	-0,14	0,173	0,875	-0,334 – 0,060	-0,10	0,332	0,732	-0,295 – 0,100	0,04	0,520	0,638	-0,080 – 0,158
caudal middle frontal gyrus	-0,04	0,717	0,929	-0,235 – 0,162	-0,08	0,456	0,732	-0,274 – 0,123	-0,04	0,529	0,638	-0,160 – 0,082
cuneus cortex	0,17	0,099	0,875	-0,032 – 0,371	0,12	0,245	0,732	-0,082 – 0,322	-0,05	0,431	0,636	-0,173 – 0,074
entorhinal cortex	-0,05	0,652	0,929	-0,275 – 0,172	0,10	0,369	0,732	-0,121 – 0,326	**0,15**	**0,020**	**0,175**	**0,024 – 0,284**
fusiform gyrus	-0,08	0,399	0,929	-0,258 – 0,103	-0,04	0,678	0,879	-0,234 – 0,152	0,04	0,574	0,670	-0,091 – 0,165
inferior parietal cortex	0,00	0,979	1,000	-0,180 – 0,185	-0,02	0,849	0,880	-0,222 – 0,183	-0,02	0,756	0,805	-0,161 – 0,117
inferior temporal gyrus	-0,26	0,083	0,875	-0,562 – 0,034	-0,11	0,502	0,732	-0,439 – 0,215	0,15	0,113	0,439	-0,036 – 0,340
isthmus cingulate cortex	-0,09	0,406	0,929	-0,288 – 0,117	0,10	0,347	0,732	-0,105 – 0,300	**0,18**	**0,003**	**0,070**	**0,060 – 0,305**
lateral occipital cortex	-0,05	0,574	0,929	-0,238 – 0,132	0,03	0,746	0,880	-0,155 – 0,216	0,08	0,142	0,452	-0,028 – 0,196
lateral orbitofrontal cortex	-0,04	0,676	0,929	-0,208 – 0,135	0,03	0,779	0,880	-0,162 – 0,216	0,06	0,342	0,636	-0,068 – 0,195
lingual gyrus	-0,11	0,299	0,929	-0,305 – 0,094	-0,09	0,363	0,732	-0,293 – 0,107	0,01	0,837	0,862	-0,110 – 0,135
medial orbitofrontal cortex	0,03	0,753	0,941	-0,145 – 0,201	0,07	0,463	0,732	-0,124 – 0,272	0,05	0,523	0,638	-0,096 – 0,188
middle temporal gyrus	-0,04	0,623	0,929	-0,215 – 0,129	-0,14	0,146	0,732	-0,325 – 0,048	-0,10	0,139	0,452	-0,222 – 0,031
parahippocampal gyrus	-0,17	0,110	0,875	-0,386 – 0,039	-0,13	0,226	0,732	-0,344 – 0,081	0,04	0,522	0,638	-0,086 – 0,170
paracentral lobule	0,04	0,710	0,929	-0,159 – 0,234	**0,22**	**0,032**	**0,560**	**0,019 – 0,413**	**0,18**	**0,004**	**0,070**	**0,057 – 0,299**
pars opercularis	0,13	0,197	0,875	-0,068 – 0,332	0,07	0,476	0,732	-0,128 – 0,274	-0,06	0,347	0,636	-0,182 – 0,064
pars orbitalis	0,05	0,580	0,929	-0,133 – 0,238	0,07	0,459	0,732	-0,116 – 0,256	0,02	0,759	0,805	-0,095 – 0,131
pars triangularis	0,00	0,970	1,000	-0,207 – 0,199	-0,08	0,452	0,732	-0,281 – 0,125	-0,07	0,246	0,574	-0,199 – 0,051
pericalcarine cortex	0,13	0,234	0,875	-0,083 – 0,340	0,06	0,579	0,779	-0,152 – 0,272	-0,07	0,299	0,616	-0,197 – 0,061
postcentral gyrus	0,05	0,603	0,929	-0,138 – 0,238	0,11	0,308	0,732	-0,099 – 0,313	0,06	0,426	0,636	-0,084 – 0,198
posterior cingulate cortex	-0,12	0,222	0,875	-0,315 – 0,073	0,02	0,850	0,880	-0,176 – 0,213	**0,14**	**0,019**	**0,175**	**0,023 – 0,257**
precentral gyrus	0,05	0,583	0,929	-0,127 – 0,226	0,12	0,173	0,732	-0,054 – 0,300	0,07	0,178	0,479	-0,033 – 0,180

precuneus cortex	-0,01	0,903	1,000	-0,192	–	0,169	0,08	0,384	0,732	-0,101	–	0,261	0,09	0,103	0,439	-0,019	–	0,202
rostral anterior cingulate cortex	-0,13	0,144	0,875	-0,307	–	0,045	-0,09	0,305	0,732	-0,268	–	0,084	0,04	0,469	0,638	-0,067	–	0,145
rostral middle frontal gyrus	-0,02	0,823	0,960	-0,189	–	0,150	0,01	0,880	0,880	-0,169	–	0,197	0,03	0,598	0,675	-0,091	–	0,158
superior frontal gyrus	0,02	0,782	0,944	-0,138	–	0,184	0,07	0,408	0,732	-0,102	–	0,250	0,05	0,398	0,636	-0,068	–	0,171
superior parietal cortex	0,04	0,667	0,929	-0,149	–	0,233	0,09	0,342	0,732	-0,098	–	0,284	0,05	0,389	0,636	-0,065	–	0,166
superior temporal gyrus	-0,07	0,449	0,929	-0,244	–	0,108	-0,07	0,497	0,732	-0,257	–	0,125	0,00	0,978	0,978	-0,127	–	0,131
supramarginal gyrus	-0,07	0,445	0,929	-0,262	–	0,115	0,02	0,800	0,880	-0,164	–	0,213	0,10	0,085	0,430	-0,014	–	0,210
frontal pole	0,00	1,000	1,000	-0,207	–	0,207	0,09	0,402	0,732	-0,119	–	0,296	0,09	0,172	0,479	-0,039	–	0,216
temporal pole	-0,14	0,181	0,875	-0,354	–	0,067	-0,06	0,576	0,779	-0,271	–	0,151	0,08	0,203	0,508	-0,045	–	0,212
transverse temporal cortex	-0,01	0,919	1,000	-0,215	–	0,194	0,10	0,339	0,732	-0,105	–	0,305	0,11	0,086	0,430	-0,016	–	0,237
insula	-0,04	0,643	0,929	-0,211	–	0,130	0,01	0,875	0,880	-0,157	–	0,184	0,05	0,297	0,616	-0,047	–	0,155
full surface area	-0,03	0,657	0,929	-0,168	–	0,106	0,02	0,848	0,880	-0,145	–	0,176	0,05	0,436	0,636	-0,071	–	0,164

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus patient group z; a positive Effect size indicates a larger surface area of region x in patient group y versus patient group z.

Supplementary Table S17: mega-analytic results for each subcortical structure comparing adolescent ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	-0,07	0,297	0,662	-0,208 – 0,064	**-0,16**	**0,013**	**0,104**	**-0,282 – -0,033**	-0,08	0,165	0,660	-0,204 – 0,035
caudate	-0,10	0,237	0,662	-0,261 – 0,064	-0,13	0,101	0,404	-0,279 – 0,025	-0,03	0,688	0,840	-0,172 – 0,113
putamen	-0,04	0,579	0,662	-0,202 – 0,113	-0,12	0,209	0,462	-0,296 – 0,065	-0,07	0,413	0,840	-0,241 – 0,099
pallidum	-0,06	0,488	0,662	-0,214 – 0,102	-0,11	0,231	0,462	-0,277 – 0,067	-0,05	0,546	0,840	-0,208 – 0,110
hippocampus	-0,05	0,546	0,662	-0,191 – 0,101	-0,02	0,769	0,866	-0,177 – 0,131	0,02	0,765	0,840	-0,123 – 0,167
amygdala	-0,05	0,497	0,662	-0,207 – 0,100	-0,04	0,684	0,866	-0,211 – 0,139	0,02	0,840	0,840	-0,148 – 0,182
accumbens	0,01	0,889	0,889	-0,145 – 0,168	-0,02	0,866	0,866	-0,239 – 0,201	-0,03	0,782	0,840	-0,243 – 0,183
ICV	**-0,19**	**0,012**	**0,096**	**-0,344 – -0,042**	0,03	0,684	0,866	-0,121 – 0,184	**0,22**	**0,001**	**0,008**	**0,093 – 0,356**

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus patient group z; a positive Effect size indicates a larger volume of region x in patient group y versus patient group z.

Supplementary Table S18: mega-analytic results for cortical thickness of each structure, comparing adolescent ADHD, ASD and OCD patients, controlling for age, sex and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0,12	0,152	0,528	-0,045 – 0,292	-0,07	0,547	0,999	-0,292 – 0,155	-0,19	0,066	0,647	-0,396 – 0,012
caudal anterior cingulate cortex	-0,05	0,573	0,806	-0,210 – 0,116	-0,15	0,145	0,999	-0,359 – 0,053	-0,11	0,266	0,647	-0,293 – 0,081
caudal middle frontal gyrus	0,04	0,684	0,894	-0,170 – 0,259	-0,02	0,900	0,999	-0,280 – 0,246	-0,06	0,561	0,701	-0,267 – 0,145
cuneus cortex	0,11	0,181	0,528	-0,052 – 0,277	0,03	0,773	0,999	-0,194 – 0,261	-0,08	0,462	0,647	-0,290 – 0,132
entorhinal cortex	0,00	0,954	0,982	-0,171 – 0,161	-0,11	0,271	0,999	-0,312 – 0,088	-0,11	0,234	0,647	-0,284 – 0,069
fusiform gyrus	-0,01	0,890	0,973	-0,162 – 0,141	-0,05	0,629	0,999	-0,250 – 0,151	-0,04	0,682	0,770	-0,223 – 0,146
inferior parietal cortex	0,18	0,105	0,525	-0,038 – 0,401	0,11	0,429	0,999	-0,162 – 0,381	-0,07	0,495	0,647	-0,279 – 0,135
inferior temporal gyrus	0,14	0,076	0,496	-0,015 – 0,295	0,06	0,563	0,999	-0,143 – 0,264	-0,08	0,405	0,647	-0,267 – 0,108
isthmus cingulate cortex	0,09	0,297	0,564	-0,076 – 0,250	0,03	0,774	0,999	-0,195 – 0,262	-0,05	0,622	0,727	-0,266 – 0,159
lateral occipital cortex	**0,21**	**0,006**	**0,210**	**0,059 – 0,362**	0,11	0,322	0,999	-0,110 – 0,336	-0,10	0,359	0,647	-0,307 – 0,111
lateral orbitofrontal cortex	-0,03	0,690	0,894	-0,192 – 0,127	-0,08	0,450	0,999	-0,293 – 0,130	-0,05	0,623	0,727	-0,244 – 0,146
lingual gyrus	0,02	0,848	0,957	-0,141 – 0,172	0,00	0,983	0,999	-0,247 – 0,241	-0,02	0,878	0,904	-0,248 – 0,212
medial orbitofrontal cortex	0,08	0,351	0,614	-0,087 – 0,245	-0,02	0,853	0,999	-0,242 – 0,200	-0,10	0,337	0,647	-0,303 – 0,104
middle temporal gyrus	0,07	0,392	0,653	-0,091 – 0,232	-0,02	0,866	0,999	-0,218 – 0,183	-0,09	0,344	0,647	-0,270 – 0,094
parahippocampal gyrus	-0,10	0,275	0,564	-0,267 – 0,076	-0,08	0,348	0,999	-0,255 – 0,090	0,01	0,865	0,904	-0,135 – 0,161
paracentral lobule	0,02	0,830	0,957	-0,179 – 0,223	-0,07	0,557	0,999	-0,304 – 0,164	-0,09	0,320	0,647	-0,274 – 0,089
pars opercularis	0,10	0,227	0,530	-0,064 – 0,268	-0,03	0,804	0,999	-0,231 – 0,179	-0,13	0,175	0,647	-0,314 – 0,057
pars orbitalis	0,11	0,211	0,528	-0,062 – 0,279	0,03	0,771	0,999	-0,179 – 0,242	-0,08	0,427	0,647	-0,269 – 0,114
pars triangularis	0,12	0,135	0,528	-0,038 – 0,283	-0,01	0,922	0,999	-0,232 – 0,210	-0,13	0,202	0,647	-0,338 – 0,071
pericalcarine cortex	0,01	0,920	0,976	-0,155 – 0,172	0,00	0,990	0,999	-0,210 – 0,213	-0,01	0,943	0,943	-0,201 – 0,187
postcentral gyrus	0,11	0,210	0,528	-0,059 – 0,270	0,04	0,686	0,999	-0,157 – 0,239	-0,06	0,480	0,647	-0,243 – 0,114
posterior cingulate cortex	**0,20**	**0,017**	**0,298**	**0,035 – 0,359**	0,04	0,712	0,999	-0,176 – 0,258	-0,16	0,126	0,647	-0,357 – 0,044
precentral gyrus	0,03	0,739	0,924	-0,137 – 0,194	0,00	0,999	0,999	-0,202 – 0,202	-0,03	0,761	0,832	-0,211 – 0,154

precuneus cortex	0,06	0,553	0,806	-0,144	–	0,269	-0,02	0,865	0,999	-0,263	–	0,221	-0,08	0,378	0,647	-0,269	–	0,102
rostral anterior cingulate cortex	0,00	1,000	1,000	-0,161	–	0,161	-0,11	0,227	0,999	-0,301	–	0,071	-0,11	0,175	0,647	-0,281	–	0,051
rostral middle frontal gyrus	0,12	0,153	0,528	-0,043	–	0,273	0,01	0,943	0,999	-0,237	–	0,255	-0,11	0,371	0,647	-0,338	–	0,126
superior frontal gyrus	**0,17**	**0,038**	**0,443**	**0,010**	–	**0,336**	-0,02	0,872	0,999	-0,244	–	0,206	-0,19	0,071	0,647	-0,399	–	0,017
superior parietal cortex	0,17	0,085	0,496	-0,024	–	0,372	0,11	0,369	0,999	-0,129	–	0,347	-0,07	0,499	0,647	-0,253	–	0,123
superior temporal gyrus	0,10	0,249	0,545	-0,068	–	0,261	-0,03	0,772	0,999	-0,241	–	0,179	-0,13	0,191	0,647	-0,319	–	0,064
supramarginal gyrus	0,10	0,306	0,564	-0,096	–	0,305	-0,05	0,706	0,999	-0,298	–	0,202	-0,15	0,138	0,647	-0,355	–	0,049
frontal pole	0,02	0,835	0,957	-0,152	–	0,188	-0,08	0,504	0,999	-0,300	–	0,147	-0,09	0,369	0,647	-0,300	–	0,112
temporal pole	-0,11	0,202	0,528	-0,276	–	0,058	-0,04	0,710	0,999	-0,239	–	0,162	0,07	0,446	0,647	-0,111	–	0,252
transverse temporal cortex	0,05	0,509	0,806	-0,106	–	0,214	-0,03	0,820	0,999	-0,272	–	0,215	-0,08	0,483	0,647	-0,312	–	0,147
insula	-0,04	0,576	0,806	-0,197	–	0,109	-0,10	0,286	0,999	-0,297	–	0,088	-0,06	0,493	0,647	-0,235	–	0,113
average thickness	0,15	0,053	0,464	-0,002	–	0,310	0,02	0,848	0,999	-0,203	–	0,247	-0,13	0,219	0,647	-0,343	–	0,079

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus patient group z; a positive Effect size indicates a thicker cortex of region x in patient group y versus patient group z.

Supplementary Table S19: mega-analytic results for surface area of each structure comparing adolescent ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0,00	0,971	0,979	-0,158 – 0,152	-0,06	0,424	0,905	-0,219 – 0,092	-0,06	0,367	0,964	-0,192 – 0,071
caudal anterior cingulate cortex	0,04	0,626	0,979	-0,115 – 0,192	0,03	0,749	0,905	-0,130 – 0,181	-0,01	0,851	0,964	-0,146 – 0,120
caudal middle frontal gyrus	-0,07	0,378	0,882	-0,217 – 0,082	-0,05	0,520	0,905	-0,201 – 0,101	0,02	0,790	0,964	-0,112 – 0,148
cuneus cortex	-0,01	0,937	0,979	-0,157 – 0,145	0,04	0,671	0,905	-0,140 – 0,217	0,04	0,585	0,964	-0,116 – 0,205
entorhinal cortex	0,00	0,979	0,979	-0,167 – 0,171	0,01	0,903	0,964	-0,159 – 0,180	0,01	0,908	0,964	-0,133 – 0,150
fusiform gyrus	0,00	0,971	0,979	-0,139 – 0,134	-0,03	0,706	0,905	-0,194 – 0,132	-0,03	0,701	0,964	-0,176 – 0,118
inferior parietal cortex	0,05	0,486	0,979	-0,090 – 0,190	0,06	0,485	0,905	-0,104 – 0,220	0,01	0,914	0,964	-0,136 – 0,151
inferior temporal gyrus	-0,03	0,667	0,979	-0,166 – 0,106	-0,08	0,343	0,905	-0,249 – 0,087	-0,05	0,509	0,964	-0,205 – 0,102
isthmus cingulate cortex	-0,14	0,063	0,651	-0,286 – 0,008	-0,10	0,190	0,905	-0,248 – 0,049	0,04	0,545	0,964	-0,089 – 0,168
lateral occipital cortex	-0,05	0,434	0,949	-0,190 – 0,082	-0,01	0,936	0,964	-0,177 – 0,163	0,05	0,548	0,964	-0,107 – 0,202
lateral orbitofrontal cortex	0,11	0,093	0,651	-0,019 – 0,246	0,02	0,802	0,905	-0,154 – 0,199	-0,09	0,275	0,964	-0,255 – 0,073
lingual gyrus	-0,04	0,594	0,979	-0,199 – 0,114	-0,07	0,415	0,905	-0,224 – 0,092	-0,02	0,739	0,964	-0,159 – 0,113
medial orbitofrontal cortex	**0,22**	**0,001**	**0,035**	**0,086 – 0,352**	0,11	0,163	0,905	-0,045 – 0,266	-0,11	0,128	0,964	-0,248 – 0,031
middle temporal gyrus	0,02	0,765	0,979	-0,110 – 0,150	-0,02	0,797	0,905	-0,171 – 0,132	-0,04	0,567	0,964	-0,175 – 0,096
parahippocampal gyrus	0,03	0,718	0,979	-0,128 – 0,186	0,08	0,312	0,905	-0,077 – 0,241	0,05	0,448	0,964	-0,084 – 0,190
paracentral lobule	**0,18**	**0,019**	**0,333**	**0,030 – 0,334**	**0,16**	**0,041**	**0,905**	**0,006 – 0,314**	-0,02	0,744	0,964	-0,155 – 0,111
pars opercularis	-0,08	0,359	0,882	-0,256 – 0,093	-0,03	0,752	0,905	-0,180 – 0,130	0,06	0,478	0,964	-0,100 – 0,213
pars orbitalis	0,11	0,144	0,730	-0,037 – 0,250	0,09	0,212	0,905	-0,053 – 0,237	-0,01	0,822	0,964	-0,140 – 0,111
pars triangularis	-0,01	0,948	0,979	-0,155 – 0,145	-0,01	0,917	0,964	-0,160 – 0,144	0,00	0,964	0,964	-0,134 – 0,128
pericalcarine cortex	-0,10	0,238	0,833	-0,256 – 0,064	-0,11	0,194	0,905	-0,268 – 0,054	-0,01	0,880	0,964	-0,149 – 0,128
postcentral gyrus	0,06	0,369	0,882	-0,073 – 0,198	-0,03	0,702	0,905	-0,197 – 0,133	-0,09	0,214	0,964	-0,244 – 0,055
posterior cingulate cortex	0,13	0,085	0,651	-0,017 – 0,268	0,12	0,118	0,905	-0,029 – 0,260	-0,01	0,873	0,964	-0,135 – 0,115
precentral gyrus	-0,03	0,665	0,979	-0,163 – 0,104	-0,02	0,766	0,905	-0,155 – 0,115	0,01	0,879	0,964	-0,107 – 0,125

precuneus cortex	-0,04	0,522	0,979	-0,178	–	0,090	-0,04	0,659	0,905	-0,204	–	0,129	0,01	0,935	0,964	-0,145	–	0,158
rostral anterior cingulate cortex	0,02	0,814	0,979	-0,125	–	0,159	0,00	0,969	0,969	-0,165	–	0,172	-0,01	0,859	0,964	-0,165	–	0,138
rostral middle frontal gyrus	0,08	0,227	0,833	-0,051	–	0,214	0,08	0,259	0,905	-0,057	–	0,212	0,00	0,941	0,964	-0,120	–	0,112
superior frontal gyrus	0,03	0,651	0,979	-0,098	–	0,157	0,05	0,534	0,905	-0,100	–	0,192	0,02	0,799	0,964	-0,113	–	0,147
superior parietal cortex	-0,07	0,322	0,882	-0,213	–	0,070	-0,02	0,777	0,905	-0,164	–	0,123	0,05	0,420	0,964	-0,073	–	0,174
superior temporal gyrus	0,01	0,846	0,979	-0,121	–	0,147	-0,02	0,726	0,905	-0,158	–	0,110	-0,04	0,525	0,964	-0,152	–	0,078
supramarginal gyrus	-0,08	0,294	0,882	-0,216	–	0,065	-0,14	0,055	0,905	-0,281	–	0,003	-0,06	0,298	0,964	-0,184	–	0,056
frontal pole	-0,10	0,223	0,833	-0,260	–	0,061	0,03	0,775	0,905	-0,156	–	0,209	0,13	0,130	0,964	-0,037	–	0,289
temporal pole	-0,01	0,893	0,979	-0,172	–	0,149	-0,07	0,422	0,905	-0,228	–	0,095	-0,06	0,437	0,964	-0,194	–	0,084
transverse temporal cortex	-0,01	0,862	0,979	-0,169	–	0,141	-0,07	0,445	0,905	-0,241	–	0,106	-0,05	0,495	0,964	-0,209	–	0,101
insula	0,10	0,146	0,730	-0,034	–	0,232	0,06	0,484	0,905	-0,103	–	0,216	-0,04	0,566	0,964	-0,185	–	0,101
full surface area	0,00	0,940	0,979	-0,110	–	0,102	-0,03	0,671	0,905	-0,170	–	0,109	-0,03	0,691	0,964	-0,155	–	0,103

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus patient group z; a positive Effect size indicates a larger surface area of region x in patient group y versus patient group z.

Supplementary Table S20: mega-analytic results for each subcortical structure comparing adult ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	0,05	0,247	0,816	-0,035 – 0,136	0,11	0,097	0,776	-0,019 – 0,233	0,06	0,403	0,920	-0,075 – 0,19
caudate	-0,02	0,677	0,903	-0,113 – 0,074	0,00	0,983	0,983	-0,107 – 0,105	0,02	0,763	0,921	-0,103 – 0,14
putamen	-0,01	0,792	0,905	-0,095 – 0,073	-0,10	0,294	0,983	-0,284 – 0,086	-0,09	0,098	0,392	-0,279 – 0,10
pallidum	-0,05	0,370	0,816	-0,145 – 0,054	-0,05	0,533	0,983	-0,225 – 0,116	-0,01	0,921	0,921	-0,184 – 0,17
hippocampus	0,09	0,046	0,368	0,002 – 0,182	-0,02	0,709	0,983	-0,122 – 0,083	-0,11	0,064	0,392	-0,229 – 0,01
amygdala	0,04	0,408	0,816	-0,052 – 0,129	-0,02	0,770	0,983	-0,173 – 0,128	-0,06	0,460	0,920	-0,222 – 0,10
accumbens	-0,02	0,616	0,903	-0,108 – 0,064	-0,05	0,583	0,983	-0,220 – 0,124	-0,03	0,777	0,921	-0,207 – 0,15
ICV	0,00	0,946	0,946	-0,090 – 0,084	0,00	0,947	0,983	-0,142 – 0,152	0,01	0,920	0,921	-0,148 – 0,16

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus patient group z; a positive Effect size indicates a larger volume of region x in patient group y versus patient group z.

Supplementary Table S21: mega-analytic results for cortical thickness of each structure comparing adult ADHD, ASD and OCD patients, controlling for age, sex and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0,09	0,102	0,400	-0,018 – 0,203	0,06	0,344	0,608	-0,064 – 0,183	-0,03	0,604	0,813	-0,156 – 0,091
caudal anterior cingulate cortex	-0,09	0,070	0,370	-0,185 – 0,007	0,07	0,382	0,608	-0,085 – 0,222	0,16	0,059	0,229	-0,006 – 0,321
caudal middle frontal gyrus	0,05	0,391	0,573	-0,067 – 0,170	0,14	0,134	0,361	-0,042 – 0,317	0,09	0,325	0,739	-0,085 – 0,255
cuneus cortex	0,04	0,430	0,602	-0,063 – 0,148	0,14	0,216	0,434	-0,082 – 0,361	0,10	0,395	0,739	-0,127 – 0,321
entorhinal cortex	-0,06	0,257	0,529	-0,167 – 0,045	-0,10	0,370	0,608	-0,332 – 0,124	-0,04	0,721	0,869	-0,279 – 0,193
fusiform gyrus	0,05	0,361	0,573	-0,059 – 0,162	-0,04	0,690	0,812	-0,227 – 0,150	-0,09	0,342	0,739	-0,275 – 0,095
inferior parietal cortex	**0,17**	**0,006**	**0,105**	**0,047 – 0,284**	0,10	0,223	0,434	-0,061 – 0,260	-0,07	0,387	0,739	-0,216 – 0,084
inferior temporal gyrus	0,10	0,074	0,370	-0,010 – 0,216	-0,04	0,696	0,812	-0,229 – 0,153	-0,14	0,148	0,432	-0,333 – 0,050
isthmus cingulate cortex	0,07	0,235	0,514	-0,046 – 0,187	0,12	0,078	0,248	-0,013 – 0,249	0,05	0,479	0,788	-0,084 – 0,179
lateral occipital cortex	**0,17**	**0,002**	**0,070**	**0,059 – 0,275**	0,05	0,612	0,812	-0,135 – 0,229	-0,12	0,200	0,510	-0,303 – 0,063
lateral orbitofrontal cortex	0,06	0,289	0,562	-0,048 – 0,161	**0,20**	**0,012**	**0,047**	**0,044 – 0,350**	0,14	0,070	0,245	-0,012 – 0,293
lingual gyrus	0,07	0,213	0,497	-0,039 – 0,175	0,09	0,372	0,608	-0,111 – 0,297	0,02	0,814	0,869	-0,183 – 0,233
medial orbitofrontal cortex	0,05	0,322	0,573	-0,046 – 0,141	**0,30**	**0,000**	**0,000**	**0,157 – 0,446**	**0,25**	**0,001**	**0,018**	**0,100 – 0,409**
middle temporal gyrus	0,11	0,072	0,370	-0,009 – 0,223	0,04	0,675	0,812	-0,151 – 0,233	-0,07	0,495	0,788	-0,255 – 0,123
parahippocampal gyrus	0,08	0,125	0,400	-0,022 – 0,183	-0,05	0,600	0,812	-0,246 – 0,142	-0,13	0,204	0,510	-0,336 – 0,072
paracentral lobule	0,00	0,979	0,979	-0,104 – 0,102	0,07	0,406	0,618	-0,099 – 0,244	0,07	0,401	0,739	-0,099 – 0,246
pars opercularis	0,04	0,502	0,676	-0,073 – 0,150	**0,17**	**0,006**	**0,030**	**0,051 – 0,298**	**0,14**	**0,021**	**0,147**	**0,021 – 0,252**
pars orbitalis	0,05	0,342	0,573	-0,057 – 0,164	**0,22**	**0,006**	**0,030**	**0,063 – 0,373**	**0,16**	**0,042**	**0,201**	**0,006 – 0,322**
pars triangularis	0,05	0,393	0,573	-0,063 – 0,160	**0,30**	**0,000**	**0,000**	**0,179 – 0,428**	**0,25**	**0,000**	**0,000**	**0,136 – 0,374**
pericalcarine cortex	-0,01	0,897	0,976	-0,093 – 0,081	0,03	0,768	0,867	-0,155 – 0,210	0,03	0,732	0,869	-0,156 – 0,223
postcentral gyrus	0,03	0,571	0,740	-0,077 – 0,140	-0,02	0,847	0,898	-0,182 – 0,149	-0,05	0,568	0,813	-0,211 – 0,116
posterior cingulate cortex	0,01	0,920	0,976	-0,093 – 0,103	**0,24**	**0,001**	**0,009**	**0,099 – 0,388**	**0,24**	**0,002**	**0,023**	**0,090 – 0,387**
precentral gyrus	0,00	0,978	0,979	-0,112 – 0,115	-0,02	0,843	0,898	-0,178 – 0,145	-0,02	0,817	0,869	-0,169 – 0,134

precuneus cortex	0,12	0,052	0,370	-0,001	–	0,249	0,11	0,120	0,350	-0,028	–	0,246	-0,02	0,804	0,869	-0,136	–	0,106
rostral anterior cingulate cortex	-0,07	0,162	0,405	-0,157	–	0,026	0,10	0,205	0,434	-0,053	–	0,247	**0,16**	**0,046**	**0,201**	**0,003**	–	**0,321**
rostral middle frontal gyrus	0,08	0,112	0,400	-0,020	–	0,190	**0,24**	**0,010**	**0,044**	**0,059**	–	**0,424**	0,16	0,092	0,293	-0,026	–	0,339
superior frontal gyrus	0,03	0,643	0,776	-0,094	–	0,152	**0,24**	**0,004**	**0,028**	**0,076**	–	**0,402**	**0,21**	**0,006**	**0,053**	**0,059**	–	**0,361**
superior parietal cortex	0,11	0,064	0,370	-0,006	–	0,221	0,06	0,529	0,771	-0,123	–	0,239	-0,05	0,581	0,813	-0,225	–	0,126
superior temporal gyrus	0,03	0,608	0,760	-0,072	–	0,122	-0,01	0,921	0,927	-0,228	–	0,206	-0,04	0,750	0,869	-0,260	–	0,188
supramarginal gyrus	0,10	0,126	0,400	-0,028	–	0,229	0,09	0,184	0,429	-0,045	–	0,235	-0,01	0,927	0,927	-0,125	–	0,114
frontal pole	0,05	0,351	0,573	-0,053	–	0,150	**0,20**	**0,001**	**0,009**	**0,077**	–	**0,316**	**0,15**	**0,030**	**0,175**	**0,015**	–	**0,282**
temporal pole	-0,08	0,153	0,405	-0,181	–	0,028	-0,16	0,161	0,403	-0,388	–	0,064	-0,09	0,475	0,788	-0,321	–	0,149
transverse temporal cortex	0,01	0,885	0,976	-0,093	–	0,108	-0,01	0,927	0,927	-0,195	–	0,178	-0,02	0,872	0,898	-0,213	–	0,181
insula	0,02	0,721	0,841	-0,088	–	0,127	0,04	0,636	0,812	-0,119	–	0,195	0,02	0,819	0,869	-0,140	–	0,177
average thickness	0,09	0,137	0,400	-0,028	–	0,204	0,12	0,055	0,193	-0,003	–	0,251	0,04	0,529	0,805	-0,077	–	0,150

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus patient group z; a positive Effect size indicates a thicker cortex of region x in patient group y versus patient group z.

Supplementary Table S22: mega-analytic results for surface area of each structure comparing adult ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0,00	0,949	0,974	-0,101 – 0,094	-0,10	0,147	0,639	-0,238 – 0,036	-0,10	0,190	0,793	-0,244 – 0,048
caudal anterior cingulate cortex	-0,04	0,467	0,956	-0,136 – 0,062	-0,04	0,635	0,823	-0,187 – 0,114	0,00	0,997	1,000	-0,160 – 0,161
caudal middle frontal gyrus	-0,02	0,758	0,956	-0,121 – 0,088	0,04	0,540	0,756	-0,082 – 0,157	0,05	0,393	0,815	-0,070 – 0,178
cuneus cortex	0,03	0,614	0,956	-0,081 – 0,137	-0,07	0,276	0,639	-0,193 – 0,055	-0,10	0,139	0,793	-0,225 – 0,032
entorhinal cortex	0,01	0,812	0,956	-0,096 – 0,123	-0,07	0,292	0,639	-0,190 – 0,057	-0,08	0,255	0,793	-0,217 – 0,058
fusiform gyrus	-0,02	0,702	0,956	-0,117 – 0,079	-0,04	0,487	0,756	-0,150 – 0,071	-0,02	0,740	1,000	-0,138 – 0,098
inferior parietal cortex	-0,05	0,247	0,956	-0,144 – 0,037	-0,06	0,273	0,639	-0,165 – 0,047	-0,01	0,921	1,000	-0,123 – 0,111
inferior temporal gyrus	-0,03	0,468	0,956	-0,126 – 0,058	-0,07	0,178	0,639	-0,177 – 0,033	-0,04	0,528	0,853	-0,157 – 0,081
isthmus cingulate cortex	0,00	0,974	0,974	-0,093 – 0,090	0,06	0,259	0,639	-0,046 – 0,170	0,06	0,300	0,793	-0,057 – 0,184
lateral occipital cortex	0,02	0,696	0,956	-0,083 – 0,125	0,08	0,193	0,639	-0,040 – 0,196	0,06	0,340	0,793	-0,061 – 0,176
lateral orbitofrontal cortex	-0,02	0,704	0,956	-0,109 – 0,074	-0,01	0,920	0,920	-0,111 – 0,100	0,01	0,831	1,000	-0,101 – 0,125
lingual gyrus	0,03	0,570	0,956	-0,078 – 0,142	-0,02	0,699	0,844	-0,148 – 0,100	-0,06	0,400	0,815	-0,187 – 0,075
medial orbitofrontal cortex	-0,04	0,350	0,956	-0,128 – 0,045	0,01	0,915	0,920	-0,096 – 0,108	0,05	0,419	0,815	-0,067 – 0,161
middle temporal gyrus	-0,04	0,444	0,956	-0,125 – 0,055	-0,12	0,095	0,639	-0,257 – 0,021	-0,08	0,272	0,793	-0,232 – 0,065
parahippocampal gyrus	**-0,13**	**0,013**	**0,455**	**-0,225 – -0,027**	-0,01	0,865	0,917	-0,124 – 0,104	0,12	0,076	0,793	-0,012 – 0,245
paracentral lobule	0,01	0,867	0,956	-0,087 – 0,103	0,05	0,348	0,716	-0,058 – 0,165	0,05	0,475	0,831	-0,079 – 0,169
pars opercularis	0,05	0,286	0,956	-0,044 – 0,149	0,09	0,111	0,639	-0,021 – 0,205	0,04	0,536	0,853	-0,086 – 0,165
pars orbitalis	-0,04	0,387	0,956	-0,132 – 0,051	0,04	0,513	0,756	-0,072 – 0,143	0,08	0,213	0,793	-0,044 – 0,196
pars triangularis	-0,02	0,738	0,956	-0,123 – 0,087	**0,14**	**0,021**	**0,368**	**0,022 – 0,262**	**0,16**	**0,012**	**0,420**	**0,035 – 0,284**
pericalcarine cortex	-0,04	0,471	0,956	-0,149 – 0,069	-0,01	0,817	0,917	-0,141 – 0,111	0,03	0,710	1,000	-0,108 – 0,159
postcentral gyrus	-0,01	0,821	0,956	-0,110 – 0,087	0,08	0,184	0,639	-0,036 – 0,189	0,09	0,144	0,793	-0,030 – 0,205
posterior cingulate cortex	-0,01	0,870	0,956	-0,117 – 0,099	-0,02	0,746	0,870	-0,142 – 0,102	-0,01	0,858	1,000	-0,133 – 0,111
precentral gyrus	0,01	0,830	0,956	-0,077 – 0,096	0,11	0,123	0,639	-0,029 – 0,248	0,10	0,183	0,793	-0,047 – 0,246

precuneus cortex	-0,03	0,469	0,956	-0,120	–	0,055	-0,03	0,617	0,823	-0,130	–	0,077	0,01	0,917	1,000	-0,109	–	0,122
rostral anterior cingulate cortex	-0,01	0,874	0,956	-0,102	–	0,086	-0,02	0,680	0,844	-0,133	–	0,087	-0,02	0,804	1,000	-0,138	–	0,107
rostral middle frontal gyrus	-0,05	0,311	0,956	-0,139	–	0,044	0,04	0,473	0,756	-0,067	–	0,144	0,09	0,128	0,793	-0,025	–	0,196
superior frontal gyrus	-0,01	0,912	0,967	-0,097	–	0,086	0,03	0,520	0,756	-0,070	–	0,138	0,04	0,471	0,831	-0,068	–	0,147
superior parietal cortex	0,01	0,831	0,956	-0,089	–	0,111	0,08	0,174	0,639	-0,035	–	0,194	0,07	0,260	0,793	-0,051	–	0,188
superior temporal gyrus	0,02	0,606	0,956	-0,067	–	0,115	0,06	0,373	0,725	-0,077	–	0,206	0,04	0,598	0,910	-0,110	–	0,191
supramarginal gyrus	0,05	0,321	0,956	-0,045	–	0,138	0,04	0,429	0,751	-0,064	–	0,150	0,00	0,957	1,000	-0,121	–	0,114
frontal pole	-0,01	0,846	0,956	-0,113	–	0,093	-0,01	0,857	0,917	-0,132	–	0,110	0,00	0,989	1,000	-0,136	–	0,134
temporal pole	-0,06	0,299	0,956	-0,160	–	0,049	-0,07	0,247	0,639	-0,191	–	0,049	-0,02	0,820	1,000	-0,150	–	0,119
transverse temporal cortex	0,06	0,243	0,956	-0,044	–	0,173	**0,17**	**0,005**	**0,175**	**0,052**	–	**0,297**	0,11	0,102	0,793	-0,022	–	0,242
insula	-0,07	0,085	0,956	-0,159	–	0,010	0,08	0,244	0,639	-0,056	–	0,221	0,16	2,080	1,000	0,009	–	0,304
full surface area	-0,01	0,849	0,956	-0,091	–	0,075	0,04	0,413	0,751	-0,055	–	0,134	0,05	0,340	0,793	-0,050	–	0,146

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus patient group z; a positive Effect size indicates a larger surface area of region x in patient group y versus patient group z.

Supplementary Table S23: mega-analytic results for each subcortical structure comparing unmedicated pediatric ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	-0.02	0.831	0.945	-0.204 – 0.164	-0.05	0.557	0.743	-0.235 – 0.127	-0.03	0.615	0.960	-0.168 – 0.099
caudate	-0.05	0.683	0.917	-0.289 – 0.190	0.10	0.391	0.743	-0.134 – 0.344	0.15	0.076	0.304	-0.016 – 0.325
putamen	-0.11	0.340	0.680	-0.332 – 0.114	-0.06	0.654	0.747	-0.310 – 0.195	0.05	0.609	0.960	-0.145 – 0.247
pallidum	-0.01	0.945	0.945	-0.241 – 0.224	0.03	0.782	0.782	-0.201 – 0.267	0.04	0.616	0.960	-0.119 – 0.202
hippocampus	-0.17	0.116	0.309	-0.376 – 0.042	-0.16	0.102	0.408	-0.343 – 0.031	0.01	0.894	0.960	-0.153 – 0.175
amygdala	**-0.24**	**0.023**	**0.092**	**-0.455 – -0.034**	**-0.25**	**0.021**	**0.168**	**-0.459 – -0.037**	0.00	0.960	0.960	-0.145 – 0.138
accumbens	-0.05	0.688	0.917	-0.274 – 0.181	-0.07	0.546	0.743	-0.298 – 0.158	-0.02	0.776	0.960	-0.187 – 0.139
ICV	**-0.32**	**0.001**	**0.008**	**-0.515 – -0.126**	-0.13	0.212	0.565	-0.323 – 0.072	**0.19**	**0.008**	**0.064**	**0.052 – 0.338**

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus patient group z; a positive Effect size indicates a larger volume of region x in patient group y versus patient group z.

Supplementary Table S24: mega-analytic results for each subcortical structure comparing medicated pediatric ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	-0.15	0.307	0.491	-0.432 – 0.136	-0.19	0.138	0.276	-0.444 – 0.061	-0.04	0.724	0.839	-0.282 – 0.196
caudate	0.06	0.713	0.810	-0.271 – 0.396	0.26	0.131	0.276	-0.077 – 0.596	0.20	0.123	0.328	-0.054 – 0.447
putamen	-0.27	0.072	0.144	-0.571 – 0.024	0.03	0.827	0.945	-0.266 – 0.333	**0.31**	**0.010**	**0.080**	**0.075 – 0.538**
pallidum	-0.04	0.810	0.810	-0.355 – 0.278	0.04	0.803	0.945	-0.278 – 0.359	0.08	0.513	0.821	-0.158 – 0.317
hippocampus	**-0.32**	**0.019**	**0.076**	**-0.597 – -0.053**	**-0.32**	**0.022**	**0.088**	**-0.594 – -0.045**	0.01	0.963	0.963	-0.208 – 0.219
amygdala	**-0.43**	**0.003**	**0.024**	**-0.721 – -0.146**	**-0.35**	**0.017**	**0.088**	**-0.642 – -0.063**	0.08	0.478	0.821	-0.142 – 0.304
accumbens	**-0.31**	**0.048**	**0.128**	**-0.616 – -0.003**	-0.07	0.663	0.945	-0.377 – 0.240	0.24	0.050	0.200	0.000 – 0.482
ICV	-0.04	0.790	0.810	-0.316 – 0.240	0.00	1.000	1.000	-0.283 – 0.283	0.04	0.734	0.839	-0.180 – 0.256

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus patient group z; a positive Effect size indicates a larger volume of region x in patient group y versus patient group z.

Supplementary Table S25: mega-analytic results for cortical thickness of each structure comparing unmedicated pediatric ADHD, ASD and OCD patients, controlling for age, sex and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.03	0.861	0.994	-0.258 – 0.308	-0.01	0.929	0.985	-0.295 – 0.269	-0.04	0.709	0.856	-0.238 – 0.162
caudal anterior cingulate cortex	-0.07	0.587	0.796	-0.328 – 0.186	-0.20	0.130	0.626	-0.457 – 0.058	-0.13	0.169	0.603	-0.311 – 0.055
caudal middle frontal gyrus	0.14	0.275	0.688	-0.109 – 0.385	0.09	0.558	0.985	-0.205 – 0.381	-0.05	0.676	0.856	-0.286 – 0.186
cuneus cortex	-0.01	0.924	0.994	-0.262 – 0.237	0.14	0.277	0.970	-0.112 – 0.390	0.15	0.099	0.603	-0.028 – 0.331
entorhinal cortex	-0.15	0.249	0.688	-0.397 – 0.103	**-0.27**	**0.036**	**0.624**	**-0.518 – -0.018**	-0.12	0.168	0.603	-0.292 – 0.051
fusiform gyrus	-0.15	0.250	0.688	-0.407 – 0.106	-0.24	0.073	0.624	-0.492 – 0.022	-0.08	0.363	0.758	-0.267 – 0.098
inferior parietal cortex	0.20	0.144	0.688	-0.067 – 0.457	0.15	0.374	0.985	-0.180 – 0.480	-0.05	0.741	0.857	-0.317 – 0.226
inferior temporal gyrus	0.00	0.972	0.994	-0.244 – 0.253	-0.19	0.143	0.626	-0.435 – 0.063	**-0.19**	**0.035**	**0.455**	**-0.368 – -0.013**
isthmus cingulate cortex	-0.18	0.168	0.688	-0.448 – 0.078	-0.26	0.056	0.624	-0.522 – 0.007	-0.07	0.449	0.758	-0.262 – 0.116
lateral occipital cortex	-0.01	0.948	0.994	-0.261 – 0.244	-0.01	0.918	0.985	-0.267 – 0.240	0.00	0.958	0.986	-0.185 – 0.175
lateral orbitofrontal cortex	0.11	0.362	0.707	-0.123 – 0.336	0.01	0.914	0.985	-0.217 – 0.243	-0.09	0.266	0.665	-0.259 – 0.071
lingual gyrus	-0.19	0.103	0.688	-0.420 – 0.038	-0.08	0.498	0.985	-0.310 – 0.151	0.11	0.188	0.603	-0.054 – 0.277
medial orbitofrontal cortex	0.18	0.100	0.688	-0.035 – 0.405	0.18	0.103	0.624	-0.037 – 0.404	0.00	0.988	0.988	-0.159 – 0.157
middle temporal gyrus	0.12	0.390	0.707	-0.148 – 0.379	-0.07	0.600	0.985	-0.334 – 0.193	-0.19	0.052	0.455	-0.374 – 0.002
parahippocampal gyrus	-0.06	0.658	0.823	-0.317 – 0.200	-0.16	0.238	0.926	-0.417 – 0.103	-0.10	0.298	0.695	-0.283 – 0.087
paracentral lobule	0.08	0.564	0.796	-0.183 – 0.335	-0.04	0.755	0.985	-0.301 – 0.219	-0.12	0.217	0.603	-0.304 – 0.069
pars opercularis	0.00	0.994	0.994	-0.265 – 0.263	-0.07	0.598	0.985	-0.336 – 0.194	-0.07	0.469	0.758	-0.260 – 0.120
pars orbitalis	0.10	0.424	0.707	-0.149 – 0.354	0.04	0.730	0.985	-0.208 – 0.298	-0.06	0.529	0.758	-0.239 – 0.123
pars triangularis	0.19	0.143	0.688	-0.063 – 0.435	0.00	0.985	0.985	-0.248 – 0.253	**-0.18**	**0.046**	**0.455**	**-0.364 – -0.004**
pericalcarine cortex	-0.14	0.252	0.688	-0.378 – 0.099	0.10	0.396	0.985	-0.136 – 0.343	**0.24**	**0.005**	**0.175**	**0.072 – 0.415**
postcentral gyrus	-0.07	0.591	0.796	-0.337 – 0.192	-0.04	0.750	0.985	-0.309 – 0.223	0.03	0.759	0.857	-0.158 – 0.217
posterior cingulate cortex	-0.11	0.392	0.707	-0.373 – 0.146	-0.23	0.086	0.624	-0.488 – 0.032	-0.11	0.224	0.603	-0.299 – 0.070
precentral gyrus	-0.15	0.286	0.688	-0.412 – 0.121	-0.13	0.331	0.985	-0.401 – 0.135	0.01	0.899	0.953	-0.177 – 0.202

precuneus cortex	0.10	0.423	0.707	-0.151	0.360	0.12	0.363	0.985	-0.138	0.376	0.01	0.874	0.953	-0.169	0.199
rostral anterior cingulate cortex	0.21	0.084	0.688	-0.028	0.441	0.09	0.437	0.985	-0.142	0.328	-0.11	0.182	0.603	-0.280	0.053
rostral middle frontal gyrus	0.11	0.341	0.707	-0.113	0.327	0.06	0.596	0.985	-0.161	0.280	-0.05	0.559	0.758	-0.206	0.111
superior frontal gyrus	0.17	0.144	0.688	-0.059	0.405	0.03	0.842	0.985	-0.248	0.303	-0.14	0.199	0.603	-0.366	0.076
superior parietal cortex	0.14	0.295	0.688	-0.118	0.390	0.08	0.547	0.985	-0.177	0.334	-0.06	0.535	0.758	-0.239	0.124
superior temporal gyrus	0.06	0.637	0.823	-0.197	0.322	-0.05	0.743	0.985	-0.365	0.260	-0.11	0.375	0.758	-0.369	0.139
supramarginal gyrus	0.10	0.454	0.722	-0.159	0.355	0.02	0.912	0.985	-0.308	0.345	-0.08	0.563	0.758	-0.350	0.191
frontal pole	0.00	0.984	0.994	-0.245	0.240	-0.06	0.650	0.985	-0.300	0.187	-0.05	0.544	0.758	-0.228	0.121
temporal pole	-0.17	0.182	0.688	-0.413	0.079	-0.20	0.107	0.624	-0.450	0.044	-0.04	0.693	0.856	-0.212	0.141
transverse temporal cortex	0.17	0.198	0.688	-0.089	0.428	0.02	0.876	0.985	-0.239	0.280	-0.15	0.118	0.603	-0.336	0.038
insula	0.05	0.708	0.854	-0.197	0.290	-0.01	0.964	0.985	-0.250	0.239	-0.05	0.558	0.758	-0.227	0.122
average thickness	0.07	0.563	0.796	-0.176	0.324	-0.01	0.943	0.985	-0.325	0.302	-0.09	0.522	0.758	-0.346	0.175

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus patient group z; a positive Effect size indicates a thicker cortex of region x in patient group y versus patient group z.

Supplementary Table S26: mega-analytic results for surface area of each structure comparing unmedicated pediatric ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.14	0.235	0.754	-0.372 – 0.091	-0.14	0.234	0.768	-0.371 – 0.091	0.00	0.999	0.999	-0.164 – 0.163
caudal anterior cingulate cortex	-0.12	0.296	0.754	-0.346 – 0.105	-0.03	0.785	0.944	-0.259 – 0.196	0.09	0.281	0.820	-0.073 – 0.250
caudal middle frontal gyrus	-0.02	0.886	0.922	-0.244 – 0.211	0.01	0.939	0.966	-0.220 – 0.238	0.03	0.761	0.919	-0.139 – 0.190
cuneus cortex	0.18	0.130	0.754	-0.053 – 0.416	0.14	0.245	0.768	-0.096 – 0.376	-0.04	0.633	0.919	-0.211 – 0.128
entorhinal cortex	-0.05	0.714	0.922	-0.304 – 0.208	0.08	0.566	0.944	-0.182 – 0.333	0.12	0.173	0.718	-0.054 – 0.300
fusiform gyrus	-0.10	0.350	0.754	-0.302 – 0.107	-0.06	0.562	0.944	-0.266 – 0.145	0.04	0.620	0.919	-0.109 – 0.182
inferior parietal cortex	0.03	0.812	0.922	-0.182 – 0.232	-0.04	0.711	0.944	-0.246 – 0.168	-0.06	0.386	0.919	-0.209 – 0.081
inferior temporal gyrus	-0.12	0.261	0.754	-0.319 – 0.086	-0.09	0.376	0.823	-0.294 – 0.111	0.02	0.739	0.919	-0.120 – 0.169
isthmus cingulate cortex	-0.11	0.364	0.754	-0.340 – 0.125	0.13	0.268	0.768	-0.102 – 0.366	**0.24**	**0.005**	**0.175**	**0.073 – 0.406**
lateral occipital cortex	-0.05	0.669	0.922	-0.259 – 0.166	-0.02	0.876	0.958	-0.231 – 0.197	0.03	0.705	0.919	-0.123 – 0.182
lateral orbitofrontal cortex	0.02	0.867	0.922	-0.176 – 0.208	0.04	0.656	0.944	-0.149 – 0.237	0.03	0.699	0.919	-0.111 – 0.166
lingual gyrus	-0.11	0.353	0.754	-0.341 – 0.122	-0.16	0.176	0.768	-0.394 – 0.072	-0.05	0.549	0.919	-0.219 – 0.116
medial orbitofrontal cortex	0.09	0.388	0.754	-0.108 – 0.279	0.03	0.797	0.944	-0.169 – 0.220	-0.06	0.401	0.919	-0.199 – 0.080
middle temporal gyrus	-0.03	0.775	0.922	-0.223 – 0.166	-0.05	0.638	0.944	-0.241 – 0.148	-0.02	0.796	0.919	-0.157 – 0.120
parahippocampal gyrus	-0.23	0.062	0.754	-0.473 – 0.011	-0.19	0.132	0.768	-0.431 – 0.056	0.04	0.622	0.919	-0.130 – 0.217
paracentral lobule	0.14	0.224	0.754	-0.087 – 0.372	**0.29**	**0.015**	**0.525**	**0.056 – 0.518**	0.14	0.088	0.616	-0.022 – 0.311
pars opercularis	0.20	0.092	0.754	-0.032 – 0.425	0.17	0.161	0.768	-0.066 – 0.396	-0.03	0.711	0.919	-0.197 – 0.135
pars orbitalis	0.09	0.381	0.754	-0.117 – 0.306	0.11	0.298	0.768	-0.100 – 0.326	0.02	0.814	0.919	-0.134 – 0.171
pars triangularis	0.06	0.609	0.922	-0.173 – 0.294	-0.13	0.286	0.768	-0.363 – 0.107	**-0.19**	**0.029**	**0.368**	**-0.359 – -0.019**
pericalcarine cortex	0.15	0.224	0.754	-0.094 – 0.400	0.04	0.764	0.944	-0.211 – 0.287	-0.12	0.205	0.718	-0.293 – 0.063
postcentral gyrus	0.13	0.239	0.754	-0.087 – 0.347	0.13	0.238	0.768	-0.086 – 0.348	0.00	0.994	0.999	-0.154 – 0.155
posterior cingulate cortex	-0.01	0.912	0.922	-0.235 – 0.210	0.06	0.590	0.944	-0.162 – 0.285	0.07	0.362	0.919	-0.085 – 0.233
precentral gyrus	0.16	0.121	0.754	-0.042 – 0.365	0.10	0.329	0.768	-0.103 – 0.307	-0.06	0.424	0.919	-0.205 – 0.086

precuneus cortex	-0.02	0.831	0.922	-0.225 –	0.181	0.06	0.561	0.944	-0.144 –	0.265	0.08	0.270	0.820	-0.064 –	0.229
rostral anterior cingulate cortex	-0.03	0.767	0.922	-0.225 –	0.166	-0.01	0.924	0.966	-0.206 –	0.187	0.02	0.779	0.919	-0.120 –	0.160
rostral middle frontal gyrus	0.04	0.649	0.922	-0.147 –	0.236	0.04	0.677	0.944	-0.152 –	0.233	0.00	0.959	0.999	-0.142 –	0.135
superior frontal gyrus	0.08	0.387	0.754	-0.102 –	0.262	0.10	0.301	0.768	-0.086 –	0.279	0.02	0.809	0.919	-0.114 –	0.146
superior parietal cortex	0.07	0.613	0.922	-0.208 –	0.353	0.12	0.417	0.859	-0.165 –	0.399	0.04	0.582	0.919	-0.113 –	0.201
superior temporal gyrus	-0.01	0.922	0.922	-0.210 –	0.190	0.10	0.320	0.768	-0.098 –	0.300	0.11	0.122	0.712	-0.030 –	0.252
supramarginal gyrus	-0.11	0.334	0.754	-0.323 –	0.110	0.00	0.966	0.966	-0.213 –	0.222	0.11	0.154	0.718	-0.042 –	0.265
frontal pole	0.02	0.894	0.922	-0.228 –	0.261	0.13	0.296	0.768	-0.115 –	0.378	0.11	0.202	0.718	-0.062 –	0.291
temporal pole	-0.22	0.074	0.754	-0.465 –	0.022	-0.03	0.803	0.944	-0.276 –	0.214	**0.19**	**0.033**	**0.368**	**0.015** –	**0.365**
transverse temporal cortex	-0.04	0.730	0.922	-0.280 –	0.196	0.14	0.259	0.768	-0.102 –	0.378	**0.18**	**0.042**	**0.368**	**0.007** –	**0.354**
insula	-0.01	0.917	0.922	-0.204 –	0.184	0.02	0.836	0.944	-0.174 –	0.215	0.03	0.659	0.919	-0.107 –	0.168
full surface area	0.02	0.837	0.922	-0.133 –	0.165	0.02	0.833	0.944	-0.158 –	0.196	0.00	0.963	0.999	-0.141 –	0.148

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus patient group z; a positive Effect size indicates a larger surface area of region x in patient group y versus patient group z.

Supplementary Table S27: mega-analytic results for cortical thickness of each structure comparing medicated pediatric ADHD, ASD and OCD patients, controlling for age, sex and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.23	0.236	0.690	-0.149 – 0.605	-0.16	0.398	0.779	-0.547 – 0.217	**-0.39**	**0.007**	**0.061**	**-0.680 – -0.106**
caudal anterior cingulate cortex	0.02	0.907	0.935	-0.333 – 0.375	-0.19	0.292	0.779	-0.553 – 0.167	-0.21	0.120	0.257	-0.485 – 0.056
caudal middle frontal gyrus	0.23	0.185	0.648	-0.112 – 0.580	-0.11	0.552	0.779	-0.458 – 0.245	**-0.34**	**0.011**	**0.077**	**-0.605 – -0.077**
cuneus cortex	0.35	0.054	0.601	-0.005 – 0.697	**0.60**	**0.001**	**0.035**	**0.244 – 0.960**	0.26	0.063	0.231	-0.014 – 0.527
entorhinal cortex	-0.19	0.257	0.690	-0.519 – 0.139	**-0.36**	**0.035**	**0.408**	**-0.685 – -0.025**	-0.17	0.169	0.324	-0.401 – 0.070
fusiform gyrus	0.01	0.936	0.936	-0.326 – 0.354	-0.20	0.347	0.779	-0.607 – 0.213	-0.21	0.225	0.358	-0.552 – 0.130
inferior parietal cortex	0.25	0.173	0.648	-0.111 – 0.616	0.00	0.993	0.997	-0.370 – 0.367	-0.25	0.066	0.231	-0.526 – 0.017
inferior temporal gyrus	0.03	0.860	0.935	-0.305 – 0.365	-0.19	0.349	0.779	-0.594 – 0.210	-0.22	0.189	0.331	-0.554 – 0.109
isthmus cingulate cortex	0.33	0.071	0.601	-0.028 – 0.685	0.11	0.555	0.779	-0.253 – 0.471	-0.22	0.114	0.257	-0.491 – 0.052
lateral occipital cortex	0.05	0.771	0.935	-0.295 – 0.398	0.15	0.409	0.779	-0.204 – 0.500	0.10	0.469	0.547	-0.165 – 0.358
lateral orbitofrontal cortex	0.09	0.587	0.893	-0.235 – 0.415	-0.10	0.535	0.779	-0.434 – 0.225	-0.19	0.120	0.257	-0.440 – 0.051
lingual gyrus	0.16	0.352	0.725	-0.171 – 0.481	0.28	0.094	0.658	-0.048 – 0.614	0.13	0.314	0.436	-0.121 – 0.376
medial orbitofrontal cortex	-0.03	0.837	0.935	-0.361 – 0.292	0.04	0.831	0.938	-0.294 – 0.366	0.07	0.576	0.611	-0.176 – 0.316
middle temporal gyrus	0.27	0.143	0.626	-0.091 – 0.627	-0.17	0.356	0.779	-0.535 – 0.193	**-0.44**	**0.001**	**0.035**	**-0.711 – -0.168**
parahippocampal gyrus	-0.20	0.276	0.690	-0.561 – 0.160	**-0.43**	**0.020**	**0.350**	**-0.799 – -0.067**	-0.23	0.092	0.257	-0.503 – 0.038
paracentral lobule	0.12	0.497	0.828	-0.234 – 0.482	0.00	0.997	0.997	-0.362 – 0.364	-0.12	0.377	0.471	-0.397 – 0.150
pars opercularis	-0.03	0.871	0.935	-0.388 – 0.329	-0.26	0.169	0.779	-0.619 – 0.108	-0.23	0.104	0.257	-0.498 – 0.047
pars orbitalis	0.31	0.083	0.601	-0.041 – 0.660	0.12	0.570	0.779	-0.297 – 0.540	-0.19	0.287	0.419	-0.535 – 0.158
pars triangularis	-0.02	0.908	0.935	-0.366 – 0.325	-0.13	0.548	0.779	-0.539 – 0.286	-0.11	0.544	0.611	-0.447 – 0.236
pericalcarine cortex	0.14	0.436	0.822	-0.207 – 0.480	0.34	0.056	0.490	-0.009 – 0.690	0.20	0.125	0.257	-0.056 – 0.464
postcentral gyrus	0.09	0.642	0.893	-0.277 – 0.449	-0.10	0.577	0.779	-0.472 – 0.263	-0.19	0.176	0.324	-0.466 – 0.085
posterior cingulate cortex	0.08	0.663	0.893	-0.275 – 0.432	-0.06	0.760	0.895	-0.415 – 0.303	-0.13	0.324	0.436	-0.402 – 0.133
precentral gyrus	0.14	0.446	0.822	-0.220 – 0.500	-0.24	0.192	0.779	-0.608 – 0.122	**-0.38**	**0.006**	**0.061**	**-0.658 – -0.108**
precuneus cortex	0.30	0.102	0.601	-0.060 – 0.659	0.20	0.290	0.779	-0.168 – 0.562	-0.10	0.463	0.547	-0.376 – 0.171
rostral anterior cingulate cortex	-0.03	0.851	0.935	-0.356 – 0.294	-0.17	0.307	0.779	-0.500 – 0.157	-0.14	0.259	0.394	-0.383 – 0.103

rostral middle frontal gyrus	0.11	0.491	0.828	-0.205	–	0.428	-0.01	0.968	0.997	-0.327	–	0.314	-0.12	0.336	0.436	-0.358	–	0.122
superior frontal gyrus	0.17	0.307	0.696	-0.159	–	0.505	-0.09	0.598	0.779	-0.427	–	0.246	**-0.26**	**0.040**	**0.175**	**-0.515**	–	**-0.012**
superior parietal cortex	0.29	0.103	0.601	-0.059	–	0.647	0.05	0.767	0.895	-0.304	–	0.413	-0.24	0.082	0.257	-0.510	–	0.030
superior temporal gyrus	0.09	0.623	0.893	-0.255	–	0.425	-0.22	0.218	0.779	-0.559	–	0.128	**-0.30**	**0.022**	**0.128**	**-0.559**	–	**-0.043**
supramarginal gyrus	0.29	0.121	0.605	-0.076	–	0.649	-0.10	0.601	0.779	-0.464	–	0.269	**-0.38**	**0.005**	**0.061**	**-0.655**	–	**-0.114**
frontal pole	-0.34	0.054	0.601	-0.688	–	0.005	-0.26	0.144	0.779	-0.615	–	0.090	0.08	0.560	0.611	-0.186	–	0.344
temporal pole	-0.20	0.242	0.690	-0.534	–	0.135	-0.23	0.250	0.779	-0.633	–	0.165	-0.03	0.836	0.836	-0.366	–	0.296
transverse temporal cortex	-0.03	0.875	0.935	-0.381	–	0.324	0.02	0.897	0.981	-0.334	–	0.381	0.05	0.704	0.725	-0.217	–	0.321
insula	0.10	0.557	0.886	-0.235	–	0.437	-0.06	0.724	0.895	-0.401	–	0.279	-0.16	0.206	0.343	-0.413	–	0.089
average thickness	0.18	0.318	0.696	-0.171	–	0.526	-0.10	0.576	0.779	-0.455	–	0.253	**-0.28**	**0.040**	**0.175**	**-0.544**	–	**-0.013**

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus patient group z; a positive Effect size indicates a thicker cortex of region x in patient group y versus patient group z.

Supplementary Table S28: mega-analytic results for surface area of each structure comparing medicated pediatric ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.17	0.309	0.943	-0.493 – 0.156	**-0.50**	**0.003**	**0.105**	**-0.834 – -0.174**	**-0.34**	**0.008**	**0.280**	**-0.584 – -0.087**
caudal anterior cingulate cortex	-0.20	0.207	0.943	-0.520 – 0.113	-0.19	0.247	0.912	-0.512 – 0.132	0.01	0.914	0.969	-0.230 – 0.257
caudal middle frontal gyrus	-0.11	0.504	0.943	-0.429 – 0.211	-0.29	0.077	0.539	-0.619 – 0.032	-0.18	0.142	0.656	-0.431 – 0.062
cuneus cortex	0.14	0.419	0.943	-0.193 – 0.465	0.11	0.522	0.912	-0.226 – 0.446	-0.03	0.843	0.936	-0.282 – 0.230
entorhinal cortex	0.05	0.773	0.943	-0.313 – 0.421	0.10	0.582	0.912	-0.266 – 0.474	0.05	0.716	0.931	-0.219 – 0.319
fusiform gyrus	0.01	0.931	0.943	-0.272 – 0.298	-0.10	0.500	0.912	-0.389 – 0.190	-0.11	0.314	0.718	-0.330 – 0.106
inferior parietal cortex	0.14	0.333	0.943	-0.148 – 0.438	-0.09	0.549	0.912	-0.388 – 0.206	**-0.24**	**0.035**	**0.408**	**-0.455 – -0.016**
inferior temporal gyrus	-0.05	0.720	0.943	-0.340 – 0.235	-0.22	0.139	0.811	-0.512 – 0.072	-0.17	0.131	0.656	-0.385 – 0.050
isthmus cingulate cortex	-0.10	0.543	0.943	-0.413 – 0.217	0.01	0.941	0.944	-0.308 – 0.332	0.11	0.372	0.766	-0.132 – 0.351
lateral occipital cortex	-0.06	0.697	0.943	-0.355 – 0.237	0.11	0.486	0.912	-0.194 – 0.409	0.17	0.150	0.656	-0.060 – 0.392
lateral orbitofrontal cortex	-0.25	0.081	0.943	-0.527 – 0.031	-0.22	0.180	0.900	-0.551 – 0.103	0.02	0.856	0.936	-0.243 – 0.292
lingual gyrus	-0.10	0.550	0.943	-0.423 – 0.225	-0.04	0.834	0.944	-0.368 – 0.297	0.06	0.619	0.931	-0.187 – 0.314
medial orbitofrontal cortex	-0.04	0.761	0.943	-0.322 – 0.236	-0.09	0.592	0.912	-0.430 – 0.245	-0.05	0.731	0.931	-0.330 – 0.231
middle temporal gyrus	-0.10	0.495	0.943	-0.374 – 0.181	**-0.30**	**0.037**	**0.324**	**-0.581 – -0.017**	-0.20	0.059	0.516	-0.414 – 0.008
parahippocampal gyrus	0.02	0.922	0.943	-0.328 – 0.362	0.06	0.730	0.944	-0.290 – 0.414	0.04	0.737	0.931	-0.216 – 0.306
paracentral lobule	-0.15	0.372	0.943	-0.474 – 0.177	0.13	0.457	0.912	-0.205 – 0.456	**0.27**	**0.032**	**0.408**	**0.023 – 0.525**
pars opercularis	0.04	0.825	0.943	-0.295 – 0.370	-0.09	0.599	0.912	-0.429 – 0.247	-0.13	0.328	0.718	-0.386 – 0.129
pars orbitalis	-0.10	0.511	0.943	-0.401 – 0.200	0.03	0.826	0.944	-0.273 – 0.342	0.14	0.255	0.718	-0.098 – 0.368
pars triangularis	0.05	0.770	0.943	-0.284 – 0.383	0.01	0.944	0.944	-0.327 – 0.351	-0.04	0.777	0.931	-0.296 – 0.221
pericalcarine cortex	0.08	0.645	0.943	-0.267 – 0.431	0.04	0.840	0.944	-0.319 – 0.393	-0.05	0.739	0.931	-0.311 – 0.221
postcentral gyrus	0.02	0.920	0.943	-0.283 – 0.314	-0.04	0.792	0.944	-0.343 – 0.262	-0.06	0.632	0.931	-0.285 – 0.173
posterior cingulate cortex	-0.24	0.127	0.943	-0.548 – 0.068	-0.09	0.579	0.912	-0.402 – 0.225	0.15	0.205	0.718	-0.083 – 0.386
precentral gyrus	-0.16	0.263	0.943	-0.441 – 0.121	0.02	0.878	0.944	-0.262 – 0.307	0.18	0.096	0.656	-0.033 – 0.398

precuneus cortex	-0.04	0.779	0.943	-0.329	–	0.247	0.11	0.450	0.912	-0.181	–	0.407	0.15	0.170	0.661	-0.066	–	0.375
rostral anterior cingulate cortex	-0.24	0.097	0.943	-0.521	–	0.043	**-0.35**	**0.017**	**0.198**	**-0.635**	–	**-0.062**	-0.11	0.314	0.718	-0.323	–	0.104
rostral middle frontal gyrus	-0.05	0.723	0.943	-0.323	–	0.224	-0.05	0.778	0.944	-0.376	–	0.281	0.00	0.988	0.988	-0.271	–	0.275
superior frontal gyrus	-0.06	0.633	0.943	-0.322	–	0.196	-0.03	0.874	0.944	-0.356	–	0.303	0.04	0.798	0.931	-0.243	–	0.316
superior parietal cortex	0.03	0.842	0.943	-0.273	–	0.335	0.09	0.555	0.912	-0.216	–	0.402	0.06	0.601	0.931	-0.170	–	0.294
superior temporal gyrus	-0.24	0.098	0.943	-0.517	–	0.043	**-0.35**	**0.015**	**0.198**	**-0.635**	–	**-0.067**	-0.11	0.294	0.718	-0.328	–	0.099
supramarginal gyrus	0.03	0.841	0.943	-0.276	–	0.339	-0.02	0.908	0.944	-0.330	–	0.293	-0.05	0.670	0.931	-0.280	–	0.180
frontal pole	0.01	0.943	0.943	-0.327	–	0.352	0.15	0.506	0.912	-0.301	–	0.609	0.14	0.483	0.916	-0.254	–	0.538
temporal pole	-0.02	0.893	0.943	-0.361	–	0.314	0.13	0.472	0.912	-0.217	–	0.469	0.15	0.263	0.718	-0.112	–	0.410
transverse temporal cortex	-0.03	0.883	0.943	-0.364	–	0.313	-0.02	0.925	0.944	-0.362	–	0.329	0.01	0.948	0.976	-0.256	–	0.273
insula	-0.10	0.500	0.943	-0.371	–	0.181	-0.17	0.244	0.912	-0.447	–	0.114	-0.07	0.497	0.916	-0.277	–	0.135
full surface area	-0.06	0.592	0.943	-0.277	–	0.158	-0.10	0.485	0.912	-0.368	–	0.174	-0.04	0.750	0.931	-0.265	–	0.191

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus patient group z; a positive Effect size indicates a larger surface area of region x in patient group y versus patient group z.

Supplementary Table S29: mega-analytic results for surface area of each structure comparing unmedicated adult ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.02	0.772	0.873	-0.141 – 0.105	-0.01	0.918	0.918	-0.182 – 0.164	0.01	0.924	0.951	-0.177 – 0.195
caudal anterior cingulate cortex	-0.02	0.711	0.873	-0.148 – 0.101	0.05	0.620	0.865	-0.133 – 0.224	0.07	0.484	0.682	-0.124 – 0.261
caudal middle frontal gyrus	-0.05	0.430	0.873	-0.183 – 0.078	0.07	0.421	0.809	-0.105 – 0.252	0.13	0.181	0.487	-0.059 – 0.310
cuneus cortex	0.05	0.490	0.873	-0.089 – 0.185	0.02	0.848	0.918	-0.168 – 0.205	-0.03	0.758	0.946	-0.221 – 0.161
entorhinal cortex	0.00	0.965	0.965	-0.140 – 0.134	-0.02	0.853	0.918	-0.207 – 0.171	-0.01	0.888	0.946	-0.219 – 0.190
fusiform gyrus	-0.04	0.436	0.873	-0.158 – 0.068	-0.03	0.699	0.865	-0.191 – 0.128	0.01	0.879	0.946	-0.160 – 0.187
inferior parietal cortex	-0.02	0.680	0.873	-0.137 – 0.089	0.06	0.439	0.809	-0.099 – 0.227	0.09	0.324	0.644	-0.087 – 0.264
inferior temporal gyrus	-0.07	0.257	0.873	-0.178 – 0.048	-0.04	0.667	0.865	-0.195 – 0.125	0.03	0.734	0.946	-0.144 – 0.204
isthmus cingulate cortex	-0.05	0.413	0.873	-0.162 – 0.067	0.03	0.688	0.865	-0.131 – 0.199	0.08	0.370	0.648	-0.097 – 0.260
lateral occipital cortex	0.02	0.752	0.873	-0.094 – 0.131	0.11	0.204	0.568	-0.057 – 0.267	0.09	0.331	0.644	-0.088 – 0.262
lateral orbitofrontal cortex	-0.04	0.517	0.873	-0.143 – 0.072	0.03	0.677	0.865	-0.122 – 0.188	0.07	0.424	0.676	-0.099 – 0.236
lingual gyrus	-0.01	0.841	0.884	-0.138 – 0.113	0.06	0.540	0.865	-0.122 – 0.234	0.07	0.487	0.682	-0.125 – 0.262
medial orbitofrontal cortex	-0.02	0.654	0.873	-0.134 – 0.084	-0.01	0.893	0.918	-0.168 – 0.146	0.01	0.871	0.946	-0.156 – 0.184
middle temporal gyrus	-0.07	0.223	0.873	-0.181 – 0.042	-0.05	0.557	0.865	-0.203 – 0.109	0.02	0.795	0.946	-0.147 – 0.192
parahippocampal gyrus	**-0.17**	**0.008**	**0.280**	**-0.290 – -0.043**	0.17	0.061	0.368	-0.008 – 0.342	**0.33**	**0.001**	**0.035**	**0.144 – 0.523**
paracentral lobule	0.01	0.806	0.882	-0.104 – 0.134	0.17	0.051	0.368	-0.001 – 0.342	0.16	0.099	0.433	-0.029 – 0.341
pars opercularis	0.02	0.727	0.873	-0.101 – 0.144	0.10	0.270	0.630	-0.077 – 0.274	0.08	0.425	0.676	-0.112 – 0.266
pars orbitalis	-0.08	0.171	0.873	-0.194 – 0.035	0.08	0.347	0.759	-0.086 – 0.244	0.16	0.080	0.433	-0.019 – 0.338
pars triangularis	0.02	0.744	0.873	-0.117 – 0.163	0.19	0.052	0.368	-0.002 – 0.373	0.16	0.089	0.433	-0.025 – 0.350
pericalcarine cortex	-0.07	0.273	0.873	-0.198 – 0.056	0.05	0.562	0.865	-0.129 – 0.238	0.13	0.216	0.540	-0.073 – 0.323
postcentral gyrus	-0.07	0.202	0.873	-0.186 – 0.039	0.15	0.061	0.368	-0.007 – 0.315	**0.23**	**0.010**	**0.175**	**0.054 – 0.402**
posterior cingulate cortex	-0.05	0.368	0.873	-0.172 – 0.064	0.03	0.703	0.865	-0.137 – 0.203	0.09	0.352	0.648	-0.096 – 0.271
precentral gyrus	-0.03	0.586	0.873	-0.138 – 0.078	0.14	0.074	0.370	-0.014 – 0.297	**0.17**	**0.045**	**0.378**	**0.004 – 0.339**

precuneus cortex	-0.03	0.568	0.873	-0.142	–	0.078	-0.01	0.886	0.918	-0.170	–	0.147	0.02	0.815	0.946	-0.151	–	0.192
rostral anterior cingulate cortex	0.01	0.859	0.884	-0.107	–	0.129	0.08	0.376	0.774	-0.093	–	0.246	0.07	0.480	0.682	-0.117	–	0.249
rostral middle frontal gyrus	-0.10	0.065	0.873	-0.206	–	0.006	0.02	0.783	0.914	-0.131	–	0.175	0.12	0.150	0.446	-0.044	–	0.287
superior frontal gyrus	-0.02	0.700	0.873	-0.132	–	0.089	0.09	0.227	0.568	-0.059	–	0.247	0.12	0.153	0.446	-0.043	–	0.275
superior parietal cortex	0.02	0.773	0.873	-0.109	–	0.147	0.12	0.166	0.568	-0.051	–	0.299	0.10	0.251	0.586	-0.074	–	0.284
superior temporal gyrus	0.02	0.763	0.873	-0.096	–	0.131	0.15	0.063	0.368	-0.008	–	0.307	0.13	0.128	0.446	-0.038	–	0.303
supramarginal gyrus	0.04	0.527	0.873	-0.078	–	0.152	0.13	0.112	0.490	-0.031	–	0.296	0.10	0.285	0.623	-0.080	–	0.270
frontal pole	0.03	0.607	0.873	-0.094	–	0.161	0.03	0.717	0.865	-0.150	–	0.219	0.00	0.996	0.996	-0.199	–	0.200
temporal pole	-0.10	0.129	0.873	-0.231	–	0.029	-0.11	0.221	0.568	-0.298	–	0.069	-0.01	0.892	0.946	-0.212	–	0.184
transverse temporal cortex	0.03	0.680	0.873	-0.101	–	0.155	**0.24**	**0.010**	**0.350**	**0.057**	–	**0.417**	**0.21**	**0.035**	**0.378**	**0.015**	–	**0.405**
insula	-0.06	0.243	0.873	-0.171	–	0.043	0.10	0.204	0.568	-0.054	–	0.253	0.16	0.054	0.378	-0.003	–	0.329
full surface area	-0.02	0.666	0.873	-0.125	–	0.080	0.09	0.214	0.568	-0.052	–	0.231	0.11	0.132	0.446	-0.034	–	0.258

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus patient group z; a positive Effect size indicates a larger surface area of region x in patient group y versus patient group z.

Supplementary Table S30: mega-analytic results for each subcortical structure comparing unmedicated adult ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	0.05	0.423	0.564	-0.077 – 0.184	-0.02	0.810	0.959	-0.153 – 0.120	-0.07	0.426	0.712	-0.243 – 0.102
caudate	0.03	0.563	0.611	-0.081 – 0.148	0.20	0.110	0.508	-0.045 – 0.442	0.16	0.202	0.712	-0.089 – 0.418
putamen	-0.06	0.059	0.157	-0.121 – 0.002	-0.05	0.335	0.893	-0.142 – 0.048	0.01	0.801	0.915	-0.084 – 0.109
pallidum	**-0.08**	**0.042**	**0.157**	**-0.152 – -0.003**	-0.07	0.127	0.508	-0.167 – 0.021	0.00	0.921	0.921	-0.083 – 0.092
hippocampus	0.11	0.050	0.157	0.000 – 0.219	-0.01	0.897	0.959	-0.166 – 0.145	-0.12	0.167	0.712	-0.289 – 0.050
amygdala	0.09	0.119	0.238	-0.023 – 0.198	0.04	0.650	0.959	-0.121 – 0.193	-0.05	0.558	0.744	-0.222 – 0.120
accumbens	-0.03	0.611	0.611	-0.128 – 0.075	0.05	0.501	0.959	-0.095 – 0.195	0.08	0.347	0.712	-0.082 – 0.235
ICV	-0.06	0.260	0.416	-0.165 – 0.045	0.00	0.959	0.959	-0.148 – 0.156	0.06	0.445	0.712	-0.101 – 0.229

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus patient group z; a positive Effect size indicates a larger volume of region x in patient group y versus patient group z.

Supplementary Table S31: mega-analytic results for cortical thickness of each structure comparing unmedicated adult ADHD, ASD and OCD patients, controlling for age, sex and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.06	0.385	0.825	-0.075 – 0.194	0.06	0.506	0.681	-0.118 – 0.239	0.00	0.991	0.991	-0.179 – 0.181
caudal anterior cingulate cortex	-0.14	0.026	0.397	-0.254 – -0.017	-0.13	0.133	0.466	-0.302 – 0.040	0.00	0.965	0.991	-0.181 – 0.189
caudal middle frontal gyrus	-0.06	0.289	0.825	-0.168 – 0.050	-0.09	0.525	0.681	-0.375 – 0.191	-0.03	0.824	0.980	-0.323 – 0.257
cuneus cortex	0.00	0.975	0.975	-0.113 – 0.117	0.25	0.003	0.105	0.082 – 0.414	0.25	0.007	0.123	0.067 – 0.426
entorhinal cortex	-0.05	0.466	0.825	-0.177 – 0.081	-0.21	0.213	0.504	-0.533 – 0.119	-0.16	0.352	0.778	-0.494 – 0.176
fusiform gyrus	0.00	0.975	0.975	-0.122 – 0.125	-0.06	0.484	0.678	-0.223 – 0.106	-0.06	0.477	0.798	-0.228 – 0.106
inferior parietal cortex	0.13	0.034	0.397	0.010 – 0.249	0.11	0.192	0.504	-0.055 – 0.275	-0.02	0.822	0.980	-0.191 – 0.151
inferior temporal gyrus	0.04	0.496	0.825	-0.077 – 0.159	-0.06	0.464	0.678	-0.230 – 0.105	-0.10	0.266	0.724	-0.286 – 0.079
isthmus cingulate cortex	0.00	0.941	0.975	-0.128 – 0.119	0.02	0.790	0.847	-0.154 – 0.203	0.03	0.769	0.980	-0.165 – 0.222
lateral occipital cortex	0.16	0.007	0.245	0.042 – 0.275	0.18	0.041	0.220	0.007 – 0.343	0.02	0.859	0.980	-0.165 – 0.198
lateral orbitofrontal cortex	-0.04	0.475	0.825	-0.151 – 0.070	-0.01	0.880	0.906	-0.173 – 0.148	0.03	0.753	0.980	-0.146 – 0.201
lingual gyrus	0.01	0.902	0.975	-0.109 – 0.124	0.18	0.035	0.220	0.013 – 0.344	0.17	0.064	0.448	-0.010 – 0.352
medial orbitofrontal cortex	-0.01	0.818	0.975	-0.127 – 0.101	0.11	0.192	0.504	-0.055 – 0.274	0.12	0.176	0.704	-0.055 – 0.301
middle temporal gyrus	0.05	0.408	0.825	-0.074 – 0.182	0.06	0.472	0.678	-0.108 – 0.233	0.01	0.924	0.980	-0.166 – 0.183
parahippocampal gyrus	0.07	0.267	0.825	-0.054 – 0.197	-0.17	0.060	0.263	-0.349 – 0.007	-0.24	0.015	0.175	-0.436 – -0.048
paracentral lobule	-0.08	0.139	0.770	-0.190 – 0.026	-0.02	0.799	0.847	-0.177 – 0.137	0.06	0.479	0.798	-0.109 – 0.232
pars opercularis	-0.03	0.529	0.825	-0.144 – 0.074	0.01	0.935	0.935	-0.293 – 0.319	0.05	0.765	0.980	-0.265 – 0.360
pars orbitalis	-0.01	0.814	0.975	-0.138 – 0.109	0.11	0.245	0.504	-0.072 – 0.284	0.12	0.221	0.724	-0.072 – 0.313
pars triangularis	-0.03	0.542	0.825	-0.147 – 0.077	0.21	0.011	0.193	0.048 – 0.372	0.24	0.006	0.123	0.070 – 0.420
pericalcarine cortex	-0.01	0.782	0.975	-0.117 – 0.088	0.08	0.314	0.595	-0.072 – 0.225	0.09	0.269	0.724	-0.070 – 0.252
postcentral gyrus	-0.01	0.889	0.975	-0.118 – 0.102	0.08	0.344	0.602	-0.082 – 0.235	0.08	0.336	0.778	-0.087 – 0.256
posterior cingulate cortex	-0.04	0.512	0.825	-0.145 – 0.072	0.16	0.044	0.220	0.005 – 0.319	0.20	0.023	0.201	0.028 – 0.369
precentral gyrus	-0.05	0.453	0.825	-0.166 – 0.074	-0.07	0.661	0.771	-0.371 – 0.235	-0.02	0.887	0.980	-0.325 – 0.281

precuneus cortex	0.07	0.209	0.813	-0.041	0.186	0.08	0.323	0.595	-0.081	0.247	0.01	0.911	0.980	-0.168	0.188
rostral anterior cingulate cortex	-0.09	0.114	0.770	-0.203	0.022	-0.07	0.419	0.667	-0.229	0.095	0.02	0.793	0.980	-0.152	0.199
rostral middle frontal gyrus	0.03	0.629	0.897	-0.082	0.136	**0.17**	**0.039**	**0.220**	**0.008**	**0.324**	0.14	0.110	0.610	-0.032	0.310
superior frontal gyrus	-0.08	0.161	0.770	-0.191	0.032	0.02	0.785	0.847	-0.138	0.182	0.10	0.249	0.724	-0.071	0.274
superior parietal cortex	0.08	0.176	0.770	-0.034	0.187	0.09	0.244	0.504	-0.065	0.255	0.02	0.832	0.980	-0.154	0.191
superior temporal gyrus	-0.03	0.665	0.897	-0.144	0.092	0.04	0.621	0.749	-0.123	0.206	0.07	0.458	0.798	-0.111	0.246
supramarginal gyrus	0.04	0.529	0.825	-0.077	0.149	0.12	0.160	0.504	-0.046	0.277	0.08	0.369	0.778	-0.094	0.252
frontal pole	0.03	0.666	0.897	-0.098	0.154	0.16	0.081	0.315	-0.020	0.343	0.13	0.181	0.704	-0.062	0.330
temporal pole	-0.11	0.093	0.770	-0.241	0.018	**-0.19**	**0.043**	**0.220**	**-0.378**	**-0.006**	-0.08	0.436	0.798	-0.282	0.122
transverse temporal cortex	-0.04	0.515	0.825	-0.165	0.083	0.11	0.219	0.504	-0.066	0.286	0.15	0.122	0.610	-0.040	0.343
insula	-0.06	0.272	0.825	-0.180	0.051	-0.04	0.600	0.749	-0.210	0.121	0.02	0.823	0.980	-0.159	0.200
average thickness	-0.01	0.922	0.975	-0.110	0.100	0.07	0.375	0.625	-0.083	0.221	0.07	0.378	0.778	-0.091	0.239

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus patient group z; a positive Effect size indicates a thicker cortex of region x in patient group y versus patient group z.

Supplementary Table S32*:* mega-analytic results for each subcortical structure comparing unmedicated adolescent ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	-0.12	0.207	0.414	-0.295 – 0.064	-0.10	0.300	0.996	-0.284 – 0.087	0.02	0.853	0.853	-0.167 – 0.202
caudate	-0.11	0.333	0.434	-0.322 – 0.109	0.02	0.892	0.996	-0.208 – 0.238	0.12	0.285	0.759	-0.102 – 0.346
putamen	-0.11	0.310	0.434	-0.314 – 0.100	0.00	0.996	0.996	-0.216 – 0.217	0.11	0.321	0.759	-0.105 – 0.321
pallidum	-0.05	0.654	0.654	-0.256 – 0.160	0.02	0.838	0.996	-0.195 – 0.241	0.07	0.510	0.759	-0.139 – 0.280
hippocampus	-0.14	0.155	0.414	-0.329 – 0.053	-0.03	0.794	0.996	-0.228 – 0.175	0.11	0.273	0.759	-0.088 – 0.311
amygdala	-0.15	0.159	0.414	-0.349 – 0.057	-0.08	0.489	0.996	-0.288 – 0.138	0.07	0.506	0.759	-0.138 – 0.280
accumbens	-0.09	0.380	0.434	-0.299 – 0.114	-0.05	0.677	0.996	-0.261 – 0.170	0.05	0.670	0.766	-0.168 – 0.261
ICV	-0.15	0.144	0.414	-0.342 – 0.050	-0.09	0.448	0.996	-0.308 – 0.136	0.06	0.569	0.759	-0.147 – 0.268

A negative Effect size indicates a smaller volume of region x in patient group y versus patient group z; a positive Effect size indicates a larger volume of region x in patient group y versus patient group z.

Supplementary Table S33*:* mega-analytic results for cortical thickness of each structure comparing unmedicated adolescent ADHD, ASD and OCD patients, controlling for age, sex and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.19	0.104	0.331	-0.038 – 0.412	0.11	0.377	0.891	-0.136 – 0.359	-0.08	0.519	0.898	-0.304 – 0.154
caudal anterior cingulate cortex	-0.11	0.289	0.618	-0.327 – 0.098	-0.21	0.091	0.531	-0.444 – 0.033	-0.09	0.419	0.898	-0.312 – 0.130
caudal middle frontal gyrus	0.07	0.523	0.832	-0.140 – 0.275	-0.09	0.433	0.891	-0.325 – 0.139	-0.16	0.145	0.671	-0.376 – 0.055
cuneus cortex	0.15	0.191	0.514	-0.073 – 0.364	0.12	0.334	0.891	-0.124 – 0.366	-0.02	0.831	0.985	-0.253 – 0.203
entorhinal cortex	-0.08	0.465	0.778	-0.306 – 0.140	-0.13	0.302	0.881	-0.376 – 0.116	-0.05	0.679	0.951	-0.268 – 0.175
fusiform gyrus	0.03	0.764	0.906	-0.171 – 0.233	0.06	0.621	0.993	-0.169 – 0.283	0.03	0.808	0.985	-0.184 – 0.237
inferior parietal cortex	**0.23**	**0.024**	**0.210**	**0.031 – 0.436**	**0.27**	**0.020**	**0.350**	**0.043 – 0.495**	0.04	0.739	0.985	-0.173 – 0.244
inferior temporal gyrus	**0.24**	**0.023**	**0.210**	**0.033 – 0.444**	0.16	0.161	0.626	-0.065 – 0.394	-0.07	0.497	0.898	-0.288 – 0.140
isthmus cingulate cortex	0.11	0.300	0.618	-0.101 – 0.330	0.18	0.146	0.626	-0.062 – 0.421	0.07	0.570	0.898	-0.160 – 0.291
lateral occipital cortex	0.18	0.079	0.294	-0.020 – 0.379	**0.28**	**0.016**	**0.350**	**0.052 – 0.499**	0.10	0.362	0.898	-0.111 – 0.304
lateral orbitofrontal cortex	-0.01	0.897	0.917	-0.224 – 0.196	-0.01	0.916	0.993	-0.248 – 0.223	0.00	0.991	0.991	-0.219 – 0.221
lingual gyrus	-0.03	0.796	0.906	-0.240 – 0.184	0.14	0.245	0.783	-0.097 – 0.380	0.17	0.134	0.671	-0.052 – 0.391
medial orbitofrontal cortex	0.04	0.702	0.906	-0.173 – 0.257	0.05	0.693	0.993	-0.193 – 0.290	0.01	0.955	0.991	-0.217 – 0.230
middle temporal gyrus	0.08	0.467	0.778	-0.134 – 0.292	0.00	0.993	0.993	-0.236 – 0.234	-0.08	0.473	0.898	-0.299 – 0.139
parahippocampal gyrus	-0.09	0.428	0.778	-0.315 – 0.134	-0.02	0.863	0.993	-0.274 – 0.230	0.07	0.564	0.898	-0.165 – 0.302
paracentral lobule	0.02	0.868	0.917	-0.244 – 0.289	-0.07	0.637	0.993	-0.356 – 0.218	-0.09	0.417	0.898	-0.313 – 0.129
pars opercularis	0.10	0.373	0.725	-0.118 – 0.316	-0.08	0.513	0.993	-0.325 – 0.162	-0.18	0.118	0.671	-0.406 – 0.046
pars orbitalis	**0.27**	**0.017**	**0.210**	**0.048 – 0.494**	0.22	0.086	0.531	-0.031 – 0.469	-0.05	0.660	0.951	-0.284 – 0.180
pars triangularis	0.21	0.056	0.280	-0.005 – 0.421	0.02	0.858	0.993	-0.218 – 0.261	-0.19	0.102	0.671	-0.409 – 0.037
pericalcarine cortex	0.03	0.767	0.906	-0.182 – 0.246	0.18	0.136	0.626	-0.057 – 0.421	0.15	0.188	0.671	-0.073 – 0.373
postcentral gyrus	0.04	0.689	0.906	-0.174 – 0.263	0.04	0.730	0.993	-0.200 – 0.286	0.00	0.988	0.991	-0.226 – 0.222
posterior cingulate cortex	**0.25**	**0.024**	**0.210**	**0.032 – 0.458**	0.14	0.246	0.783	-0.097 – 0.380	-0.10	0.358	0.898	-0.326 – 0.118
precentral gyrus	0.04	0.721	0.906	-0.179 – 0.259	-0.02	0.856	0.993	-0.267 – 0.222	-0.06	0.590	0.898	-0.289 – 0.164
precuneus cortex	0.02	0.812	0.906	-0.181 – 0.230	0.00	0.977	0.993	-0.227 – 0.234	-0.02	0.844	0.985	-0.236 – 0.193
rostral anterior cingulate cortex	-0.06	0.564	0.858	-0.271 – 0.148	-0.21	0.078	0.531	-0.444 – 0.024	-0.15	0.179	0.671	-0.366 – 0.068

rostral middle frontal gyrus	0.22	0.040	0.280	0.010	–	0.424	0.04	0.727	0.993	-0.190	–	0.273	-0.18	0.110	0.671	-0.392	–	0.040
superior frontal gyrus	0.21	0.054	0.280	-0.003	–	0.417	-0.03	0.809	0.993	-0.264	–	0.206	-0.24	0.033	0.671	-0.453	–	-0.019
superior parietal cortex	0.18	0.078	0.294	-0.020	–	0.386	0.21	0.065	0.531	-0.013	–	0.440	0.03	0.775	0.985	-0.180	–	0.241
superior temporal gyrus	0.03	0.775	0.906	-0.187	–	0.251	0.04	0.753	0.993	-0.202	–	0.279	0.01	0.953	0.991	-0.218	–	0.231
supramarginal gyrus	0.12	0.268	0.618	-0.092	–	0.330	-0.04	0.715	0.993	-0.278	–	0.191	-0.16	0.138	0.671	-0.377	–	0.052
frontal pole	0.16	0.153	0.446	-0.061	–	0.388	0.01	0.929	0.993	-0.240	–	0.263	-0.15	0.202	0.671	-0.386	–	0.082
temporal pole	-0.12	0.288	0.618	-0.333	–	0.099	0.03	0.832	0.993	-0.215	–	0.267	0.14	0.211	0.671	-0.081	–	0.368
transverse temporal cortex	-0.01	0.917	0.917	-0.228	–	0.205	0.10	0.430	0.891	-0.145	–	0.340	0.11	0.345	0.898	-0.117	–	0.335
insula	-0.02	0.828	0.906	-0.216	–	0.173	-0.01	0.939	0.993	-0.227	–	0.210	0.01	0.899	0.991	-0.190	–	0.216
average thickness	0.18	0.084	0.294	-0.025	–	0.389	0.10	0.392	0.891	-0.131	–	0.333	-0.08	0.464	0.898	-0.298	–	0.136

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus patient group z; a positive Effect size indicates a thicker cortex of region x in patient group y versus patient group z.

Supplementary Table S34: mega-analytic results for surface area of each structure comparing unmedicated adolescent ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.03	0.799	0.883	-0.228 – 0.176	-0.03	0.792	0.886	-0.255 – 0.194	0.00	0.970	0.993	-0.210 – 0.202
caudal anterior cingulate cortex	-0.07	0.499	0.832	-0.270 – 0.131	0.03	0.810	0.886	-0.200 – 0.255	0.10	0.363	0.977	-0.112 – 0.306
caudal middle frontal gyrus	-0.20	0.044	0.206	-0.392 – -0.006	-0.17	0.132	0.660	-0.384 – 0.050	0.03	0.754	0.993	-0.168 – 0.233
cuneus cortex	-0.22	0.034	0.206	-0.418 – -0.017	-0.12	0.312	0.780	-0.344 – 0.110	0.10	0.351	0.977	-0.110 – 0.311
entorhinal cortex	-0.04	0.718	0.868	-0.260 – 0.179	0.09	0.453	0.840	-0.150 – 0.337	0.13	0.229	0.977	-0.084 – 0.351
fusiform gyrus	-0.07	0.421	0.776	-0.253 – 0.106	0.03	0.775	0.886	-0.172 – 0.231	0.10	0.281	0.977	-0.084 – 0.290
inferior parietal cortex	0.03	0.761	0.883	-0.156 – 0.214	0.01	0.909	0.964	-0.196 – 0.220	-0.02	0.864	0.993	-0.207 – 0.174
inferior temporal gyrus	-0.11	0.234	0.540	-0.287 – 0.070	-0.11	0.299	0.780	-0.306 – 0.094	0.00	0.981	0.993	-0.184 – 0.189
isthmus cingulate cortex	-0.20	0.044	0.206	-0.392 – -0.005	-0.20	0.067	0.469	-0.423 – 0.015	-0.01	0.956	0.993	-0.209 – 0.198
lateral occipital cortex	-0.19	0.039	0.206	-0.375 – -0.010	-0.19	0.067	0.469	-0.396 – 0.014	0.00	0.993	0.993	-0.189 – 0.191
lateral orbitofrontal cortex	0.05	0.611	0.868	-0.129 – 0.219	-0.10	0.339	0.791	-0.291 – 0.100	-0.14	0.132	0.977	-0.323 – 0.042
lingual gyrus	-0.08	0.420	0.776	-0.289 – 0.120	-0.03	0.804	0.886	-0.260 – 0.202	0.05	0.614	0.993	-0.158 – 0.268
medial orbitofrontal cortex	0.12	0.180	0.468	-0.055 – 0.295	0.03	0.734	0.886	-0.163 – 0.232	-0.09	0.359	0.977	-0.269 – 0.097
middle temporal gyrus	-0.04	0.622	0.868	-0.215 – 0.128	-0.08	0.392	0.821	-0.274 – 0.107	-0.04	0.657	0.993	-0.217 – 0.137
parahippocampal gyrus	0.03	0.807	0.883	-0.178 – 0.228	0.04	0.734	0.886	-0.190 – 0.269	0.01	0.893	0.993	-0.198 – 0.227
paracentral lobule	0.12	0.247	0.540	-0.081 – 0.316	0.10	0.399	0.821	-0.128 – 0.321	-0.02	0.847	0.993	-0.229 – 0.188
pars opercularis	-0.20	0.047	0.206	-0.404 – -0.003	-0.15	0.202	0.711	-0.372 – 0.079	0.06	0.595	0.993	-0.152 – 0.264
pars orbitalis	-0.07	0.457	0.800	-0.256 – 0.115	0.05	0.613	0.886	-0.155 – 0.263	0.12	0.209	0.977	-0.070 – 0.319
pars triangularis	0.11	0.103	0.361	-0.022 – 0.234	-0.13	0.203	0.711	-0.336 – 0.071	-0.13	0.203	0.977	-0.336 – 0.071
pericalcarine cortex	-0.24	0.026	0.206	-0.451 – -0.029	-0.27	0.024	0.469	-0.513 – -0.036	-0.03	0.759	0.993	-0.255 – 0.186
postcentral gyrus	-0.09	0.316	0.651	-0.271 – 0.088	-0.22	0.030	0.469	-0.423 – -0.022	-0.13	0.165	0.977	-0.316 – 0.054
posterior cingulate cortex	-0.02	0.872	0.898	-0.204 – 0.173	0.06	0.554	0.886	-0.149 – 0.277	0.08	0.428	0.993	-0.118 – 0.277
precentral gyrus	-0.17	0.057	0.222	-0.345 – 0.005	-0.20	0.041	0.469	-0.400 – -0.009	-0.03	0.709	0.993	-0.216 – 0.147

precuneus cortex	-0.12	0.187	0.468	-0.294	–	0.057	-0.07	0.520	0.886	-0.263	–	0.133	0.05	0.570	0.993	-0.131	–	0.238
rostral anterior cingulate cortex	-0.05	0.589	0.868	-0.238	–	0.135	-0.03	0.772	0.886	-0.241	–	0.179	0.02	0.837	0.993	-0.174	–	0.214
rostral middle frontal gyrus	-0.03	0.719	0.868	-0.204	–	0.141	0.10	0.311	0.780	-0.094	–	0.294	0.13	0.152	0.977	-0.048	–	0.312
superior frontal gyrus	-0.04	0.658	0.868	-0.206	–	0.130	-0.10	0.312	0.780	-0.285	–	0.091	-0.06	0.505	0.993	-0.232	–	0.114
superior parietal cortex	**-0.19**	**0.043**	**0.206**	**-0.381**	–	**-0.006**	-0.03	0.767	0.886	-0.243	–	0.179	0.16	0.104	0.977	-0.033	–	0.356
superior temporal gyrus	0.01	0.935	0.935	-0.172	–	0.187	0.01	0.952	0.980	-0.193	–	0.205	0.00	0.988	0.993	-0.186	–	0.183
supramarginal gyrus	**-0.20**	**0.030**	**0.206**	**-0.382**	–	**-0.019**	-0.14	0.167	0.711	-0.347	–	0.060	0.06	0.545	0.993	-0.128	–	0.243
frontal pole	-0.14	0.181	0.468	-0.349	–	0.066	-0.05	0.763	0.886	-0.361	–	0.265	0.09	0.541	0.993	-0.206	–	0.393
temporal pole	-0.04	0.714	0.868	-0.247	–	0.169	0.09	0.456	0.840	-0.145	–	0.323	0.13	0.245	0.977	-0.088	–	0.343
transverse temporal cortex	-0.02	0.839	0.890	-0.226	–	0.183	0.00	0.998	0.998	-0.230	–	0.231	0.02	0.843	0.993	-0.192	–	0.235
insula	0.06	0.531	0.845	-0.121	–	0.236	-0.04	0.686	0.886	-0.243	–	0.160	-0.10	0.301	0.977	-0.286	–	0.088
full surface area	-0.11	0.137	0.436	-0.249	–	0.034	-0.13	0.114	0.660	-0.287	–	0.031	-0.02	0.783	0.993	-0.170	–	0.128

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus patient group z; a positive Effect size indicates a larger surface area of region x in patient group y versus patient group z.

Supplementary Table S35: mega-analytic results for each subcortical structure comparing medicated adult ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	0.00	0.976	0.976	-0.157 – 0.162	-0.02	0.876	0.942	-0.234 – 0.199	-0.02	0.880	0.928	-0.276 – 0.237
caudate	-0.09	0.358	0.716	-0.278 – 0.101	0.02	0.861	0.942	-0.236 – 0.283	0.11	0.474	0.928	-0.194 – 0.418
putamen	-0.14	0.138	0.368	-0.315 – 0.044	0.02	0.887	0.942	-0.217 – 0.251	0.15	0.259	0.928	-0.113 – 0.418
pallidum	**-0.22**	**0.018**	**0.144**	**-0.405 – -0.038**	-0.21	0.103	0.588	-0.459 – 0.042	0.01	0.928	0.928	-0.282 – 0.309
hippocampus	0.02	0.817	0.976	-0.168 – 0.213	0.10	0.429	0.942	-0.153 – 0.360	0.08	0.588	0.928	-0.212 – 0.374
amygdala	-0.15	0.103	0.368	-0.335 – 0.031	-0.01	0.942	0.942	-0.265 – 0.246	0.14	0.352	0.928	-0.158 – 0.443
accumbens	-0.06	0.501	0.802	-0.247 – 0.121	0.18	0.147	0.588	-0.064 – 0.429	0.25	0.090	0.720	-0.038 – 0.529
ICV	0.01	0.887	0.976	-0.169 – 0.196	0.03	0.818	0.942	-0.220 – 0.278	0.02	0.916	0.928	-0.279 – 0.311

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus patient group z; a positive Effect size indicates a larger volume of region x in patient group y versus patient group z.

Supplementary Table S36: mega-analytic results for cortical thickness of each structure comparing medicated adult ADHD, ASD and OCD patients, controlling for age, sex and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.09	0.368	0.670	-0.109 – 0.294	0.03	0.836	0.976	-0.236 – 0.292	-0.06	0.688	0.939	-0.379 – 0.250
caudal anterior cingulate cortex	-0.06	0.591	0.766	-0.260 – 0.148	-0.02	0.869	0.976	-0.301 – 0.255	0.03	0.846	0.939	-0.296 – 0.361
caudal middle frontal gyrus	0.06	0.572	0.766	-0.159 – 0.287	0.09	0.521	0.976	-0.190 – 0.374	0.03	0.856	0.939	-0.274 – 0.330
cuneus cortex	0.05	0.675	0.788	-0.169 – 0.261	0.07	0.629	0.976	-0.213 – 0.352	0.02	0.885	0.939	-0.296 – 0.343
entorhinal cortex	-0.12	0.289	0.670	-0.338 – 0.101	-0.15	0.327	0.976	-0.439 – 0.146	-0.03	0.871	0.939	-0.361 – 0.306
fusiform gyrus	0.11	0.285	0.670	-0.092 – 0.313	-0.02	0.900	0.976	-0.278 – 0.245	-0.13	0.390	0.873	-0.417 – 0.163
inferior parietal cortex	0.17	0.072	0.511	-0.016 – 0.363	0.00	0.976	0.976	-0.261 – 0.253	-0.18	0.252	0.873	-0.481 – 0.126
inferior temporal gyrus	0.18	0.117	0.564	-0.045 – 0.407	-0.04	0.831	0.976	-0.457 – 0.368	-0.23	0.305	0.873	-0.656 – 0.205
isthmus cingulate cortex	0.11	0.341	0.670	-0.118 – 0.340	-0.02	0.884	0.976	-0.323 – 0.278	-0.13	0.441	0.873	-0.473 – 0.206
lateral occipital cortex	0.16	0.145	0.564	-0.055 – 0.373	-0.09	0.510	0.976	-0.372 – 0.185	-0.25	0.113	0.640	-0.565 – 0.060
lateral orbitofrontal cortex	0.20	0.054	0.511	-0.004 – 0.399	-0.15	0.278	0.976	-0.407 – 0.117	**-0.34**	**0.022**	**0.385**	**-0.636 – -0.049**
lingual gyrus	0.19	0.073	0.511	-0.018 – 0.399	0.15	0.286	0.976	-0.126 – 0.427	-0.04	0.806	0.939	-0.359 – 0.279
medial orbitofrontal cortex	**0.23**	**0.019**	**0.511**	**0.039 – 0.430**	-0.01	0.946	0.976	-0.275 – 0.257	-0.24	0.128	0.640	-0.559 – 0.071
middle temporal gyrus	0.20	0.070	0.511	-0.017 – 0.420	0.13	0.338	0.976	-0.141 – 0.411	-0.07	0.672	0.939	-0.377 – 0.243
parahippocampal gyrus	0.19	0.100	0.564	-0.036 – 0.406	**-0.31**	**0.042**	**0.976**	**-0.602 – -0.012**	**-0.49**	**0.004**	**0.140**	**-0.828 – -0.156**
paracentral lobule	0.07	0.516	0.753	-0.139 – 0.276	-0.07	0.634	0.976	-0.335 – 0.204	-0.13	0.384	0.873	-0.437 – 0.168
pars opercularis	0.02	0.880	0.906	-0.198 – 0.230	0.10	0.467	0.976	-0.172 – 0.374	0.08	0.574	0.939	-0.211 – 0.381
pars orbitalis	0.14	0.210	0.615	-0.079 – 0.360	-0.08	0.604	0.976	-0.367 – 0.213	-0.22	0.196	0.858	-0.546 – 0.112
pars triangularis	0.10	0.383	0.670	-0.122 – 0.319	0.18	0.210	0.976	-0.102 – 0.461	0.08	0.601	0.939	-0.224 – 0.388
pericalcarine cortex	-0.04	0.699	0.789	-0.228 – 0.153	0.13	0.328	0.976	-0.127 – 0.379	0.16	0.271	0.873	-0.128 – 0.455
postcentral gyrus	0.07	0.479	0.729	-0.132 – 0.281	-0.21	0.133	0.976	-0.477 – 0.063	-0.28	0.071	0.621	-0.588 – 0.024
posterior cingulate cortex	0.01	0.942	0.942	-0.202 – 0.218	0.03	0.802	0.976	-0.238 – 0.308	0.03	0.862	0.939	-0.278 – 0.333
precentral gyrus	-0.02	0.832	0.882	-0.233 – 0.187	-0.14	0.321	0.976	-0.402 – 0.132	-0.11	0.449	0.873	-0.404 – 0.178

precuneus cortex	0.16	0.192	0.615	-0.082	–	0.409	0.03	0.824	0.976	-0.268	–	0.337	-0.13	0.413	0.873	-0.439	–	0.180
rostral anterior cingulate cortex	-0.04	0.668	0.788	-0.249	–	0.160	0.00	0.975	0.976	-0.274	–	0.265	0.04	0.796	0.939	-0.267	–	0.348
rostral middle frontal gyrus	0.09	0.406	0.671	-0.122	–	0.300	0.02	0.884	0.976	-0.251	–	0.292	-0.07	0.652	0.939	-0.369	–	0.231
superior frontal gyrus	0.11	0.336	0.670	-0.118	–	0.346	0.12	0.413	0.976	-0.169	–	0.411	0.01	0.962	0.962	-0.297	–	0.312
superior parietal cortex	0.05	0.634	0.788	-0.143	–	0.235	0.03	0.814	0.976	-0.226	–	0.288	-0.02	0.922	0.949	-0.320	–	0.289
superior temporal gyrus	0.09	0.422	0.671	-0.124	–	0.296	-0.06	0.772	0.976	-0.477	–	0.354	-0.15	0.511	0.939	-0.587	–	0.292
supramarginal gyrus	0.07	0.585	0.766	-0.180	–	0.318	-0.08	0.605	0.976	-0.384	–	0.224	-0.15	0.337	0.873	-0.455	–	0.156
frontal pole	0.14	0.211	0.615	-0.077	–	0.347	-0.14	0.361	0.976	-0.428	–	0.156	-0.27	0.122	0.640	-0.615	–	0.073
temporal pole	-0.16	0.129	0.564	-0.377	–	0.048	-0.14	0.349	0.976	-0.426	–	0.150	0.03	0.877	0.939	-0.315	–	0.368
transverse temporal cortex	0.03	0.773	0.845	-0.199	–	0.268	-0.01	0.935	0.976	-0.310	–	0.285	-0.05	0.780	0.939	-0.375	–	0.282
insula	0.10	0.368	0.670	-0.121	–	0.327	-0.22	0.138	0.976	-0.500	–	0.069	**-0.32**	**0.042**	**0.490**	**-0.625**	–	**-0.012**
average thickness	0.13	0.249	0.670	-0.092	–	0.356	-0.03	0.848	0.976	-0.306	–	0.251	-0.16	0.283	0.873	-0.449	–	0.131

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus patient group z; a positive Effect size indicates a thicker cortex of region x in patient group y versus patient group z.

Supplementary Table S37: mega-analytic results for surface area of each structure comparing medicated adult ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.03	0.797	0.980	-0.177 – 0.231	-0.06	0.659	0.841	-0.330 – 0.209	-0.09	0.591	0.916	-0.407 – 0.232
caudal anterior cingulate cortex	-0.08	0.428	0.980	-0.286 – 0.121	0.17	0.231	0.841	-0.109 – 0.451	0.25	0.131	0.718	-0.076 – 0.582
caudal middle frontal gyrus	0.04	0.675	0.980	-0.162 – 0.251	0.10	0.476	0.841	-0.176 – 0.378	0.06	0.724	0.916	-0.258 – 0.372
cuneus cortex	-0.06	0.583	0.980	-0.273 – 0.153	-0.15	0.294	0.841	-0.439 – 0.133	-0.09	0.578	0.916	-0.423 – 0.236
entorhinal cortex	0.11	0.307	0.980	-0.105 – 0.334	-0.12	0.457	0.841	-0.419 – 0.188	-0.23	0.203	0.789	-0.583 – 0.124
fusiform gyrus	-0.03	0.774	0.980	-0.224 – 0.167	-0.08	0.547	0.841	-0.340 – 0.180	-0.05	0.736	0.916	-0.349 – 0.246
inferior parietal cortex	0.00	0.999	0.999	-0.186 – 0.186	-0.12	0.372	0.841	-0.370 – 0.139	-0.12	0.448	0.916	-0.415 – 0.183
inferior temporal gyrus	0.04	0.707	0.980	-0.151 – 0.223	-0.08	0.558	0.841	-0.327 – 0.176	-0.11	0.465	0.916	-0.409 – 0.187
isthmus cingulate cortex	0.02	0.871	0.980	-0.176 – 0.208	0.26	0.050	0.469	0.000 – 0.524	0.25	0.119	0.718	-0.063 – 0.555
lateral occipital cortex	-0.02	0.815	0.980	-0.233 – 0.183	0.25	0.067	0.469	-0.018 – 0.525	0.28	0.071	0.718	-0.024 – 0.581
lateral orbitofrontal cortex	-0.08	0.377	0.980	-0.259 – 0.098	0.04	0.758	0.856	-0.205 – 0.281	0.12	0.419	0.916	-0.169 – 0.406
lingual gyrus	0.17	0.114	0.980	-0.041 – 0.384	-0.06	0.665	0.841	-0.352 – 0.225	-0.24	0.164	0.718	-0.567 – 0.096
medial orbitofrontal cortex	-0.14	0.125	0.980	-0.320 – 0.039	-0.05	0.697	0.841	-0.294 – 0.196	0.09	0.534	0.916	-0.198 – 0.381
middle temporal gyrus	0.03	0.720	0.980	-0.156 – 0.226	-0.11	0.392	0.841	-0.357 – 0.140	-0.14	0.331	0.916	-0.432 – 0.145
parahippocampal gyrus	-0.07	0.488	0.980	-0.276 – 0.132	-0.07	0.607	0.841	-0.356 – 0.208	0.00	0.990	0.990	-0.333 – 0.329
paracentral lobule	0.02	0.864	0.980	-0.179 – 0.213	0.14	0.301	0.841	-0.127 – 0.412	0.13	0.439	0.916	-0.192 – 0.443
pars opercularis	0.19	0.055	0.980	-0.004 – 0.393	0.24	0.087	0.508	-0.034 – 0.512	0.04	0.785	0.916	-0.276 – 0.366
pars orbitalis	-0.03	0.753	0.980	-0.221 – 0.160	0.03	0.835	0.909	-0.232 – 0.288	0.06	0.710	0.916	-0.249 – 0.365
pars triangularis	-0.04	0.687	0.980	-0.250 – 0.165	0.28	0.054	0.469	-0.005 – 0.557	0.32	0.052	0.718	-0.003 – 0.640
pericalcarine cortex	-0.02	0.882	0.980	-0.227 – 0.195	-0.08	0.584	0.841	-0.368 – 0.207	-0.06	0.710	0.916	-0.404 – 0.275
postcentral gyrus	0.12	0.217	0.980	-0.072 – 0.317	0.02	0.857	0.909	-0.238 – 0.286	-0.10	0.522	0.916	-0.399 – 0.203
posterior cingulate cortex	-0.11	0.327	0.980	-0.322 – 0.107	0.11	0.431	0.841	-0.167 – 0.391	0.22	0.164	0.718	-0.090 – 0.529
precentral gyrus	0.13	0.160	0.980	-0.051 – 0.308	0.15	0.221	0.841	-0.092 – 0.398	0.02	0.870	0.923	-0.265 – 0.313

precuneus cortex	-0.10	0.301	0.980	-0.278	–	0.086	-0.07	0.592	0.841	-0.316	–	0.180	0.03	0.851	0.923	-0.265	–	0.321
rostral anterior cingulate cortex	-0.08	0.408	0.980	-0.272	–	0.111	0.06	0.674	0.841	-0.205	–	0.317	0.14	0.384	0.916	-0.171	–	0.445
rostral middle frontal gyrus	-0.02	0.835	0.980	-0.201	–	0.163	0.00	0.978	0.994	-0.246	–	0.240	0.02	0.911	0.938	-0.264	–	0.296
superior frontal gyrus	-0.06	0.520	0.980	-0.240	–	0.121	0.00	0.994	0.994	-0.239	–	0.237	0.06	0.672	0.916	-0.212	–	0.328
superior parietal cortex	-0.01	0.952	0.980	-0.204	–	0.192	0.25	0.062	0.469	-0.013	–	0.517	0.26	0.097	0.718	-0.046	–	0.562
superior temporal gyrus	-0.02	0.870	0.980	-0.209	–	0.177	0.05	0.692	0.841	-0.200	–	0.302	0.07	0.651	0.916	-0.222	–	0.356
supramarginal gyrus	0.02	0.837	0.980	-0.174	–	0.215	0.09	0.492	0.841	-0.171	–	0.355	0.07	0.640	0.916	-0.229	–	0.372
frontal pole	-0.19	0.088	0.980	-0.400	–	0.027	-0.24	0.110	0.550	-0.531	–	0.054	-0.05	0.768	0.916	-0.397	–	0.293
temporal pole	0.09	0.386	0.980	-0.120	–	0.309	0.14	0.331	0.841	-0.147	–	0.437	0.05	0.775	0.916	-0.294	–	0.394
transverse temporal cortex	0.01	0.944	0.980	-0.205	–	0.221	0.05	0.743	0.856	-0.241	–	0.338	0.04	0.812	0.917	-0.297	–	0.378
insula	-0.08	0.345	0.980	-0.258	–	0.090	0.23	0.055	0.469	-0.005	–	0.469	**0.32**	**0.027**	**0.718**	**0.036**	–	**0.596**
full surface area	0.01	0.951	0.980	-0.159	–	0.169	0.07	0.548	0.841	-0.150	–	0.283	0.06	0.628	0.916	-0.187	–	0.309

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus patient group z; a positive Effect size indicates a larger surface area of region x in patient group y versus patient group z.

Supplementary Table S38: mega-analytic results for each subcortical structure comparing medicated adolescent ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	-0.10	0.325	0.650	-0.305 – 0.101	-0.17	0.134	0.600	-0.389 – 0.052	-0.07	0.586	0.781	-0.307 – 0.174
caudate	-0.21	0.062	0.165	-0.438 – 0.011	-0.03	0.823	0.849	-0.295 – 0.235	0.18	0.186	0.496	-0.089 – 0.456
putamen	-0.01	0.957	0.957	-0.223 – 0.211	0.19	0.150	0.600	-0.068 – 0.444	0.19	0.147	0.496	-0.068 – 0.456
pallidum	-0.09	0.407	0.651	-0.310 – 0.126	0.03	0.835	0.849	-0.229 – 0.283	0.12	0.370	0.740	-0.142 – 0.380
hippocampus	0.02	0.852	0.957	-0.189 – 0.229	0.02	0.849	0.849	-0.222 – 0.270	0.00	0.975	0.975	-0.249 – 0.257
amygdala	-0.01	0.901	0.957	-0.230 – 0.202	-0.06	0.665	0.849	-0.312 – 0.199	-0.04	0.748	0.855	-0.303 – 0.218
accumbens	0.21	0.058	0.165	-0.008 – 0.435	0.14	0.307	0.819	-0.125 – 0.399	-0.08	0.578	0.781	-0.348 – 0.194
ICV	-0.25	0.016	0.128	-0.461 – -0.047	0.10	0.451	0.849	-0.165 – 0.371	0.36	0.008	0.064	0.094 – 0.619

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus patient group z; a positive Effect size indicates a larger volume of region x in patient group y versus patient group z.

Supplementary Table S39: mega-analytic results for cortical thickness of each structure comparing medicated adolescent ADHD, ASD and OCD patients, controlling for age, sex and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.07	0.557	0.887	-0.170 – 0.316	-0.05	0.730	0.904	-0.361 – 0.253	-0.13	0.399	0.983	-0.422 – 0.168
caudal anterior cingulate cortex	-0.02	0.872	0.887	-0.240 – 0.203	-0.18	0.207	0.900	-0.465 – 0.101	-0.16	0.242	0.972	-0.438 – 0.110
caudal middle frontal gyrus	0.17	0.260	0.797	-0.125 – 0.463	0.05	0.784	0.904	-0.296 – 0.392	-0.12	0.394	0.983	-0.399 – 0.157
cuneus cortex	0.12	0.305	0.797	-0.110 – 0.353	0.10	0.518	0.900	-0.198 – 0.392	-0.02	0.870	0.984	-0.311 – 0.263
entorhinal cortex	0.06	0.619	0.887	-0.167 – 0.281	-0.04	0.762	0.904	-0.324 – 0.237	-0.10	0.469	0.983	-0.371 – 0.171
fusiform gyrus	-0.04	0.743	0.887	-0.249 – 0.178	-0.07	0.617	0.900	-0.343 – 0.204	-0.03	0.802	0.984	-0.300 – 0.232
inferior parietal cortex	0.17	0.258	0.797	-0.125 – 0.466	0.01	0.952	0.980	-0.331 – 0.352	-0.16	0.243	0.972	-0.428 – 0.109
inferior temporal gyrus	0.11	0.337	0.797	-0.112 – 0.327	0.03	0.843	0.922	-0.250 – 0.306	-0.08	0.567	0.983	-0.351 – 0.192
isthmus cingulate cortex	0.04	0.719	0.887	-0.185 – 0.269	0.04	0.801	0.904	-0.253 – 0.327	0.00	0.975	0.984	-0.286 – 0.277
lateral occipital cortex	0.17	0.116	0.797	-0.043 – 0.386	0.16	0.256	0.900	-0.116 – 0.434	-0.01	0.928	0.984	-0.280 – 0.256
lateral orbitofrontal cortex	-0.06	0.586	0.887	-0.280 – 0.158	-0.21	0.153	0.900	-0.486 – 0.076	-0.14	0.303	0.983	-0.419 – 0.130
lingual gyrus	0.02	0.869	0.887	-0.203 – 0.241	**0.30**	**0.040**	**0.900**	**0.013 – 0.581**	**0.28**	**0.049**	**0.972**	**0.002 – 0.555**
medial orbitofrontal cortex	0.05	0.655	0.887	-0.176 – 0.280	-0.14	0.357	0.900	-0.427 – 0.154	-0.19	0.191	0.972	-0.471 – 0.094
middle temporal gyrus	0.06	0.601	0.887	-0.165 – 0.286	0.05	0.749	0.904	-0.239 – 0.332	-0.01	0.923	0.984	-0.291 – 0.263
parahippocampal gyrus	-0.12	0.302	0.797	-0.361 – 0.112	-0.02	0.903	0.958	-0.319 – 0.282	0.11	0.478	0.983	-0.186 – 0.398
paracentral lobule	0.03	0.811	0.887	-0.199 – 0.254	0.04	0.770	0.904	-0.246 – 0.332	0.02	0.914	0.984	-0.266 – 0.297
pars opercularis	0.14	0.240	0.797	-0.093 – 0.372	0.04	0.801	0.904	-0.258 – 0.334	-0.10	0.489	0.983	-0.388 – 0.186
pars orbitalis	-0.02	0.862	0.887	-0.260 – 0.217	-0.10	0.515	0.900	-0.405 – 0.203	-0.08	0.597	0.983	-0.376 – 0.216
pars triangularis	0.07	0.525	0.887	-0.152 – 0.299	-0.09	0.534	0.900	-0.379 – 0.197	-0.16	0.250	0.972	-0.445 – 0.116
pericalcarine cortex	-0.03	0.766	0.887	-0.260 – 0.191	0.16	0.270	0.900	-0.126 – 0.450	0.20	0.170	0.972	-0.084 – 0.477
postcentral gyrus	0.12	0.290	0.797	-0.106 – 0.353	0.12	0.437	0.900	-0.176 – 0.409	-0.01	0.957	0.984	-0.292 – 0.277
posterior cingulate cortex	0.22	0.050	0.583	0.000 – 0.448	0.14	0.335	0.900	-0.146 – 0.428	-0.08	0.562	0.983	-0.363 – 0.197
precentral gyrus	-0.02	0.887	0.887	-0.250 – 0.216	0.09	0.561	0.900	-0.209 – 0.385	0.10	0.477	0.983	-0.184 – 0.394

precuneus cortex	0.13	0.364	0.797	-0.150	–	0.408	0.17	0.304	0.900	-0.156	–	0.501	0.04	0.754	0.984	-0.228	–	0.315
rostral anterior cingulate cortex	0.05	0.622	0.887	-0.163	–	0.273	0.08	0.588	0.900	-0.202	–	0.356	0.02	0.872	0.984	-0.249	–	0.293
rostral middle frontal gyrus	0.11	0.314	0.797	-0.106	–	0.329	-0.07	0.609	0.900	-0.351	–	0.206	-0.18	0.184	0.972	-0.456	–	0.088
superior frontal gyrus	**0.25**	**0.032**	**0.560**	**0.021**	–	**0.473**	0.00	0.993	0.993	-0.287	–	0.289	-0.25	0.085	0.972	-0.525	–	0.034
superior parietal cortex	**0.25**	**0.024**	**0.560**	**0.033**	–	**0.464**	0.18	0.204	0.900	-0.097	–	0.455	-0.07	0.615	0.983	-0.339	–	0.200
superior temporal gyrus	0.06	0.602	0.887	-0.170	–	0.294	0.13	0.403	0.900	-0.170	–	0.422	0.06	0.660	0.984	-0.223	–	0.351
supramarginal gyrus	0.10	0.387	0.797	-0.128	–	0.331	0.13	0.380	0.900	-0.162	–	0.424	0.03	0.836	0.984	-0.252	–	0.312
frontal pole	-0.04	0.714	0.887	-0.284	–	0.194	-0.27	0.084	0.900	-0.573	–	0.036	-0.22	0.140	0.972	-0.521	–	0.074
temporal pole	-0.12	0.304	0.797	-0.352	–	0.110	-0.12	0.429	0.900	-0.411	–	0.175	0.00	0.984	0.984	-0.283	–	0.289
transverse temporal cortex	0.05	0.662	0.887	-0.177	–	0.279	0.17	0.238	0.900	-0.115	–	0.464	0.12	0.393	0.983	-0.160	–	0.407
insula	-0.09	0.378	0.797	-0.302	–	0.115	-0.12	0.376	0.900	-0.386	–	0.146	-0.03	0.839	0.984	-0.282	–	0.229
average thickness	0.15	0.199	0.797	-0.077	–	0.368	0.07	0.608	0.900	-0.211	–	0.360	-0.07	0.618	0.983	-0.350	–	0.208

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus patient group z; a positive Effect size indicates a thicker cortex of region x in patient group y versus patient group z.

Supplementary Table S40: mega-analytic results for surface area of each structure comparing medicated adolescent ADHD, ASD and OCD patients, controlling for age, sex, ICV, and scan site.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.11	0.314	0.785	-0.325 – 0.104	-0.07	0.622	0.822	-0.337 – 0.201	0.04	0.745	0.857	-0.215 – 0.301
caudal anterior cingulate cortex	0.05	0.637	0.892	-0.161 – 0.263	0.06	0.641	0.822	-0.206 – 0.334	0.01	0.921	0.948	-0.248 – 0.275
caudal middle frontal gyrus	0.02	0.866	0.957	-0.190 – 0.226	0.17	0.212	0.648	-0.096 – 0.434	0.15	0.251	0.817	-0.107 – 0.408
cuneus cortex	0.14	0.183	0.719	-0.068 – 0.356	0.09	0.497	0.756	-0.175 – 0.361	-0.05	0.703	0.857	-0.312 – 0.210
entorhinal cortex	-0.13	0.274	0.785	-0.364 – 0.103	-0.04	0.762	0.889	-0.332 – 0.243	0.09	0.545	0.843	-0.192 – 0.363
fusiform gyrus	-0.01	0.957	0.957	-0.198 – 0.187	0.10	0.417	0.718	-0.143 – 0.346	0.11	0.379	0.817	-0.131 – 0.344
inferior parietal cortex	0.03	0.755	0.957	-0.166 – 0.228	0.15	0.237	0.648	-0.099 – 0.398	0.12	0.332	0.817	-0.121 – 0.357
inferior temporal gyrus	-0.01	0.893	0.957	-0.205 – 0.178	0.10	0.398	0.718	-0.138 – 0.347	0.12	0.329	0.817	-0.118 – 0.354
isthmus cingulate cortex	-0.09	0.387	0.853	-0.294 – 0.114	-0.06	0.676	0.822	-0.314 – 0.204	0.03	0.786	0.857	-0.217 – 0.287
lateral occipital cortex	0.05	0.627	0.892	-0.143 – 0.237	0.18	0.152	0.648	-0.065 – 0.419	0.13	0.280	0.817	-0.106 – 0.366
lateral orbitofrontal cortex	0.12	0.190	0.719	-0.061 – 0.306	0.00	0.968	0.991	-0.231 – 0.241	-0.12	0.316	0.817	-0.348 – 0.113
lingual gyrus	-0.03	0.763	0.957	-0.252 – 0.185	-0.18	0.199	0.648	-0.459 – 0.095	-0.15	0.281	0.817	-0.418 – 0.122
medial orbitofrontal cortex	**0.28**	**0.015**	**0.268**	**0.055 – 0.504**	0.15	0.273	0.648	-0.118 – 0.416	-0.13	0.261	0.817	-0.357 – 0.097
middle temporal gyrus	0.02	0.815	0.957	-0.161 – 0.205	0.06	0.620	0.822	-0.172 – 0.289	0.04	0.749	0.857	-0.187 – 0.260
parahippocampal gyrus	-0.11	0.310	0.785	-0.329 – 0.104	0.00	0.991	0.991	-0.274 – 0.277	0.11	0.405	0.817	-0.154 – 0.381
paracentral lobule	0.24	0.090	0.719	-0.038 – 0.524	0.16	0.257	0.648	-0.114 – 0.427	-0.09	0.596	0.843	-0.407 – 0.234
pars opercularis	0.15	0.178	0.719	-0.067 – 0.359	0.11	0.413	0.718	-0.157 – 0.381	-0.03	0.798	0.857	-0.294 – 0.226
pars orbitalis	0.15	0.138	0.719	-0.048 – 0.347	0.18	0.152	0.648	-0.068 – 0.434	0.03	0.785	0.857	-0.210 – 0.279
pars triangularis	0.09	0.390	0.853	-0.117 – 0.300	0.17	0.212	0.648	-0.096 – 0.431	0.08	0.558	0.843	-0.179 – 0.332
pericalcarine cortex	-0.01	0.949	0.957	-0.231 – 0.217	-0.15	0.296	0.648	-0.435 – 0.132	-0.14	0.306	0.817	-0.420 – 0.132
postcentral gyrus	**0.22**	**0.023**	**0.268**	**0.030 – 0.403**	0.09	0.445	0.718	-0.145 – 0.329	-0.12	0.291	0.817	-0.354 – 0.106
posterior cingulate cortex	**0.24**	**0.016**	**0.268**	**0.045 – 0.442**	0.19	0.149	0.648	-0.067 – 0.440	-0.06	0.652	0.857	-0.304 – 0.190
precentral gyrus	0.05	0.595	0.892	-0.135 – 0.235	-0.13	0.282	0.648	-0.363 – 0.106	-0.18	0.125	0.817	-0.407 – 0.050

precuneus cortex	0.01	0.931	0.957	-0.234	–	0.256	0.19	0.129	0.648	-0.054	–	0.425	0.17	0.223	0.817	-0.106	–	0.455
rostral anterior cingulate cortex	0.05	0.584	0.892	-0.141	–	0.250	-0.01	0.941	0.991	-0.258	–	0.239	-0.06	0.602	0.843	-0.305	–	0.177
rostral middle frontal gyrus	0.12	0.211	0.719	-0.067	–	0.303	0.12	0.324	0.667	-0.118	–	0.356	0.00	0.994	0.994	-0.230	–	0.232
superior frontal gyrus	0.06	0.485	0.892	-0.114	–	0.240	0.22	0.061	0.648	-0.010	–	0.441	0.15	0.171	0.817	-0.066	–	0.371
superior parietal cortex	0.02	0.820	0.957	-0.171	–	0.216	0.18	0.153	0.648	-0.067	–	0.427	0.16	0.200	0.817	-0.083	–	0.398
superior temporal gyrus	-0.05	0.602	0.892	-0.240	–	0.139	-0.13	0.293	0.648	-0.370	–	0.112	-0.08	0.508	0.843	-0.312	–	0.155
supramarginal gyrus	-0.06	0.554	0.892	-0.253	–	0.135	0.05	0.681	0.822	-0.194	–	0.297	0.11	0.361	0.817	-0.126	–	0.346
frontal pole	-0.14	0.226	0.719	-0.362	–	0.085	-0.02	0.865	0.977	-0.308	–	0.259	0.11	0.420	0.817	-0.162	–	0.390
temporal pole	-0.16	0.169	0.719	-0.381	–	0.067	-0.07	0.602	0.822	-0.357	–	0.207	0.08	0.556	0.843	-0.192	–	0.356
transverse temporal cortex	-0.01	0.905	0.957	-0.231	–	0.205	-0.21	0.136	0.648	-0.485	–	0.066	-0.20	0.152	0.817	-0.464	–	0.072
insula	0.09	0.494	0.892	-0.170	–	0.352	0.01	0.972	0.991	-0.296	–	0.307	-0.09	0.472	0.843	-0.319	–	0.148
full surface area	0.05	0.506	0.892	-0.098	–	0.198	0.07	0.451	0.718	-0.117	–	0.264	0.02	0.808	0.857	-0.163	–	0.210

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus patient group z; a positive Effect size indicates a larger surface area of region x in patient group y versus patient group z.

Supplementary Table S41: mega-analytic results for each subcortical structure comparing medicated pediatric ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	0.15	0.159	0.318	-0.059 – 0.362	0.00	0.976	0.976	-0.191 – 0.197	-0.04	0.578	0.789	-0.181 – 0.101
caudate	-0.21	0.141	0.318	-0.500 – 0.071	-0.15	0.089	0.155	-0.328 – 0.023	0.04	0.628	0.789	-0.136 – 0.225
putamen	0.13	0.298	0.477	-0.117 – 0.384	-0.14	0.092	0.155	-0.303 – 0.023	0.17	0.049	0.392	0.000 – 0.333
pallidum	-0.08	0.585	0.585	-0.346 – 0.195	-0.11	0.181	0.207	-0.281 – 0.053	-0.03	0.690	0.789	-0.206 – 0.136
hippocampus	0.19	0.099	0.318	-0.036 – 0.422	-0.13	0.084	0.155	-0.282 – 0.018	-0.13	0.106	0.424	-0.281 – 0.027
amygdala	0.30	0.015	0.120	0.058 – 0.543	-0.13	0.097	0.155	-0.291 – 0.024	-0.05	0.522	0.789	-0.213 – 0.108
accumbens	0.09	0.496	0.585	-0.168 – 0.347	-0.22	0.011	0.088	-0.389 – -0.050	0.02	0.814	0.814	-0.152 – 0.193
ICV	-0.07	0.547	0.585	-0.307 – 0.163	-0.11	0.152	0.203	-0.260 – 0.040	-0.07	0.373	0.789	-0.231 – 0.087

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S42: mega-analytic results for cortical thickness of each structure comparing medicated pediatric ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.10	0.528	0.880	-0.426 – 0.218	0.12	0.222	0.953	-0.075 – 0.324	**-0.27**	**0.011**	**0.039**	**-0.477 – -0.060**
caudal anterior cingulate cortex	0.04	0.808	0.926	-0.265 – 0.341	0.06	0.537	0.953	-0.128 – 0.245	-0.16	0.121	0.210	-0.353 – 0.041
caudal middle frontal gyrus	-0.17	0.269	0.587	-0.463 – 0.129	0.07	0.469	0.953	-0.115 – 0.250	**-0.27**	**0.005**	**0.029**	**-0.465 – -0.081**
cuneus cortex	**-0.35**	**0.024**	**0.420**	**-0.646 – -0.046**	0.00	0.996	0.996	-0.187 – 0.186	**0.26**	**0.011**	**0.039**	**0.058 – 0.454**
entorhinal cortex	0.18	0.212	0.587	-0.104 – 0.467	-0.01	0.920	0.953	-0.175 – 0.158	**-0.17**	**0.043**	**0.094**	**-0.341 – -0.006**
fusiform gyrus	-0.05	0.736	0.926	-0.341 – 0.241	-0.04	0.695	0.953	-0.216 – 0.144	-0.25	0.096	0.187	-0.538 – 0.044
inferior parietal cortex	-0.23	0.153	0.587	-0.541 – 0.085	0.02	0.795	0.953	-0.163 – 0.213	**-0.23**	**0.022**	**0.070**	**-0.427 – -0.032**
inferior temporal gyrus	0.02	0.888	0.926	-0.267 – 0.308	0.05	0.570	0.953	-0.125 – 0.226	-0.17	0.234	0.341	-0.454 – 0.111
isthmus cingulate cortex	-0.17	0.264	0.587	-0.479 – 0.131	0.15	0.108	0.953	-0.034 – 0.343	-0.06	0.520	0.628	-0.263 – 0.133
lateral occipital cortex	-0.20	0.182	0.587	-0.500 – 0.095	-0.15	0.103	0.953	-0.332 – 0.031	-0.05	0.575	0.649	-0.244 – 0.135
lateral orbitofrontal cortex	-0.03	0.820	0.926	-0.311 – 0.246	0.06	0.505	0.953	-0.112 – 0.228	-0.14	0.132	0.210	-0.315 – 0.041
lingual gyrus	-0.17	0.229	0.587	-0.450 – 0.108	-0.02	0.855	0.953	-0.188 – 0.156	0.11	0.226	0.341	-0.069 – 0.292
medial orbitofrontal cortex	-0.03	0.830	0.926	-0.310 – 0.249	-0.06	0.459	0.953	-0.236 – 0.107	0.01	0.953	0.953	-0.172 – 0.183
middle temporal gyrus	-0.18	0.252	0.587	-0.487 – 0.128	0.09	0.358	0.953	-0.100 – 0.277	**-0.35**	**0.000**	**0.000**	**-0.548 – -0.154**
parahippocampal gyrus	0.22	0.161	0.587	-0.088 – 0.533	0.02	0.820	0.953	-0.166 – 0.209	**-0.21**	**0.037**	**0.093**	**-0.408 – -0.013**
paracentral lobule	-0.19	0.228	0.587	-0.494 – 0.118	-0.06	0.508	0.953	-0.254 – 0.126	-0.19	0.065	0.134	-0.386 – 0.011
pars opercularis	-0.07	0.677	0.926	-0.372 – 0.242	-0.09	0.326	0.953	-0.284 – 0.094	**-0.32**	**0.001**	**0.009**	**-0.518 – -0.123**
pars orbitalis	-0.09	0.569	0.905	-0.387 – 0.212	**0.22**	**0.019**	**0.665**	**0.037 – 0.408**	0.03	0.820	0.844	-0.260 – 0.329
pars triangularis	0.04	0.814	0.926	-0.260 – 0.330	0.01	0.873	0.953	-0.168 – 0.198	-0.09	0.539	0.629	-0.381 – 0.199
pericalcarine cortex	-0.19	0.207	0.587	-0.485 – 0.105	-0.05	0.561	0.953	-0.233 – 0.127	0.15	0.120	0.210	-0.039 – 0.340
postcentral gyrus	-0.05	0.745	0.926	-0.362 – 0.259	0.03	0.726	0.953	-0.158 – 0.226	-0.16	0.126	0.210	-0.356 – 0.044
posterior cingulate cortex	0.01	0.926	0.926	-0.289 – 0.317	0.09	0.324	0.953	-0.092 – 0.278	-0.04	0.676	0.717	-0.236 – 0.153
precentral gyrus	-0.16	0.302	0.587	-0.469 – 0.145	-0.02	0.823	0.953	-0.213 – 0.169	**-0.40**	**0.000**	**0.000**	**-0.604 – -0.206**

precuneus cortex	-0.29	0.064	0.587	-0.599	–	0.017	0.01	0.926	0.953	-0.181	–	0.199	-0.09	0.358	0.464	-0.293	–	0.106
rostral anterior cingulate cortex	-0.03	0.850	0.926	-0.305	–	0.252	-0.06	0.502	0.953	-0.227	–	0.111	**-0.20**	**0.027**	**0.079**	**-0.374**	–	**-0.022**
rostral middle frontal gyrus	-0.05	0.709	0.926	-0.322	–	0.219	0.06	0.482	0.953	-0.107	–	0.227	-0.06	0.513	0.628	-0.232	–	0.116
superior frontal gyrus	-0.10	0.482	0.849	-0.386	–	0.182	0.07	0.425	0.953	-0.104	–	0.246	**-0.19**	**0.039**	**0.093**	**-0.375**	–	**-0.009**
superior parietal cortex	-0.26	0.092	0.587	-0.562	–	0.042	0.03	0.719	0.953	-0.153	–	0.221	**-0.21**	**0.040**	**0.093**	**-0.402**	–	**-0.009**
superior temporal gyrus	-0.05	0.723	0.926	-0.342	–	0.238	0.03	0.720	0.953	-0.147	–	0.213	**-0.27**	**0.005**	**0.029**	**-0.454**	–	**-0.082**
supramarginal gyrus	-0.25	0.121	0.587	-0.557	–	0.065	0.04	0.673	0.953	-0.148	–	0.229	**-0.34**	**0.001**	**0.009**	**-0.540**	–	**-0.148**
frontal pole	**0.36**	**0.016**	**0.420**	**0.068**	–	**0.661**	0.02	0.801	0.953	-0.160	–	0.207	0.10	0.298	0.417	-0.091	–	0.295
temporal pole	0.10	0.485	0.849	-0.184	–	0.387	-0.10	0.279	0.953	-0.275	–	0.079	-0.13	0.355	0.464	-0.414	–	0.148
transverse temporal cortex	0.02	0.905	0.926	-0.283	–	0.320	-0.01	0.916	0.953	-0.197	–	0.176	0.04	0.673	0.717	-0.153	–	0.237
insula	-0.19	0.194	0.587	-0.480	–	0.097	-0.09	0.310	0.953	-0.265	–	0.084	**-0.25**	**0.006**	**0.030**	**-0.434**	–	**-0.071**
average thickness	-0.16	0.291	0.587	-0.459	–	0.138	0.02	0.855	0.953	-0.167	–	0.201	**-0.26**	**0.008**	**0.035**	**-0.454**	–	**-0.069**

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus healthy controls; a positive Effect size indicates a thicker cortex of region x in patient group y versus healthy controls.

Supplementary Table S43: mega-analytic results for surface area of each structure comparing medicated pediatric ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.16	0.264	0.801	-0.119 – 0.436	-0.01	0.906	0.906	-0.183 – 0.162	**-0.35**	**0.000**	**0.000**	**-0.527 – -0.165**
caudal anterior cingulate cortex	0.07	0.638	0.851	-0.206 – 0.336	-0.14	0.106	0.218	-0.307 – 0.029	-0.13	0.168	0.327	-0.303 – 0.053
caudal middle frontal gyrus	-0.06	0.668	0.851	-0.333 – 0.214	-0.17	0.052	0.140	-0.339 – 0.001	**-0.35**	**0.000**	**0.000**	**-0.533 – -0.173**
cuneus cortex	-0.21	0.143	0.801	-0.491 – 0.071	-0.07	0.406	0.444	-0.250 – 0.101	-0.10	0.296	0.470	-0.289 – 0.088
entorhinal cortex	-0.16	0.310	0.801	-0.482 – 0.153	-0.11	0.251	0.366	-0.299 – 0.078	-0.06	0.543	0.679	-0.254 – 0.134
fusiform gyrus	-0.09	0.476	0.833	-0.332 – 0.155	-0.08	0.324	0.433	-0.227 – 0.075	**-0.19**	**0.020**	**0.088**	**-0.347 – -0.029**
inferior parietal cortex	-0.21	0.104	0.801	-0.462 – 0.043	-0.06	0.406	0.444	-0.217 – 0.088	**-0.30**	**0.000**	**0.000**	**-0.460 – -0.141**
inferior temporal gyrus	0.03	0.838	0.865	-0.268 – 0.331	-0.07	0.456	0.484	-0.254 – 0.114	**-0.21**	**0.038**	**0.127**	**-0.404 – -0.012**
isthmus cingulate cortex	-0.13	0.336	0.801	-0.402 – 0.137	**-0.23**	**0.007**	**0.056**	**-0.397 – -0.063**	-0.12	0.181	0.333	-0.296 – 0.056
lateral occipital cortex	-0.10	0.435	0.801	-0.355 – 0.153	**-0.16**	**0.044**	**0.128**	**-0.316 – -0.004**	0.01	0.944	0.944	-0.159 – 0.171
lateral orbitofrontal cortex	0.05	0.670	0.851	-0.187 – 0.291	**-0.20**	**0.008**	**0.056**	**-0.343 – -0.050**	-0.17	0.134	0.276	-0.396 – 0.053
lingual gyrus	-0.04	0.789	0.865	-0.316 – 0.240	-0.14	0.116	0.226	-0.308 – 0.034	-0.07	0.437	0.633	-0.259 – 0.112
medial orbitofrontal cortex	-0.10	0.427	0.801	-0.336 – 0.142	-0.14	0.061	0.152	-0.287 – 0.007	-0.19	0.123	0.269	-0.429 – 0.051
middle temporal gyrus	0.02	0.840	0.865	-0.213 – 0.262	-0.07	0.332	0.433	-0.217 – 0.073	**-0.27**	**0.000**	**0.000**	**-0.429 – -0.121**
parahippocampal gyrus	-0.10	0.517	0.851	-0.396 – 0.199	-0.08	0.377	0.444	-0.261 – 0.099	-0.04	0.710	0.802	-0.228 – 0.155
paracentral lobule	-0.13	0.349	0.801	-0.411 – 0.145	**-0.28**	**0.002**	**0.053**	**-0.455 – -0.107**	-0.01	0.937	0.944	-0.191 – 0.176
pars opercularis	-0.13	0.387	0.801	-0.409 – 0.145	-0.09	0.334	0.433	-0.266 – 0.090	**-0.22**	**0.024**	**0.093**	**-0.404 – -0.028**
pars orbitalis	-0.05	0.704	0.851	-0.307 – 0.207	-0.15	0.065	0.152	-0.310 – 0.009	-0.02	0.861	0.913	-0.187 – 0.156
pars triangularis	-0.20	0.164	0.801	-0.487 – 0.082	-0.15	0.094	0.206	-0.331 – 0.026	**-0.19**	**0.049**	**0.143**	**-0.379 – -0.001**
pericalcarine cortex	-0.20	0.200	0.801	-0.497 – 0.104	-0.11	0.218	0.355	-0.297 – 0.068	-0.16	0.109	0.254	-0.355 – 0.036
postcentral gyrus	-0.19	0.150	0.801	-0.442 – 0.068	**-0.17**	**0.035**	**0.123**	**-0.331 – -0.012**	**-0.23**	**0.007**	**0.041**	**-0.394 – -0.062**
posterior cingulate cortex	0.03	0.816	0.865	-0.233 – 0.296	**-0.21**	**0.011**	**0.064**	**-0.371 – -0.047**	-0.06	0.511	0.662	-0.228 – 0.114
precentral gyrus	-0.07	0.590	0.851	-0.305 – 0.174	**-0.23**	**0.003**	**0.053**	**-0.375 – -0.077**	-0.04	0.586	0.684	-0.200 – 0.113

precuneus cortex	-0.14	0.270	0.801	-0.385	0.108	-0.18	0.020	0.088	-0.332	-0.029	-0.03	0.757	0.828	-0.188	0.136
rostral anterior cingulate cortex	0.15	0.234	0.801	-0.095	0.389	-0.09	0.223	0.355	-0.240	0.056	-0.20	0.011	0.055	-0.357	-0.047
rostral middle frontal gyrus	-0.10	0.402	0.801	-0.333	0.134	-0.15	0.043	0.128	-0.293	-0.005	-0.15	0.216	0.373	-0.380	0.086
superior frontal gyrus	-0.10	0.374	0.801	-0.322	0.121	-0.16	0.019	0.088	-0.300	-0.027	-0.13	0.309	0.470	-0.372	0.118
superior parietal cortex	-0.16	0.240	0.801	-0.415	0.104	-0.12	0.129	0.238	-0.286	0.036	-0.06	0.468	0.633	-0.232	0.107
superior temporal gyrus	0.07	0.551	0.851	-0.166	0.312	-0.16	0.031	0.121	-0.312	-0.015	**-0.28**	**0.000**	**0.000**	**-0.433**	**-0.124**
supramarginal gyrus	-0.14	0.303	0.801	-0.404	0.126	-0.11	0.187	0.327	-0.268	0.052	-0.16	0.064	0.160	-0.324	0.009
frontal pole	0.07	0.660	0.851	-0.225	0.355	0.08	0.405	0.444	-0.105	0.260	0.22	0.224	0.373	-0.135	0.573
temporal pole	-0.06	0.705	0.851	-0.344	0.233	-0.08	0.393	0.444	-0.260	0.102	0.07	0.470	0.633	-0.121	0.261
transverse temporal cortex	-0.04	0.784	0.865	-0.329	0.249	-0.07	0.478	0.492	-0.248	0.116	-0.06	0.567	0.684	-0.252	0.138
insula	0.01	0.936	0.936	-0.228	0.248	-0.09	0.241	0.366	-0.228	0.057	-0.16	0.040	0.127	-0.307	-0.007
full surface area	-0.10	0.308	0.801	-0.282	0.089	-0.16	0.008	0.056	-0.270	-0.042	-0.19	0.056	0.151	-0.391	0.005

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus healthy controls; a positive Effect size indicates a larger surface area of region x in patient group y versus healthy controls.

Supplementary Table S44: mega-analytic results for each subcortical structure comparing medicated adolescent ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	**0.13**	**0.043**	**0.344**	**0.004 – 0.259**	0.03	0.714	0.794	-0.129 – 0.189	-0.04	0.690	0.903	-0.219 – 0.145
caudate	0.11	0.174	0.464	-0.047 – 0.261	-0.11	0.205	0.570	-0.272 – 0.058	0.08	0.492	0.903	-0.142 – 0.295
putamen	-0.04	0.640	0.779	-0.185 – 0.114	-0.04	0.607	0.794	-0.200 – 0.117	0.15	0.154	0.728	-0.057 – 0.362
pallidum	0.01	0.894	0.894	-0.141 – 0.161	-0.08	0.310	0.570	-0.240 – 0.076	0.04	0.725	0.903	-0.171 – 0.246
hippocampus	-0.04	0.582	0.779	-0.184 – 0.103	-0.02	0.794	0.794	-0.174 – 0.133	-0.02	0.874	0.903	-0.219 – 0.186
amygdala	-0.06	0.430	0.779	-0.210 – 0.089	-0.07	0.356	0.570	-0.231 – 0.083	-0.12	0.273	0.728	-0.325 – 0.092
accumbens	-0.12	0.107	0.428	-0.273 – 0.027	0.09	0.279	0.570	-0.073 – 0.254	0.01	0.903	0.903	-0.203 – 0.230
ICV	0.03	0.682	0.779	-0.120 – 0.184	**-0.22**	**0.002**	**0.016**	**-0.363 – -0.081**	0.13	0.235	0.728	-0.087 – 0.357

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S45: mega-analytic results for cortical thickness of each structure comparing medicated adolescent ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.08	0.369	0.538	-0.267 – 0.099	-0.01	0.894	0.985	-0.172 – 0.150	-0.14	0.277	0.591	-0.386 – 0.111
caudal anterior cingulate cortex	-0.04	0.607	0.773	-0.208 – 0.122	-0.06	0.418	0.962	-0.211 – 0.088	-0.23	0.057	0.499	-0.457 – 0.006
caudal middle frontal gyrus	-0.16	0.230	0.410	-0.408 – 0.098	0.01	0.859	0.985	-0.137 – 0.164	-0.11	0.372	0.625	-0.342 – 0.128
cuneus cortex	-0.09	0.281	0.428	-0.267 – 0.077	0.03	0.739	0.985	-0.130 – 0.184	0.00	0.983	0.983	-0.240 – 0.246
entorhinal cortex	-0.10	0.243	0.410	-0.267 – 0.068	-0.04	0.574	0.962	-0.193 – 0.107	-0.14	0.216	0.591	-0.370 – 0.084
fusiform gyrus	-0.09	0.243	0.410	-0.253 – 0.064	-0.13	0.076	0.644	-0.274 – 0.014	-0.16	0.152	0.591	-0.389 – 0.060
inferior parietal cortex	-0.15	0.248	0.410	-0.409 – 0.106	0.02	0.800	0.985	-0.127 – 0.164	-0.14	0.223	0.591	-0.368 – 0.086
inferior temporal gyrus	-0.15	0.065	0.325	-0.314 – 0.010	-0.04	0.554	0.962	-0.194 – 0.104	-0.12	0.287	0.591	-0.352 – 0.104
isthmus cingulate cortex	-0.03	0.700	0.798	-0.202 – 0.136	0.01	0.913	0.985	-0.145 – 0.162	0.00	0.973	0.983	-0.234 – 0.242
lateral occipital cortex	**-0.21**	**0.010**	**0.117**	**-0.367 – -0.050**	-0.04	0.618	0.983	-0.182 – 0.108	-0.05	0.670	0.869	-0.276 – 0.177
lateral orbitofrontal cortex	-0.03	0.677	0.798	-0.196 – 0.127	-0.10	0.210	0.871	-0.244 – 0.054	**-0.24**	**0.043**	**0.499**	**-0.472 – -0.008**
lingual gyrus	-0.05	0.564	0.759	-0.213 – 0.116	-0.03	0.700	0.985	-0.180 – 0.121	**0.25**	**0.037**	**0.499**	**0.015 – 0.483**
medial orbitofrontal cortex	-0.03	0.735	0.798	-0.199 – 0.140	0.02	0.773	0.985	-0.131 – 0.176	-0.17	0.173	0.591	-0.404 – 0.073
middle temporal gyrus	-0.16	0.061	0.325	-0.328 – 0.008	-0.10	0.197	0.871	-0.252 – 0.052	-0.11	0.340	0.625	-0.346 – 0.119
parahippocampal gyrus	-0.06	0.505	0.707	-0.236 – 0.116	**-0.18**	**0.024**	**0.644**	**-0.344 – -0.024**	-0.08	0.533	0.777	-0.325 – 0.168
paracentral lobule	-0.13	0.136	0.410	-0.295 – 0.040	-0.10	0.200	0.871	-0.253 – 0.053	-0.08	0.487	0.775	-0.322 – 0.154
pars opercularis	**-0.21**	**0.019**	**0.154**	**-0.380 – -0.034**	-0.07	0.397	0.962	-0.224 – 0.089	-0.17	0.171	0.591	-0.411 – 0.073
pars orbitalis	-0.01	0.891	0.891	-0.189 – 0.164	-0.03	0.685	0.985	-0.195 – 0.128	-0.11	0.375	0.625	-0.364 – 0.137
pars triangularis	-0.12	0.156	0.410	-0.288 – 0.046	-0.05	0.538	0.962	-0.200 – 0.105	-0.21	0.079	0.553	-0.449 – 0.025
pericalcarine cortex	-0.03	0.753	0.798	-0.194 – 0.140	-0.06	0.434	0.962	-0.214 – 0.092	0.14	0.263	0.591	-0.102 – 0.372
postcentral gyrus	-0.12	0.158	0.410	-0.293 – 0.048	0.00	0.989	0.989	-0.154 – 0.156	-0.01	0.956	0.983	-0.247 – 0.233
posterior cingulate cortex	**-0.22**	**0.009**	**0.117**	**-0.386 – -0.054**	0.00	0.957	0.985	-0.148 – 0.156	-0.08	0.515	0.777	-0.315 – 0.158
precentral gyrus	-0.12	0.177	0.410	-0.292 – 0.054	-0.14	0.092	0.644	-0.294 – 0.022	-0.03	0.804	0.958	-0.275 – 0.213

precuneus cortex	-0.14	0.258	0.410	-0.374	–	0.101	-0.01	0.916	0.985	-0.155	–	0.139	0.04	0.762	0.953	-0.194	–	0.265
rostral anterior cingulate cortex	-0.10	0.211	0.410	-0.266	–	0.059	-0.05	0.516	0.962	-0.195	–	0.098	-0.03	0.821	0.958	-0.255	–	0.203
rostral middle frontal gyrus	-0.10	0.244	0.410	-0.256	–	0.065	0.02	0.828	0.985	-0.131	–	0.164	-0.17	0.152	0.591	-0.398	–	0.062
superior frontal gyrus	-0.15	0.076	0.333	-0.321	–	0.016	0.09	0.224	0.871	-0.058	–	0.246	-0.15	0.209	0.591	-0.387	–	0.085
superior parietal cortex	**-0.24**	**0.003**	**0.105**	**-0.402**	–	**-0.084**	0.01	0.946	0.985	-0.141	–	0.152	-0.06	0.581	0.785	-0.292	–	0.164
superior temporal gyrus	-0.14	0.122	0.410	-0.309	–	0.036	-0.07	0.349	0.962	-0.230	–	0.081	-0.01	0.935	0.983	-0.252	–	0.232
supramarginal gyrus	-0.14	0.100	0.389	-0.317	–	0.028	-0.04	0.577	0.962	-0.196	–	0.109	-0.01	0.912	0.983	-0.253	–	0.226
frontal pole	-0.03	0.738	0.798	-0.207	–	0.147	-0.07	0.366	0.962	-0.238	–	0.088	**-0.30**	**0.020**	**0.499**	**-0.550**	–	**-0.047**
temporal pole	-0.02	0.775	0.798	-0.195	–	0.145	-0.15	0.069	0.644	-0.303	–	0.012	-0.14	0.245	0.591	-0.384	–	0.098
transverse temporal cortex	-0.11	0.210	0.410	-0.276	–	0.060	-0.06	0.475	0.962	-0.212	–	0.099	0.07	0.583	0.785	-0.172	–	0.305
insula	-0.04	0.618	0.773	-0.196	–	0.117	-0.13	0.057	0.644	-0.271	–	0.004	-0.16	0.147	0.591	-0.376	–	0.056
average thickness	**-0.19**	**0.022**	**0.154**	**-0.356**	–	**-0.028**	-0.05	0.552	0.962	-0.197	–	0.105	-0.12	0.331	0.625	-0.353	–	0.119

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus healthy controls; a positive Effect size indicates a thicker cortex of region x in patient group y versus healthy controls.

Supplementary Table S46: mega-analytic results for surface area of each structure comparing medicated adolescent ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.08	0.358	0.659	-0.086 – 0.239	-0.03	0.637	0.955	-0.176 – 0.108	0.01	0.938	0.969	-0.209 – 0.226
caudal anterior cingulate cortex	-0.10	0.208	0.488	-0.261 – 0.057	-0.05	0.482	0.955	-0.193 – 0.091	-0.04	0.739	0.969	-0.260 – 0.184
caudal middle frontal gyrus	-0.13	0.114	0.451	-0.281 – 0.030	-0.11	0.134	0.955	-0.248 – 0.033	0.04	0.698	0.969	-0.175 – 0.262
cuneus cortex	-0.16	0.053	0.451	-0.313 – 0.002	-0.01	0.872	0.955	-0.155 – 0.132	-0.06	0.578	0.969	-0.283 – 0.158
entorhinal cortex	0.05	0.544	0.793	-0.121 – 0.230	-0.08	0.343	0.955	-0.232 – 0.081	0.01	0.933	0.969	-0.222 – 0.242
fusiform gyrus	-0.02	0.806	0.952	-0.162 – 0.126	-0.02	0.724	0.955	-0.153 – 0.106	0.08	0.416	0.969	-0.117 – 0.284
inferior parietal cortex	-0.05	0.489	0.778	-0.201 – 0.096	-0.02	0.751	0.955	-0.152 – 0.110	0.10	0.345	0.969	-0.105 – 0.299
inferior temporal gyrus	0.01	0.860	0.952	-0.129 – 0.155	0.00	0.996	0.996	-0.130 – 0.129	0.12	0.247	0.969	-0.081 – 0.316
isthmus cingulate cortex	0.00	0.978	0.978	-0.154 – 0.150	-0.09	0.189	0.955	-0.230 – 0.045	-0.06	0.597	0.969	-0.270 – 0.155
lateral occipital cortex	-0.09	0.209	0.488	-0.231 – 0.051	-0.04	0.509	0.955	-0.172 – 0.085	0.09	0.394	0.969	-0.113 – 0.286
lateral orbitofrontal cortex	-0.11	0.112	0.451	-0.245 – 0.026	0.01	0.838	0.955	-0.112 – 0.138	-0.10	0.292	0.969	-0.300 – 0.090
lingual gyrus	0.01	0.881	0.952	-0.150 – 0.175	-0.02	0.779	0.955	-0.169 – 0.127	-0.17	0.146	0.969	-0.398 – 0.059
medial orbitofrontal cortex	**-0.26**	**0.007**	**0.082**	**-0.449 – -0.073**	0.02	0.773	0.955	-0.105 – 0.142	-0.11	0.253	0.969	-0.304 – 0.080
middle temporal gyrus	-0.04	0.528	0.793	-0.180 – 0.092	-0.02	0.726	0.955	-0.145 – 0.101	0.01	0.880	0.969	-0.173 – 0.202
parahippocampal gyrus	0.02	0.768	0.952	-0.137 – 0.186	-0.09	0.239	0.955	-0.234 – 0.058	0.03	0.823	0.969	-0.201 – 0.252
paracentral lobule	**-0.22**	**0.006**	**0.082**	**-0.383 – -0.064**	0.02	0.869	0.955	-0.214 – 0.253	-0.07	0.556	0.969	-0.290 – 0.156
pars opercularis	-0.11	0.166	0.484	-0.273 – 0.047	0.03	0.650	0.955	-0.110 – 0.176	0.00	0.994	0.994	-0.221 – 0.220
pars orbitalis	-0.12	0.106	0.451	-0.268 – 0.026	0.03	0.678	0.955	-0.106 – 0.162	0.06	0.554	0.969	-0.144 – 0.269
pars triangularis	-0.12	0.142	0.452	-0.273 – 0.039	-0.03	0.721	0.955	-0.167 – 0.115	0.05	0.647	0.969	-0.166 – 0.267
pericalcarine cortex	-0.07	0.432	0.725	-0.234 – 0.100	-0.07	0.337	0.955	-0.226 – 0.077	-0.22	0.066	0.969	-0.451 – 0.015
postcentral gyrus	-0.10	0.142	0.452	-0.242 – 0.035	0.11	0.080	0.955	-0.013 – 0.238	-0.01	0.907	0.969	-0.206 – 0.183
posterior cingulate cortex	**-0.27**	**0.000**	**0.000**	**-0.413 – -0.119**	-0.02	0.745	0.955	-0.156 – 0.112	-0.08	0.459	0.969	-0.288 – 0.130
precentral gyrus	-0.01	0.925	0.952	-0.144 – 0.131	0.04	0.494	0.955	-0.081 – 0.169	-0.14	0.168	0.969	-0.328 – 0.057

precuneus cortex	-0.03	0.696	0.902	-0.167	–	0.112	-0.02	0.869	0.955	-0.219	–	0.185	0.16	0.117	0.969	-0.039	–	0.355
rostral anterior cingulate cortex	-0.06	0.435	0.725	-0.204	–	0.088	0.00	0.957	0.985	-0.135	–	0.128	-0.07	0.514	0.969	-0.271	–	0.136
rostral middle frontal gyrus	-0.13	0.071	0.451	-0.264	–	0.011	-0.01	0.897	0.955	-0.134	–	0.117	-0.01	0.941	0.969	-0.203	–	0.188
superior frontal gyrus	-0.11	0.116	0.451	-0.238	–	0.026	-0.04	0.480	0.955	-0.162	–	0.076	0.11	0.244	0.969	-0.075	–	0.294
superior parietal cortex	-0.10	0.182	0.488	-0.241	–	0.046	-0.08	0.261	0.955	-0.207	–	0.056	0.08	0.428	0.969	-0.121	–	0.285
superior temporal gyrus	0.04	0.617	0.831	-0.106	–	0.178	-0.01	0.825	0.955	-0.142	–	0.113	-0.09	0.354	0.969	-0.290	–	0.104
supramarginal gyrus	0.01	0.909	0.952	-0.138	–	0.155	-0.05	0.446	0.955	-0.179	–	0.079	0.06	0.556	0.969	-0.140	–	0.260
frontal pole	0.08	0.344	0.659	-0.086	–	0.248	-0.06	0.458	0.955	-0.209	–	0.094	0.06	0.639	0.969	-0.178	–	0.290
temporal pole	0.05	0.574	0.804	-0.120	–	0.216	-0.11	0.161	0.955	-0.262	–	0.044	-0.03	0.821	0.969	-0.258	–	0.205
transverse temporal cortex	0.08	0.321	0.659	-0.080	–	0.244	0.07	0.365	0.955	-0.080	–	0.217	-0.13	0.271	0.969	-0.354	–	0.099
insula	-0.02	0.846	0.952	-0.252	–	0.207	0.07	0.287	0.955	-0.058	–	0.194	-0.02	0.863	0.969	-0.215	–	0.180
full surface area	-0.06	0.308	0.659	-0.166	–	0.052	-0.01	0.900	0.955	-0.107	–	0.094	0.02	0.835	0.969	-0.141	–	0.174

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus healthy controls; a positive Effect size indicates a larger surface area of region x in patient group y versus healthy controls.

Supplementary Table S47: mega-analytic results for each subcortical structure comparing medicated adult ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	-0.06	0.027	0.064	-0.121 – -0.007	-0.06	0.416	0.605	-0.211 – 0.087	-0.08	0.445	0.973	-0.291 – 0.128
caudate	0.03	0.451	0.468	-0.042 – 0.095	-0.06	0.490	0.605	-0.239 – 0.115	0.05	0.699	0.973	-0.201 – 0.300
putamen	0.06	0.171	0.228	-0.028 – 0.156	-0.07	0.363	0.605	-0.227 – 0.083	0.08	0.463	0.973	-0.135 – 0.297
pallidum	0.17	0.000	0.000	0.080 – 0.252	-0.04	0.677	0.677	-0.207 – 0.135	-0.02	0.851	0.973	-0.264 – 0.218
hippocampus	-0.10	0.024	0.064	-0.193 – -0.014	-0.08	0.349	0.605	-0.249 – 0.088	0.00	0.997	0.997	-0.240 – 0.241
amygdala	-0.07	0.040	0.064	-0.133 – -0.003	-0.22	0.012	0.096	-0.392 – -0.049	-0.08	0.540	0.973	-0.325 – 0.170
accumbens	-0.03	0.468	0.468	-0.116 – 0.053	-0.09	0.259	0.605	-0.258 – 0.069	0.15	0.201	0.973	-0.081 – 0.383
ICV	-0.07	0.037	0.064	-0.132 – -0.004	-0.05	0.529	0.605	-0.226 – 0.116	-0.04	0.751	0.973	-0.280 – 0.202

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S48: mega-analytic results for cortical thickness of each structure comparing medicated adult ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	**-0.10**	**0.009**	**0.045**	**-0.173 – -0.025**	-0.01	0.948	0.973	-0.194 – 0.181	-0.07	0.584	0.757	-0.324 – 0.183
caudal anterior cingulate cortex	-0.04	0.320	0.386	-0.111 – 0.036	-0.09	0.338	0.973	-0.284 – 0.098	-0.06	0.656	0.792	-0.329 – 0.207
caudal middle frontal gyrus	**-0.17**	**0.000**	**0.000**	**-0.236 – -0.102**	-0.11	0.232	0.973	-0.286 – 0.069	-0.08	0.534	0.719	-0.327 – 0.170
cuneus cortex	0.03	0.622	0.680	-0.082 – 0.137	0.07	0.439	0.973	-0.113 – 0.260	0.10	0.465	0.719	-0.164 – 0.358
entorhinal cortex	-0.08	0.122	0.214	-0.189 – 0.022	**-0.20**	**0.040**	**0.973**	**-0.395 – -0.009**	-0.23	0.099	0.490	-0.503 – 0.043
fusiform gyrus	**-0.13**	**0.023**	**0.089**	**-0.242 – -0.018**	-0.02	0.818	0.973	-0.189 – 0.149	-0.15	0.223	0.527	-0.383 – 0.089
inferior parietal cortex	**-0.14**	**0.000**	**0.000**	**-0.211 – -0.074**	0.03	0.731	0.973	-0.146 – 0.208	-0.15	0.246	0.527	-0.394 – 0.101
inferior temporal gyrus	**-0.20**	**0.004**	**0.028**	**-0.331 – -0.065**	-0.02	0.851	0.973	-0.201 – 0.165	-0.24	0.223	0.527	-0.633 – 0.147
isthmus cingulate cortex	-0.07	0.220	0.275	-0.189 – 0.044	0.04	0.704	0.973	-0.159 – 0.236	-0.10	0.501	0.719	-0.372 – 0.182
lateral occipital cortex	-0.09	0.137	0.218	-0.200 – 0.027	0.07	0.432	0.973	-0.109 – 0.255	-0.18	0.167	0.490	-0.434 – 0.075
lateral orbitofrontal cortex	**-0.13**	**0.022**	**0.089**	**-0.232 – -0.018**	0.07	0.405	0.973	-0.098 – 0.243	**-0.27**	**0.027**	**0.315**	**-0.509 – -0.031**
lingual gyrus	-0.06	0.213	0.275	-0.155 – 0.035	0.13	0.169	0.973	-0.055 – 0.316	0.09	0.496	0.719	-0.170 – 0.350
medial orbitofrontal cortex	**-0.14**	**0.000**	**0.000**	**-0.209 – -0.070**	0.10	0.307	0.973	-0.088 – 0.279	-0.15	0.256	0.527	-0.406 – 0.108
middle temporal gyrus	**-0.17**	**0.004**	**0.028**	**-0.290 – -0.054**	0.03	0.754	0.973	-0.155 – 0.214	-0.04	0.768	0.840	-0.287 – 0.212
parahippocampal gyrus	-0.07	0.177	0.248	-0.179 – 0.033	0.11	0.258	0.973	-0.082 – 0.306	**-0.38**	**0.007**	**0.245**	**-0.655 – -0.104**
paracentral lobule	-0.05	0.338	0.394	-0.163 – 0.056	0.02	0.867	0.973	-0.161 – 0.192	-0.12	0.343	0.644	-0.365 – 0.127
pars opercularis	-0.13	0.051	0.112	-0.254 – 0.000	-0.11	0.209	0.973	-0.283 – 0.062	-0.03	0.836	0.877	-0.267 – 0.216
pars orbitalis	**-0.11**	**0.043**	**0.108**	**-0.222 – -0.003**	0.03	0.775	0.973	-0.164 – 0.219	-0.19	0.168	0.490	-0.458 – 0.080
pars triangularis	-0.13	0.051	0.112	-0.261 – 0.000	-0.03	0.724	0.973	-0.210 – 0.146	0.05	0.697	0.813	-0.200 – 0.299
pericalcarine cortex	0.06	0.155	0.226	-0.024 – 0.149	0.03	0.770	0.973	-0.144 – 0.195	0.19	0.119	0.490	-0.049 – 0.426
postcentral gyrus	-0.02	0.681	0.722	-0.126 – 0.082	0.05	0.563	0.973	-0.126 – 0.231	-0.23	0.072	0.490	-0.478 – 0.020
posterior cingulate cortex	**-0.12**	**0.041**	**0.108**	**-0.229 – -0.005**	-0.11	0.230	0.973	-0.287 – 0.069	-0.08	0.520	0.719	-0.331 – 0.167
precentral gyrus	-0.10	0.110	0.203	-0.225 – 0.023	-0.12	0.153	0.973	-0.293 – 0.046	-0.24	0.051	0.446	-0.473 – 0.001

precuneus cortex	-0.15	0.075	0.146	-0.320	–	0.015	0.01	0.905	0.973	-0.169	–	0.191	-0.12	0.359	0.644	-0.370	–	0.134
rostral anterior cingulate cortex	-0.02	0.704	0.725	-0.120	–	0.081	-0.06	0.481	0.973	-0.243	–	0.115	-0.02	0.852	0.877	-0.275	–	0.227
rostral middle frontal gyrus	**-0.13**	**0.028**	**0.098**	**-0.251**	–	**-0.014**	-0.04	0.628	0.973	-0.218	–	0.132	-0.11	0.368	0.644	-0.357	–	0.132
superior frontal gyrus	**-0.16**	**0.037**	**0.108**	**-0.310**	–	**-0.009**	-0.05	0.614	0.973	-0.223	–	0.132	-0.04	0.763	0.840	-0.287	–	0.210
superior parietal cortex	**-0.09**	**0.007**	**0.041**	**-0.159**	–	**-0.025**	-0.05	0.612	0.973	-0.223	–	0.131	-0.06	0.629	0.786	-0.309	–	0.187
superior temporal gyrus	-0.08	0.132	0.218	-0.190	–	0.025	0.00	0.973	0.973	-0.177	–	0.184	-0.14	0.481	0.719	-0.546	–	0.257
supramarginal gyrus	-0.11	0.213	0.275	-0.287	–	0.064	-0.04	0.643	0.973	-0.220	–	0.136	-0.19	0.131	0.490	-0.440	–	0.057
frontal pole	-0.07	0.058	0.119	-0.149	–	0.002	0.06	0.542	0.973	-0.137	–	0.260	-0.21	0.146	0.490	-0.492	–	0.073
temporal pole	-0.03	0.444	0.501	-0.104	–	0.046	-0.19	0.057	0.973	-0.393	–	0.006	-0.17	0.240	0.527	-0.445	–	0.111
transverse temporal cortex	-0.01	0.914	0.914	-0.140	–	0.125	0.03	0.784	0.973	-0.166	–	0.220	-0.02	0.885	0.885	-0.286	–	0.247
insula	-0.10	0.152	0.226	-0.236	–	0.037	0.00	0.971	0.973	-0.175	–	0.182	**-0.32**	**0.014**	**0.245**	**-0.565**	–	**-0.065**
average thickness	**-0.15**	**0.042**	**0.108**	**-0.300**	–	**-0.005**	-0.02	0.806	0.973	-0.190	–	0.148	-0.18	0.135	0.490	-0.416	–	0.056

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus healthy controls; a positive Effect size indicates a thicker cortex of region x in patient group y versus healthy controls.

Supplementary Table S49: mega-analytic results for surface area of each structure comparing medicated adult ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.01	0.805	0.960	-0.068 – 0.087	0.04	0.706	0.915	-0.153 – 0.226	-0.05	0.699	0.874	-0.310 – 0.208
caudal anterior cingulate cortex	0.02	0.681	0.960	-0.060 – 0.092	-0.07	0.494	0.895	-0.257 – 0.124	0.19	0.175	0.738	-0.083 – 0.457
caudal middle frontal gyrus	0.01	0.846	0.960	-0.090 – 0.110	0.05	0.560	0.895	-0.128 – 0.236	0.11	0.402	0.839	-0.148 – 0.370
cuneus cortex	0.01	0.781	0.960	-0.083 – 0.110	-0.05	0.637	0.895	-0.237 – 0.145	-0.14	0.311	0.839	-0.409 – 0.130
entorhinal cortex	0.03	0.520	0.960	-0.059 – 0.116	0.14	0.167	0.895	-0.060 – 0.346	-0.09	0.561	0.839	-0.379 – 0.205
fusiform gyrus	-0.01	0.789	0.960	-0.105 – 0.080	-0.04	0.639	0.895	-0.214 – 0.131	-0.09	0.456	0.839	-0.336 – 0.151
inferior parietal cortex	0.05	0.156	0.683	-0.019 – 0.120	0.05	0.570	0.895	-0.123 – 0.224	-0.07	0.601	0.839	-0.310 – 0.180
inferior temporal gyrus	0.01	0.686	0.960	-0.054 – 0.082	0.05	0.576	0.895	-0.125 – 0.225	-0.06	0.622	0.839	-0.304 – 0.182
isthmus cingulate cortex	0.00	0.898	0.960	-0.065 – 0.074	0.02	0.824	0.982	-0.159 – 0.200	**0.27**	**0.039**	**0.616**	**0.013 – 0.519**
lateral occipital cortex	-0.02	0.728	0.960	-0.133 – 0.093	-0.04	0.616	0.895	-0.221 – 0.131	0.23	0.064	0.616	-0.014 – 0.481
lateral orbitofrontal cortex	0.03	0.355	0.960	-0.034 – 0.094	-0.05	0.555	0.895	-0.217 – 0.117	0.07	0.569	0.839	-0.167 – 0.303
lingual gyrus	-0.01	0.767	0.960	-0.110 – 0.081	0.16	0.107	0.895	-0.034 – 0.348	-0.08	0.574	0.839	-0.351 – 0.194
medial orbitofrontal cortex	0.06	0.083	0.683	-0.008 – 0.122	-0.08	0.331	0.895	-0.252 – 0.085	0.01	0.944	0.991	-0.228 – 0.245
middle temporal gyrus	0.00	0.964	0.964	-0.084 – 0.087	0.04	0.673	0.906	-0.134 – 0.208	-0.11	0.372	0.839	-0.340 – 0.127
parahippocampal gyrus	0.06	0.118	0.683	-0.015 – 0.135	-0.01	0.900	0.982	-0.203 – 0.178	-0.01	0.918	0.991	-0.287 – 0.259
paracentral lobule	**0.08**	**0.019**	**0.333**	**0.014 – 0.156**	0.10	0.277	0.895	-0.082 – 0.285	0.23	0.088	0.616	-0.034 – 0.488
pars opercularis	-0.05	0.144	0.683	-0.129 – 0.019	0.14	0.141	0.895	-0.046 – 0.325	0.18	0.172	0.738	-0.080 – 0.448
pars orbitalis	0.01	0.740	0.960	-0.057 – 0.081	-0.02	0.835	0.982	-0.197 – 0.159	0.04	0.759	0.916	-0.212 – 0.290
pars triangularis	-0.05	0.357	0.960	-0.142 – 0.051	-0.09	0.353	0.895	-0.273 – 0.098	0.23	0.088	0.616	-0.034 – 0.495
pericalcarine cortex	0.02	0.696	0.960	-0.062 – 0.093	0.00	0.995	0.995	-0.198 – 0.196	-0.06	0.647	0.839	-0.343 – 0.213
postcentral gyrus	-0.02	0.705	0.960	-0.106 – 0.071	0.11	0.236	0.895	-0.069 – 0.280	0.01	0.956	0.991	-0.240 – 0.254
posterior cingulate cortex	-0.01	0.917	0.960	-0.125 – 0.112	-0.11	0.215	0.895	-0.293 – 0.066	0.11	0.413	0.839	-0.147 – 0.359
precentral gyrus	-0.01	0.798	0.960	-0.074 – 0.057	0.12	0.160	0.895	-0.048 – 0.288	0.14	0.232	0.738	-0.092 – 0.381

precuneus cortex	0.01	0.830	0.960	-0.058	0.073	-0.09	0.306	0.895	-0.259	0.081	-0.06	0.620	0.839	-0.301	0.179
rostral anterior cingulate cortex	0.07	0.052	0.607	-0.001	0.140	-0.01	0.902	0.982	-0.190	0.168	0.13	0.329	0.839	-0.127	0.378
rostral middle frontal gyrus	0.03	0.523	0.960	-0.056	0.110	0.01	0.926	0.982	-0.155	0.170	0.02	0.840	0.980	-0.205	0.252
superior frontal gyrus	0.00	0.925	0.960	-0.086	0.094	-0.05	0.493	0.895	-0.212	0.102	0.00	0.976	0.991	-0.217	0.224
superior parietal cortex	-0.05	0.299	0.960	-0.139	0.043	-0.05	0.547	0.895	-0.231	0.122	0.20	0.109	0.636	-0.046	0.453
superior temporal gyrus	-0.05	0.261	0.960	-0.143	0.039	-0.07	0.435	0.895	-0.240	0.103	0.00	0.991	0.991	-0.236	0.233
supramarginal gyrus	-0.03	0.492	0.960	-0.123	0.059	-0.01	0.897	0.982	-0.185	0.162	0.06	0.633	0.839	-0.187	0.307
frontal pole	0.06	0.103	0.683	-0.013	0.142	-0.12	0.232	0.895	-0.322	0.078	-0.17	0.227	0.738	-0.456	0.109
temporal pole	0.03	0.392	0.960	-0.044	0.113	0.13	0.207	0.895	-0.071	0.330	0.18	0.213	0.738	-0.103	0.461
transverse temporal cortex	**-0.13**	**0.001**	**0.035**	**-0.203**	**-0.051**	-0.13	0.206	0.895	-0.323	0.069	-0.09	0.545	0.839	-0.363	0.191
insula	0.01	0.724	0.960	-0.051	0.074	-0.07	0.382	0.895	-0.235	0.090	**0.24**	**0.037**	**0.616**	**0.015**	**0.472**
full surface area	0.00	0.933	0.960	-0.082	0.075	0.00	0.981	0.995	-0.143	0.146	0.06	0.541	0.839	-0.139	0.265

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus healthy controls; a positive Effect size indicates a larger surface area of region x in patient group y versus healthy controls.

Supplementary Table S50: mega-analytic results for each subcortical structure comparing unmedicated pediatric ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	0.06	0.483	0.816	-0.101 – 0.213	0.04	0.470	0.696	-0.062 – 0.134	0.00	0.968	0.968	-0.091 – 0.094
caudate	-0.05	0.646	0.861	-0.256 – 0.159	-0.10	0.115	0.307	-0.221 – 0.024	0.06	0.369	0.738	-0.066 – 0.178
putamen	0.07	0.510	0.816	-0.129 – 0.259	-0.04	0.444	0.696	-0.155 – 0.068	0.01	0.926	0.968	-0.155 – 0.170
pallidum	-0.01	0.901	0.930	-0.217 – 0.191	-0.02	0.715	0.726	-0.134 – 0.092	0.02	0.735	0.968	-0.096 – 0.136
hippocampus	0.14	0.083	0.332	-0.019 – 0.305	-0.02	0.726	0.726	-0.158 – 0.110	-0.01	0.793	0.968	-0.109 – 0.083
amygdala	0.13	0.180	0.480	-0.059 – 0.313	**-0.12**	**0.022**	**0.176**	**-0.218 – -0.017**	**-0.12**	**0.020**	**0.132**	**-0.223 – -0.019**
accumbens	0.01	0.930	0.930	-0.188 – 0.206	-0.04	0.522	0.696	-0.153 – 0.077	-0.06	0.305	0.738	-0.178 – 0.056
ICV	**0.24**	**0.005**	**0.040**	**0.071 – 0.407**	-0.08	0.110	0.307	-0.181 – 0.018	**0.11**	**0.033**	**0.132**	**0.009 – 0.217**

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S51: mega-analytic results for cortical thickness of each structure comparing unmedicated pediatric ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.10	0.405	0.632	-0.350 – 0.141	-0.08	0.284	0.820	-0.224 – 0.066	-0.12	0.106	0.265	-0.259 – 0.025
caudal anterior cingulate cortex	0.05	0.665	0.849	-0.174 – 0.272	-0.02	0.742	0.866	-0.152 – 0.108	**-0.15**	**0.025**	**0.080**	**-0.282 – -0.019**
caudal middle frontal gyrus	-0.16	0.143	0.557	-0.375 – 0.054	-0.02	0.729	0.866	-0.149 – 0.104	-0.07	0.481	0.601	-0.274 – 0.129
cuneus cortex	0.05	0.679	0.849	-0.171 – 0.262	0.03	0.608	0.824	-0.095 – 0.162	**0.18**	**0.005**	**0.022**	**0.055 – 0.315**
entorhinal cortex	0.06	0.568	0.828	-0.156 – 0.284	-0.08	0.184	0.820	-0.206 – 0.040	**-0.20**	**0.001**	**0.009**	**-0.326 – -0.082**
fusiform gyrus	-0.01	0.952	0.986	-0.229 – 0.216	**-0.16**	**0.018**	**0.315**	**-0.287 – -0.028**	**-0.24**	**0.000**	**0.000**	**-0.373 – -0.111**
inferior parietal cortex	-0.21	0.075	0.557	-0.436 – 0.021	-0.01	0.852	0.914	-0.143 – 0.118	-0.06	0.634	0.701	-0.298 – 0.182
inferior temporal gyrus	-0.05	0.676	0.849	-0.261 – 0.169	-0.04	0.520	0.820	-0.168 – 0.085	**-0.23**	**0.000**	**0.000**	**-0.359 – -0.105**
isthmus cingulate cortex	**0.25**	**0.034**	**0.557**	**0.018 – 0.474**	0.06	0.370	0.820	-0.073 – 0.195	-0.01	0.867	0.904	-0.148 – 0.125
lateral occipital cortex	-0.03	0.804	0.919	-0.247 – 0.191	-0.04	0.579	0.824	-0.164 – 0.092	-0.04	0.534	0.641	-0.170 – 0.088
lateral orbitofrontal cortex	-0.08	0.415	0.632	-0.280 – 0.116	0.02	0.687	0.866	-0.093 – 0.142	-0.07	0.249	0.411	-0.188 – 0.049
lingual gyrus	0.15	0.141	0.557	-0.049 – 0.347	-0.04	0.484	0.820	-0.160 – 0.076	0.07	0.255	0.411	-0.050 – 0.188
medial orbitofrontal cortex	-0.13	0.175	0.557	-0.322 – 0.059	0.05	0.355	0.820	-0.060 – 0.166	0.05	0.368	0.515	-0.061 – 0.165
middle temporal gyrus	-0.16	0.164	0.557	-0.390 – 0.066	-0.05	0.501	0.820	-0.181 – 0.089	**-0.23**	**0.001**	**0.009**	**-0.366 – -0.099**
parahippocampal gyrus	-0.03	0.814	0.919	-0.252 – 0.198	-0.09	0.204	0.820	-0.217 – 0.046	**-0.18**	**0.007**	**0.027**	**-0.317 – -0.050**
paracentral lobule	-0.04	0.715	0.863	-0.266 – 0.182	0.03	0.612	0.824	-0.098 – 0.167	-0.08	0.226	0.411	-0.218 – 0.051
pars opercularis	-0.11	0.360	0.632	-0.335 – 0.122	-0.11	0.117	0.820	-0.243 – 0.027	**-0.18**	**0.011**	**0.039**	**-0.314 – -0.041**
pars orbitalis	-0.10	0.389	0.632	-0.314 – 0.122	0.01	0.918	0.935	-0.122 – 0.136	-0.05	0.441	0.594	-0.182 – 0.079
pars triangularis	-0.20	0.069	0.557	-0.415 – 0.016	-0.01	0.838	0.914	-0.142 – 0.115	**-0.20**	**0.003**	**0.015**	**-0.327 – -0.068**
pericalcarine cortex	0.09	0.367	0.632	-0.112 – 0.301	-0.04	0.474	0.820	-0.166 – 0.077	**0.20**	**0.002**	**0.012**	**0.075 – 0.322**
postcentral gyrus	0.00	0.988	0.988	-0.229 – 0.232	-0.07	0.301	0.820	-0.205 – 0.063	-0.04	0.549	0.641	-0.177 – 0.094
posterior cingulate cortex	0.20	0.087	0.557	-0.029 – 0.422	0.08	0.215	0.820	-0.048 – 0.215	-0.03	0.641	0.701	-0.164 – 0.101
precentral gyrus	-0.01	0.958	0.986	-0.238 – 0.226	**-0.15**	**0.028**	**0.327**	**-0.287 – -0.016**	**-0.14**	**0.046**	**0.134**	**-0.276 – -0.003**

precuneus cortex	-0.13	0.251	0.624	-0.351	0.092	-0.03	0.705	0.866	-0.157	0.106	-0.01	0.878	0.904	-0.144	0.123
rostral anterior cingulate cortex	-0.16	0.114	0.557	-0.367	0.039	0.04	0.478	0.820	-0.076	0.162	-0.07	0.245	0.411	-0.189	0.048
rostral middle frontal gyrus	-0.10	0.291	0.624	-0.292	0.088	0.00	0.935	0.935	-0.108	0.117	-0.04	0.463	0.600	-0.156	0.071
superior frontal gyrus	-0.13	0.190	0.557	-0.336	0.067	0.04	0.524	0.820	-0.079	0.156	-0.11	0.270	0.411	-0.296	0.083
superior parietal cortex	-0.15	0.191	0.557	-0.368	0.074	-0.01	0.862	0.914	-0.141	0.118	-0.07	0.302	0.440	-0.200	0.062
superior temporal gyrus	-0.12	0.303	0.624	-0.343	0.106	-0.06	0.408	0.820	-0.187	0.076	-0.17	0.127	0.278	-0.390	0.049
supramarginal gyrus	-0.15	0.177	0.557	-0.378	0.070	-0.06	0.397	0.820	-0.185	0.073	-0.14	0.267	0.411	-0.375	0.104
frontal pole	0.05	0.627	0.849	-0.158	0.262	0.05	0.433	0.820	-0.074	0.174	0.00	0.946	0.946	-0.130	0.122
temporal pole	0.01	0.949	0.986	-0.206	0.220	**-0.16**	**0.012**	**0.315**	**-0.286**	**-0.035**	**-0.20**	**0.002**	**0.012**	**-0.322**	**-0.069**
transverse temporal cortex	-0.13	0.261	0.624	-0.352	0.095	0.04	0.539	0.820	-0.091	0.175	-0.11	0.118	0.275	-0.242	0.027
insula	-0.10	0.333	0.632	-0.315	0.107	-0.06	0.362	0.820	-0.182	0.066	-0.11	0.085	0.229	-0.235	0.015
average thickness	-0.12	0.275	0.624	-0.337	0.096	-0.05	0.477	0.820	-0.175	0.082	-0.13	0.259	0.411	-0.361	0.097

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus healthy controls; a positive Effect size indicates a thicker cortex of region x in patient group y versus healthy controls.

Supplementary Table S52: mega-analytic results for surface area of each structure comparing unmedicated pediatric ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.09	0.355	0.851	-0.106 – 0.296	-0.05	0.451	0.696	-0.163 – 0.073	-0.05	0.445	0.921	-0.162 – 0.071
caudal anterior cingulate cortex	0.06	0.559	0.914	-0.138 – 0.255	-0.06	0.292	0.696	-0.176 – 0.053	0.03	0.651	0.921	-0.090 – 0.144
caudal middle frontal gyrus	-0.06	0.554	0.914	-0.257 – 0.138	-0.08	0.200	0.696	-0.193 – 0.040	-0.05	0.405	0.921	-0.170 – 0.069
cuneus cortex	-0.13	0.203	0.742	-0.337 – 0.071	0.05	0.431	0.696	-0.072 – 0.170	0.01	0.908	0.935	-0.116 – 0.131
entorhinal cortex	-0.05	0.634	0.914	-0.280 – 0.171	-0.10	0.113	0.630	-0.230 – 0.024	0.02	0.754	0.921	-0.108 – 0.149
fusiform gyrus	0.02	0.820	0.957	-0.157 – 0.199	-0.08	0.144	0.630	-0.180 – 0.026	-0.04	0.452	0.921	-0.145 – 0.065
inferior parietal cortex	-0.05	0.553	0.914	-0.235 – 0.126	-0.03	0.574	0.725	-0.133 – 0.074	-0.09	0.078	0.531	-0.198 – 0.011
inferior temporal gyrus	0.08	0.357	0.851	-0.093 – 0.258	-0.03	0.520	0.700	-0.136 – 0.069	-0.01	0.863	0.921	-0.113 – 0.095
isthmus cingulate cortex	0.01	0.941	0.962	-0.194 – 0.209	-0.10	0.096	0.630	-0.218 – 0.018	**0.14**	**0.023**	**0.403**	**0.019 – 0.261**
lateral occipital cortex	0.04	0.704	0.914	-0.149 – 0.221	-0.01	0.848	0.877	-0.119 – 0.098	0.02	0.738	0.921	-0.091 – 0.129
lateral orbitofrontal cortex	-0.11	0.182	0.742	-0.279 – 0.053	-0.10	0.054	0.630	-0.195 – 0.002	-0.07	0.175	0.831	-0.169 – 0.031
lingual gyrus	0.10	0.323	0.851	-0.099 – 0.302	-0.01	0.889	0.889	-0.127 – 0.110	-0.06	0.337	0.921	-0.181 – 0.062
medial orbitofrontal cortex	-0.15	0.087	0.742	-0.314 – 0.021	-0.06	0.229	0.696	-0.160 – 0.038	**-0.12**	**0.018**	**0.403**	**-0.221 – -0.020**
middle temporal gyrus	-0.01	0.929	0.962	-0.176 – 0.161	-0.04	0.477	0.696	-0.135 – 0.063	-0.05	0.281	0.921	-0.153 – 0.044
parahippocampal gyrus	0.17	0.117	0.742	-0.042 – 0.380	-0.06	0.325	0.696	-0.185 – 0.061	-0.02	0.775	0.921	-0.144 – 0.107
paracentral lobule	-0.18	0.073	0.742	-0.382 – 0.017	-0.04	0.508	0.700	-0.158 – 0.078	0.10	0.091	0.531	-0.017 – 0.226
pars opercularis	-0.17	0.095	0.742	-0.369 – 0.029	0.03	0.658	0.794	-0.092 – 0.145	0.00	0.940	0.940	-0.126 – 0.117
pars orbitalis	-0.13	0.152	0.742	-0.318 – 0.049	-0.04	0.473	0.696	-0.148 – 0.069	-0.02	0.706	0.921	-0.132 – 0.090
pars triangularis	0.02	0.876	0.962	-0.187 – 0.219	0.08	0.213	0.696	-0.044 – 0.198	-0.11	0.076	0.531	-0.236 – 0.012
pericalcarine cortex	-0.10	0.379	0.851	-0.312 – 0.119	0.06	0.381	0.696	-0.070 – 0.183	-0.06	0.379	0.921	-0.189 – 0.072
postcentral gyrus	-0.12	0.212	0.742	-0.308 – 0.069	0.01	0.852	0.877	-0.099 – 0.120	0.01	0.845	0.921	-0.100 – 0.122
posterior cingulate cortex	-0.04	0.660	0.914	-0.237 – 0.150	-0.06	0.332	0.696	-0.169 – 0.057	0.02	0.758	0.921	-0.097 – 0.133
precentral gyrus	-0.13	0.144	0.742	-0.309 – 0.045	0.03	0.580	0.725	-0.074 – 0.132	-0.03	0.573	0.921	-0.135 – 0.075

precuneus cortex	-0.03	0.778	0.939	-0.201	–	0.151	-0.05	0.373	0.696	-0.152	–	0.057	0.04	0.515	0.921	-0.071	–	0.141
rostral anterior cingulate cortex	-0.03	0.738	0.923	-0.199	–	0.141	-0.06	0.249	0.696	-0.158	–	0.041	-0.04	0.453	0.921	-0.139	–	0.062
rostral middle frontal gyrus	-0.06	0.471	0.914	-0.227	–	0.105	-0.02	0.742	0.838	-0.115	–	0.082	-0.02	0.693	0.921	-0.120	–	0.080
superior frontal gyrus	-0.12	0.146	0.742	-0.275	–	0.041	-0.04	0.431	0.696	-0.129	–	0.055	-0.02	0.660	0.921	-0.114	–	0.072
superior parietal cortex	-0.06	0.644	0.914	-0.320	–	0.198	0.01	0.841	0.877	-0.100	–	0.123	0.06	0.337	0.921	-0.058	–	0.169
superior temporal gyrus	-0.07	0.421	0.867	-0.244	–	0.102	-0.08	0.116	0.630	-0.182	–	0.020	0.03	0.556	0.921	-0.070	–	0.130
supramarginal gyrus	0.00	0.962	0.962	-0.184	–	0.193	-0.10	0.066	0.630	-0.211	–	0.007	0.01	0.868	0.921	-0.101	–	0.119
frontal pole	0.01	0.948	0.962	-0.206	–	0.220	0.02	0.714	0.833	-0.103	–	0.150	**0.14**	**0.035**	**0.408**	**0.009**	–	**0.268**
temporal pole	0.10	0.366	0.851	-0.114	–	0.310	-0.12	0.052	0.630	-0.249	–	0.001	0.07	0.307	0.921	-0.061	–	0.194
transverse temporal cortex	-0.05	0.614	0.914	-0.260	–	0.154	-0.10	0.132	0.630	-0.219	–	0.029	0.08	0.190	0.831	-0.042	–	0.212
insula	-0.03	0.705	0.914	-0.201	–	0.136	-0.04	0.389	0.696	-0.140	–	0.055	-0.01	0.813	0.921	-0.111	–	0.087
full surface area	-0.06	0.389	0.851	-0.185	–	0.072	-0.04	0.295	0.696	-0.117	–	0.035	-0.04	0.554	0.921	-0.160	–	0.086

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus healthy controls; a positive Effect size indicates a larger surface area of region x in patient group y versus healthy controls.

Supplementary Table S53: mega-analytic results for each subcortical structure comparing unmedicated adolescent ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	0.10	0.132	0.528	-0.030 – 0.226	-0.02	0.794	0.852	-0.145 – 0.111	0.00	0.996	0.996	-0.136 – 0.137
caudate	-0.01	0.868	0.868	-0.166 – 0.140	-0.12	0.133	0.268	-0.275 – 0.036	0.00	0.977	0.996	-0.163 – 0.168
putamen	-0.03	0.718	0.868	-0.177 – 0.122	-0.13	0.069	0.268	-0.280 – 0.010	-0.03	0.740	0.996	-0.185 – 0.132
pallidum	-0.05	0.524	0.868	-0.203 – 0.103	-0.10	0.181	0.290	-0.240 – 0.045	-0.03	0.734	0.996	-0.183 – 0.129
hippocampus	0.13	0.072	0.528	-0.011 – 0.262	-0.01	0.852	0.852	-0.148 – 0.122	0.10	0.196	0.924	-0.051 – 0.248
amygdala	0.09	0.248	0.661	-0.060 – 0.233	-0.06	0.412	0.549	-0.202 – 0.083	0.01	0.887	0.996	-0.144 – 0.167
accumbens	-0.02	0.796	0.868	-0.166 – 0.127	-0.11	0.134	0.268	-0.258 – 0.034	-0.07	0.421	0.996	-0.224 – 0.094
ICV	-0.02	0.841	0.868	-0.164 – 0.134	**-0.16**	**0.014**	**0.112**	**-0.290 – -0.033**	-0.10	0.231	0.924	-0.267 – 0.064

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S54: mega-analytic results for cortical thickness of each structure comparing unmedicated adolescent ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.05	0.599	0.749	-0.219 – 0.126	0.14	0.060	0.599	-0.006 – 0.287	0.07	0.476	0.764	-0.114 – 0.244
caudal anterior cingulate cortex	0.14	0.101	0.321	-0.027 – 0.301	0.02	0.751	0.851	-0.116 – 0.160	-0.07	0.444	0.764	-0.244 – 0.107
caudal middle frontal gyrus	-0.08	0.337	0.544	-0.237 – 0.081	-0.01	0.883	0.909	-0.146 – 0.125	-0.17	0.050	0.519	-0.341 – 0.000
cuneus cortex	-0.08	0.373	0.553	-0.244 – 0.092	0.07	0.342	0.599	-0.074 – 0.213	0.04	0.630	0.835	-0.137 – 0.226
entorhinal cortex	-0.02	0.808	0.912	-0.197 – 0.154	-0.10	0.142	0.599	-0.244 – 0.035	-0.15	0.089	0.519	-0.326 – 0.023
fusiform gyrus	-0.10	0.221	0.455	-0.250 – 0.058	-0.07	0.332	0.599	-0.197 – 0.067	-0.04	0.644	0.835	-0.206 – 0.127
inferior parietal cortex	**-0.17**	**0.034**	**0.321**	**-0.325 – -0.013**	0.06	0.337	0.599	-0.067 – 0.195	0.10	0.237	0.764	-0.065 – 0.264
inferior temporal gyrus	-0.15	0.069	0.321	-0.302 – 0.011	0.09	0.177	0.599	-0.042 – 0.228	0.02	0.828	0.885	-0.150 – 0.188
isthmus cingulate cortex	-0.11	0.188	0.439	-0.275 – 0.054	0.00	0.963	0.963	-0.138 – 0.145	0.07	0.452	0.764	-0.110 – 0.247
lateral occipital cortex	-0.13	0.098	0.321	-0.282 – 0.024	0.05	0.451	0.718	-0.080 – 0.180	0.15	0.080	0.519	-0.017 – 0.311
lateral orbitofrontal cortex	-0.01	0.866	0.947	-0.174 – 0.146	-0.03	0.694	0.838	-0.166 – 0.110	-0.03	0.766	0.885	-0.201 – 0.148
lingual gyrus	-0.08	0.329	0.544	-0.244 – 0.082	-0.11	0.125	0.599	-0.248 – 0.030	0.06	0.502	0.764	-0.116 – 0.236
medial orbitofrontal cortex	0.04	0.667	0.805	-0.129 – 0.202	0.08	0.274	0.599	-0.062 – 0.219	0.08	0.349	0.764	-0.093 – 0.263
middle temporal gyrus	-0.05	0.577	0.749	-0.208 – 0.116	0.03	0.643	0.834	-0.106 – 0.172	-0.05	0.590	0.835	-0.219 – 0.124
parahippocampal gyrus	0.00	0.985	0.986	-0.175 – 0.172	-0.09	0.218	0.599	-0.239 – 0.055	-0.02	0.803	0.885	-0.210 – 0.163
paracentral lobule	-0.11	0.342	0.544	-0.340 – 0.118	-0.09	0.211	0.599	-0.227 – 0.050	**-0.18**	**0.044**	**0.519**	**-0.355 – -0.005**
pars opercularis	-0.07	0.445	0.623	-0.232 – 0.102	0.03	0.642	0.834	-0.108 – 0.176	-0.15	0.110	0.550	-0.326 – 0.033
pars orbitalis	**-0.20**	**0.025**	**0.321**	**-0.368 – -0.024**	0.07	0.315	0.599	-0.071 – 0.221	0.02	0.810	0.885	-0.162 – 0.208
pars triangularis	-0.10	0.246	0.478	-0.260 – 0.067	0.11	0.118	0.599	-0.028 – 0.251	-0.07	0.409	0.764	-0.252 – 0.103
pericalcarine cortex	-0.11	0.169	0.423	-0.278 – 0.049	-0.08	0.250	0.599	-0.223 – 0.058	0.07	0.454	0.764	-0.109 – 0.244
postcentral gyrus	-0.13	0.129	0.376	-0.299 – 0.038	-0.09	0.234	0.599	-0.227 – 0.056	-0.09	0.333	0.764	-0.265 – 0.090
posterior cingulate cortex	-0.15	0.066	0.321	-0.316 – 0.010	0.09	0.193	0.599	-0.047 – 0.232	-0.01	0.897	0.923	-0.188 – 0.164
precentral gyrus	-0.15	0.076	0.321	-0.319 – 0.016	-0.11	0.125	0.599	-0.254 – 0.031	-0.17	0.057	0.519	-0.353 – 0.005

precuneus cortex	-0.08	0.291	0.536	-0.242	0.072	-0.06	0.384	0.640	-0.194	0.075	-0.08	0.349	0.764	-0.252	0.089
rostral anterior cingulate cortex	0.14	0.087	0.321	-0.021	0.301	0.08	0.257	0.599	-0.057	0.214	-0.07	0.423	0.764	-0.242	0.101
rostral middle frontal gyrus	-0.14	0.075	0.321	-0.302	0.015	0.07	0.285	0.599	-0.062	0.209	-0.10	0.241	0.764	-0.273	0.069
superior frontal gyrus	-0.12	0.144	0.388	-0.283	0.041	0.09	0.214	0.599	-0.050	0.223	-0.15	0.087	0.519	-0.321	0.022
superior parietal cortex	-0.17	0.033	0.321	-0.325	-0.014	0.01	0.843	0.894	-0.119	0.145	0.04	0.604	0.835	-0.122	0.211
superior temporal gyrus	0.00	0.986	0.986	-0.168	0.165	0.03	0.679	0.838	-0.113	0.174	0.04	0.678	0.848	-0.138	0.212
supramarginal gyrus	-0.07	0.379	0.553	-0.237	0.090	0.05	0.506	0.738	-0.089	0.180	-0.12	0.177	0.764	-0.287	0.053
frontal pole	-0.11	0.211	0.455	-0.282	0.062	0.05	0.473	0.720	-0.093	0.201	-0.10	0.301	0.764	-0.285	0.088
temporal pole	-0.05	0.592	0.749	-0.210	0.120	-0.16	0.025	0.599	-0.304	-0.021	-0.02	0.834	0.885	-0.197	0.159
transverse temporal cortex	-0.03	0.741	0.865	-0.193	0.137	-0.04	0.589	0.825	-0.182	0.103	0.07	0.446	0.764	-0.110	0.249
insula	0.01	0.908	0.963	-0.140	0.158	-0.01	0.843	0.894	-0.140	0.114	0.00	0.997	0.997	-0.160	0.161
average thickness	-0.16	0.046	0.321	-0.318	-0.003	0.02	0.754	0.851	-0.114	0.158	-0.06	0.498	0.764	-0.231	0.112

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus healthy controls; a positive Effect size indicates a thicker cortex of region x in patient group y versus healthy controls.

Supplementary Table S55: mega-analytic results for surface area of each structure comparing unmedicated adolescent ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.04	0.644	0.958	-0.194 – 0.120	-0.06	0.346	0.527	-0.195 – 0.068	-0.07	0.421	0.702	-0.231 – 0.096
caudal anterior cingulate cortex	-0.04	0.650	0.958	-0.192 – 0.120	-0.11	0.114	0.224	-0.236 – 0.025	-0.01	0.923	0.977	-0.177 – 0.161
caudal middle frontal gyrus	0.07	0.371	0.958	-0.081 – 0.218	**-0.13**	**0.043**	**0.200**	**-0.257 – -0.004**	-0.10	0.229	0.614	-0.259 – 0.062
cuneus cortex	0.03	0.701	0.958	-0.125 – 0.186	**-0.19**	**0.005**	**0.175**	**-0.318 – -0.055**	-0.09	0.316	0.614	-0.256 – 0.083
entorhinal cortex	0.01	0.943	0.962	-0.169 – 0.181	-0.03	0.630	0.735	-0.173 – 0.104	0.10	0.264	0.614	-0.075 – 0.274
fusiform gyrus	-0.04	0.615	0.958	-0.173 – 0.102	-0.11	0.069	0.201	-0.226 – 0.008	-0.01	0.938	0.977	-0.155 – 0.143
inferior parietal cortex	-0.10	0.179	0.958	-0.242 – 0.045	-0.07	0.251	0.439	-0.189 – 0.050	-0.09	0.266	0.614	-0.239 – 0.066
inferior temporal gyrus	0.01	0.840	0.962	-0.122 – 0.150	-0.09	0.115	0.224	-0.212 – 0.023	-0.09	0.223	0.614	-0.240 – 0.056
isthmus cingulate cortex	0.15	0.050	0.875	0.000 – 0.298	-0.05	0.442	0.619	-0.177 – 0.077	-0.06	0.505	0.768	-0.219 – 0.108
lateral occipital cortex	0.08	0.284	0.958	-0.064 – 0.217	-0.12	0.057	0.200	-0.235 – 0.004	-0.11	0.138	0.537	-0.266 – 0.037
lateral orbitofrontal cortex	-0.08	0.230	0.958	-0.213 – 0.051	-0.04	0.540	0.652	-0.150 – 0.079	**-0.18**	**0.017**	**0.198**	**-0.321 – -0.031**
lingual gyrus	0.03	0.712	0.958	-0.129 – 0.188	-0.05	0.429	0.619	-0.189 – 0.080	0.00	0.994	0.994	-0.171 – 0.172
medial orbitofrontal cortex	**-0.16**	**0.021**	**0.735**	**-0.294 – -0.024**	-0.04	0.506	0.652	-0.153 – 0.076	-0.12	0.095	0.416	-0.271 – 0.021
middle temporal gyrus	0.00	0.946	0.962	-0.127 – 0.136	-0.04	0.500	0.652	-0.151 – 0.074	-0.08	0.269	0.614	-0.218 – 0.061
parahippocampal gyrus	-0.02	0.797	0.962	-0.177 – 0.136	0.00	0.945	0.986	-0.128 – 0.138	0.02	0.825	0.977	-0.151 – 0.190
paracentral lobule	-0.12	0.138	0.958	-0.269 – 0.037	0.00	0.986	0.986	-0.130 – 0.132	-0.02	0.822	0.977	-0.187 – 0.148
pars opercularis	0.06	0.460	0.958	-0.097 – 0.214	**-0.14**	**0.030**	**0.198**	**-0.276 – -0.014**	-0.09	0.301	0.614	-0.256 – 0.079
pars orbitalis	-0.03	0.676	0.958	-0.174 – 0.113	-0.10	0.103	0.224	-0.222 – 0.021	0.02	0.767	0.977	-0.132 – 0.179
pars triangularis	0.00	0.962	0.962	-0.156 – 0.148	-0.11	0.103	0.224	-0.234 – 0.022	**-0.24**	**0.005**	**0.175**	**-0.403 – -0.074**
pericalcarine cortex	0.08	0.340	0.958	-0.084 – 0.243	**-0.16**	**0.023**	**0.198**	**-0.299 – -0.022**	**-0.19**	**0.031**	**0.251**	**-0.372 – -0.018**
postcentral gyrus	0.03	0.680	0.958	-0.109 – 0.168	-0.06	0.291	0.485	-0.179 – 0.054	**-0.19**	**0.010**	**0.175**	**-0.340 – -0.047**
posterior cingulate cortex	-0.12	0.093	0.958	-0.270 – 0.021	**-0.14**	**0.026**	**0.198**	**-0.263 – -0.017**	-0.06	0.457	0.727	-0.218 – 0.098
precentral gyrus	0.06	0.351	0.958	-0.070 – 0.198	-0.11	0.069	0.201	-0.220 – 0.008	-0.14	0.056	0.280	-0.284 – 0.003

precuneus cortex	0.06	0.380	0.958	-0.074	–	0.195	-0.06	0.322	0.512	-0.173	–	0.057	0.00	0.949	0.977	-0.152	–	0.142
rostral anterior cingulate cortex	-0.05	0.503	0.958	-0.194	–	0.095	-0.10	0.103	0.224	-0.222	–	0.020	-0.08	0.309	0.614	-0.236	–	0.075
rostral middle frontal gyrus	-0.08	0.249	0.958	-0.210	–	0.054	-0.11	0.057	0.200	-0.222	–	0.003	0.02	0.760	0.977	-0.121	–	0.166
superior frontal gyrus	-0.05	0.450	0.958	-0.179	–	0.079	-0.09	0.114	0.224	-0.196	–	0.021	**-0.15**	**0.037**	**0.251**	**-0.284**	–	**-0.009**
superior parietal cortex	0.05	0.523	0.958	-0.098	–	0.192	**-0.15**	**0.019**	**0.198**	**-0.268**	–	**-0.024**	0.02	0.846	0.977	-0.140	–	0.171
superior temporal gyrus	-0.02	0.742	0.962	-0.161	–	0.114	-0.02	0.795	0.898	-0.133	–	0.102	-0.02	0.818	0.977	-0.162	–	0.128
supramarginal gyrus	0.08	0.254	0.958	-0.059	–	0.224	**-0.12**	**0.046**	**0.200**	**-0.235**	–	**-0.002**	-0.06	0.421	0.702	-0.209	–	0.088
frontal pole	0.06	0.475	0.958	-0.102	–	0.219	-0.08	0.232	0.427	-0.219	–	0.053	0.01	0.940	0.977	-0.261	–	0.282
temporal pole	0.00	0.956	0.962	-0.167	–	0.158	-0.04	0.534	0.652	-0.180	–	0.093	0.08	0.343	0.632	-0.090	–	0.259
transverse temporal cortex	0.02	0.826	0.962	-0.140	–	0.176	0.00	0.958	0.986	-0.139	–	0.131	0.02	0.837	0.977	-0.153	–	0.189
insula	-0.06	0.403	0.958	-0.196	–	0.079	0.00	0.981	0.986	-0.118	–	0.115	-0.10	0.189	0.614	-0.250	–	0.049
full surface area	0.01	0.906	0.962	-0.101	–	0.114	**-0.10**	**0.034**	**0.198**	**-0.194**	–	**-0.008**	**-0.12**	**0.043**	**0.251**	**-0.240**	–	**-0.004**

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus healthy controls; a positive Effect size indicates a larger surface area of region x in patient group y versus healthy controls.

Supplementary Table S56: mega-analytic results for each subcortical structure comparing unmedicated adult ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	-0.05	0.062	0.165	-0.106 – 0.003	0.00	0.977	0.977	-0.117 – 0.121	-0.07	0.287	0.697	-0.194 – 0.057
caudate	-0.01	0.819	0.936	-0.071 – 0.056	0.03	0.590	0.722	-0.070 – 0.122	0.19	0.111	0.697	-0.044 – 0.427
putamen	0.01	0.781	0.936	-0.036 – 0.047	-0.05	0.022	0.176	-0.099 – -0.008	-0.04	0.350	0.697	-0.127 – 0.045
pallidum	0.06	0.061	0.165	-0.003 – 0.114	-0.02	0.369	0.722	-0.069 – 0.026	-0.02	0.647	0.697	-0.091 – 0.057
hippocampus	-0.05	0.125	0.250	-0.108 – 0.013	0.06	0.184	0.722	-0.029 – 0.153	-0.06	0.431	0.697	-0.201 – 0.086
amygdala	-0.06	0.036	0.165	-0.126 – -0.004	0.02	0.632	0.722	-0.070 – 0.115	-0.03	0.697	0.697	-0.173 – 0.116
accumbens	0.00	0.986	0.986	-0.055 – 0.056	-0.03	0.552	0.722	-0.111 – 0.059	0.05	0.462	0.697	-0.084 – 0.184
ICV	0.03	0.310	0.496	-0.028 – 0.088	-0.03	0.500	0.722	-0.118 – 0.058	0.03	0.633	0.697	-0.106 – 0.174

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S57: mega-analytic results for cortical thickness of each structure comparing unmedicated adult ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.02	0.709	0.996	-0.111 – 0.076	0.04	0.399	0.831	-0.055 – 0.139	0.04	0.583	0.785	-0.110 – 0.195
caudal anterior cingulate cortex	0.06	0.111	0.949	-0.013 – 0.123	-0.08	0.109	0.798	-0.178 – 0.018	-0.08	0.343	0.600	-0.233 – 0.081
caudal middle frontal gyrus	0.03	0.272	0.949	-0.027 – 0.096	-0.02	0.595	0.868	-0.115 – 0.066	-0.06	0.684	0.813	-0.334 – 0.219
cuneus cortex	0.02	0.637	0.996	-0.049 – 0.080	0.02	0.719	0.868	-0.078 – 0.113	**0.26**	**0.001**	**0.035**	**0.111 – 0.417**
entorhinal cortex	0.01	0.808	0.997	-0.064 – 0.082	-0.04	0.475	0.831	-0.145 – 0.068	-0.20	0.222	0.457	-0.516 – 0.120
fusiform gyrus	-0.04	0.395	0.949	-0.121 – 0.048	-0.03	0.449	0.831	-0.125 – 0.055	-0.10	0.185	0.457	-0.237 – 0.046
inferior parietal cortex	-0.07	0.065	0.949	-0.152 – 0.005	0.06	0.228	0.798	-0.035 – 0.146	0.04	0.627	0.813	-0.109 – 0.182
inferior temporal gyrus	0.00	0.977	0.997	-0.066 – 0.064	0.04	0.426	0.831	-0.059 – 0.139	-0.06	0.420	0.668	-0.218 – 0.091
isthmus cingulate cortex	0.00	0.997	0.997	-0.070 – 0.070	0.00	0.931	0.987	-0.107 – 0.098	0.02	0.771	0.843	-0.141 – 0.189
lateral occipital cortex	-0.04	0.258	0.949	-0.103 – 0.028	**0.12**	**0.014**	**0.490**	**0.024 – 0.217**	0.14	0.082	0.376	-0.018 – 0.292
lateral orbitofrontal cortex	0.00	0.925	0.997	-0.065 – 0.059	-0.04	0.356	0.831	-0.135 – 0.049	-0.02	0.838	0.889	-0.163 – 0.132
lingual gyrus	0.02	0.460	0.949	-0.040 – 0.089	0.03	0.524	0.868	-0.066 – 0.129	**0.20**	**0.009**	**0.105**	**0.050 – 0.356**
medial orbitofrontal cortex	-0.05	0.115	0.949	-0.116 – 0.013	-0.07	0.176	0.798	-0.159 – 0.029	0.06	0.455	0.692	-0.094 – 0.210
middle temporal gyrus	-0.03	0.432	0.949	-0.120 – 0.051	0.02	0.687	0.868	-0.075 – 0.115	0.03	0.708	0.813	-0.119 – 0.175
parahippocampal gyrus	-0.01	0.872	0.997	-0.076 – 0.064	0.07	0.222	0.798	-0.040 – 0.170	**-0.18**	**0.035**	**0.245**	**-0.341 – -0.012**
paracentral lobule	0.02	0.447	0.949	-0.037 – 0.084	-0.06	0.204	0.798	-0.148 – 0.032	0.00	0.965	0.965	-0.142 – 0.148
pars opercularis	0.01	0.768	0.996	-0.052 – 0.071	-0.03	0.576	0.868	-0.116 – 0.064	0.02	0.886	0.912	-0.278 – 0.322
pars orbitalis	0.01	0.719	0.996	-0.057 – 0.083	0.00	0.970	0.996	-0.104 – 0.100	0.12	0.157	0.457	-0.046 – 0.283
pars triangularis	0.02	0.588	0.996	-0.046 – 0.081	-0.02	0.714	0.868	-0.110 – 0.075	**0.23**	**0.003**	**0.053**	**0.078 – 0.376**
pericalcarine cortex	0.02	0.528	0.987	-0.039 – 0.076	0.00	0.925	0.987	-0.081 – 0.089	0.09	0.174	0.457	-0.042 – 0.232
postcentral gyrus	0.03	0.372	0.949	-0.034 – 0.091	0.02	0.659	0.868	-0.071 – 0.112	0.10	0.159	0.457	-0.041 – 0.250
posterior cingulate cortex	-0.04	0.262	0.949	-0.096 – 0.026	-0.07	0.121	0.798	-0.161 – 0.019	0.13	0.086	0.376	-0.018 – 0.272
precentral gyrus	0.00	0.987	0.997	-0.086 – 0.084	-0.05	0.453	0.831	-0.166 – 0.074	-0.07	0.661	0.813	-0.371 – 0.235

precuneus cortex	-0.03	0.292	0.949	-0.098	–	0.030	0.04	0.424	0.831	-0.056	–	0.133	0.05	0.530	0.773	-0.103	–	0.200
rostral anterior cingulate cortex	0.02	0.461	0.949	-0.040	–	0.088	-0.07	0.160	0.798	-0.160	–	0.026	-0.04	0.573	0.785	-0.193	–	0.107
rostral middle frontal gyrus	-0.02	0.536	0.987	-0.081	–	0.042	0.01	0.871	0.987	-0.083	–	0.098	**0.15**	**0.048**	**0.280**	**0.001**	–	**0.292**
superior frontal gyrus	0.05	0.108	0.949	-0.011	–	0.116	-0.03	0.559	0.868	-0.119	–	0.064	0.07	0.322	0.593	-0.073	–	0.221
superior parietal cortex	0.00	0.955	0.997	-0.064	–	0.061	0.07	0.110	0.798	-0.017	–	0.166	0.09	0.215	0.457	-0.054	–	0.240
superior temporal gyrus	0.03	0.446	0.949	-0.041	–	0.094	0.00	0.996	0.996	-0.097	–	0.097	0.07	0.377	0.628	-0.082	–	0.218
supramarginal gyrus	-0.01	0.700	0.996	-0.079	–	0.053	0.02	0.620	0.868	-0.068	–	0.115	0.10	0.172	0.457	-0.045	–	0.250
frontal pole	0.05	0.182	0.949	-0.023	–	0.120	0.08	0.152	0.798	-0.028	–	0.181	**0.21**	**0.014**	**0.123**	**0.043**	–	**0.377**
temporal pole	0.05	0.148	0.949	-0.019	–	0.126	-0.06	0.295	0.831	-0.166	–	0.050	-0.14	0.115	0.447	-0.310	–	0.033
transverse temporal cortex	-0.01	0.837	0.997	-0.076	–	0.062	-0.05	0.360	0.831	-0.152	–	0.055	0.10	0.213	0.457	-0.059	–	0.265
insula	0.02	0.623	0.996	-0.049	–	0.082	-0.05	0.322	0.831	-0.144	–	0.047	-0.03	0.720	0.813	-0.180	–	0.124
average thickness	0.01	0.759	0.996	-0.050	–	0.068	0.00	0.929	0.987	-0.083	–	0.091	0.08	0.275	0.535	-0.062	–	0.219

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus healthy controls; a positive Effect size indicates a thicker cortex of region x in patient group y versus healthy controls.

Supplementary Table S58: mega-analytic results for surface area of each structure comparing unmedicated adult ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.02	0.633	0.991	-0.054 – 0.089	0.00	0.991	0.991	-0.101 – 0.100	0.01	0.916	0.927	-0.149 – 0.166
caudal anterior cingulate cortex	-0.03	0.411	0.991	-0.102 – 0.042	-0.05	0.306	0.722	-0.157 – 0.049	0.01	0.859	0.927	-0.149 – 0.179
caudal middle frontal gyrus	-0.01	0.769	0.991	-0.099 – 0.073	-0.07	0.193	0.722	-0.164 – 0.033	0.06	0.451	0.810	-0.097 – 0.218
cuneus cortex	-0.04	0.451	0.991	-0.128 – 0.057	0.01	0.809	0.929	-0.089 – 0.114	-0.02	0.834	0.927	-0.180 – 0.145
entorhinal cortex	-0.02	0.681	0.991	-0.097 – 0.063	-0.02	0.731	0.914	-0.133 – 0.093	-0.03	0.695	0.927	-0.207 – 0.138
fusiform gyrus	0.00	0.954	0.991	-0.066 – 0.062	-0.05	0.330	0.722	-0.141 – 0.047	-0.03	0.656	0.927	-0.180 – 0.113
inferior parietal cortex	0.02	0.612	0.991	-0.049 – 0.083	-0.01	0.886	0.940	-0.100 – 0.086	0.08	0.287	0.793	-0.068 – 0.231
inferior temporal gyrus	0.03	0.380	0.991	-0.035 – 0.091	-0.04	0.441	0.858	-0.131 – 0.057	-0.01	0.927	0.927	-0.154 – 0.141
isthmus cingulate cortex	-0.01	0.747	0.991	-0.076 – 0.055	-0.06	0.227	0.722	-0.153 – 0.036	0.02	0.766	0.927	-0.129 – 0.176
lateral occipital cortex	0.01	0.866	0.991	-0.059 – 0.070	0.02	0.617	0.900	-0.069 – 0.117	0.11	0.147	0.638	-0.039 – 0.260
lateral orbitofrontal cortex	0.01	0.811	0.991	-0.053 – 0.068	-0.03	0.537	0.889	-0.117 – 0.061	0.04	0.580	0.923	-0.103 – 0.183
lingual gyrus	0.01	0.832	0.991	-0.063 – 0.078	-0.01	0.922	0.949	-0.110 – 0.099	0.06	0.450	0.810	-0.101 – 0.227
medial orbitofrontal cortex	0.00	0.957	0.991	-0.064 – 0.060	-0.03	0.564	0.889	-0.117 – 0.064	-0.01	0.866	0.927	-0.157 – 0.132
middle temporal gyrus	0.04	0.247	0.991	-0.026 – 0.101	-0.03	0.500	0.882	-0.124 – 0.061	-0.01	0.899	0.927	-0.152 – 0.134
parahippocampal gyrus	0.02	0.629	0.991	-0.053 – 0.087	**-0.15**	**0.005**	**0.175**	**-0.252 – -0.046**	**0.18**	**0.025**	**0.473**	**0.023 – 0.345**
paracentral lobule	-0.02	0.481	0.991	-0.093 – 0.044	-0.01	0.849	0.929	-0.108 – 0.089	0.15	0.070	0.490	-0.012 – 0.304
pars opercularis	-0.04	0.275	0.991	-0.111 – 0.031	-0.02	0.731	0.914	-0.119 – 0.083	0.06	0.473	0.810	-0.102 – 0.221
pars orbitalis	-0.02	0.558	0.991	-0.085 – 0.046	**-0.10**	**0.040**	**0.350**	**-0.194 – -0.005**	0.06	0.443	0.810	-0.093 – 0.212
pars triangularis	-0.08	0.125	0.991	-0.177 – 0.022	-0.05	0.291	0.722	-0.155 – 0.046	0.11	0.186	0.651	-0.052 – 0.269
pericalcarine cortex	0.02	0.671	0.991	-0.057 – 0.088	-0.06	0.303	0.722	-0.160 – 0.050	0.07	0.418	0.810	-0.099 – 0.239
postcentral gyrus	0.00	0.909	0.991	-0.069 – 0.061	-0.08	0.104	0.520	-0.170 – 0.016	**0.15**	**0.046**	**0.473**	**0.002 – 0.299**
posterior cingulate cortex	-0.05	0.135	0.991	-0.118 – 0.016	**-0.11**	**0.034**	**0.350**	**-0.203 – -0.008**	-0.02	0.821	0.927	-0.175 – 0.139
precentral gyrus	0.00	0.991	0.991	-0.063 – 0.062	-0.03	0.504	0.882	-0.120 – 0.059	0.14	0.053	0.473	-0.002 – 0.284

precuneus cortex	-0.01	0.638	0.991	-0.077	–	0.047	-0.05	0.311	0.722	-0.138	–	0.044	-0.03	0.722	0.927	-0.173	–	0.120
rostral anterior cingulate cortex	-0.02	0.540	0.991	-0.089	–	0.046	-0.01	0.833	0.929	-0.108	–	0.087	0.06	0.486	0.810	-0.101	–	0.211
rostral middle frontal gyrus	0.00	0.976	0.991	-0.060	–	0.061	**-0.10**	**0.028**	**0.350**	**-0.187**	–	**-0.011**	0.02	0.755	0.927	-0.119	–	0.164
superior frontal gyrus	-0.03	0.428	0.991	-0.101	–	0.043	-0.05	0.238	0.722	-0.135	–	0.034	0.07	0.346	0.807	-0.070	–	0.200
superior parietal cortex	-0.05	0.303	0.991	-0.132	–	0.041	-0.03	0.584	0.889	-0.122	–	0.069	0.08	0.317	0.793	-0.075	–	0.231
superior temporal gyrus	-0.04	0.266	0.991	-0.103	–	0.028	-0.02	0.677	0.911	-0.113	–	0.073	0.11	0.126	0.638	-0.031	–	0.256
supramarginal gyrus	-0.02	0.520	0.991	-0.091	–	0.046	0.01	0.759	0.916	-0.079	–	0.108	0.11	0.149	0.638	-0.039	–	0.259
frontal pole	-0.06	0.119	0.991	-0.131	–	0.015	-0.02	0.653	0.911	-0.130	–	0.082	-0.02	0.785	0.927	-0.194	–	0.146
temporal pole	-0.01	0.894	0.991	-0.080	–	0.070	-0.11	0.055	0.385	-0.214	–	0.002	-0.12	0.164	0.638	-0.288	–	0.049
transverse temporal cortex	**-0.07**	**0.046**	**0.991**	**-0.146**	–	**-0.001**	-0.05	0.388	0.799	-0.154	–	0.060	0.16	0.054	0.473	-0.003	–	0.329
insula	-0.02	0.587	0.991	-0.077	–	0.044	-0.08	0.075	0.438	-0.169	–	0.008	0.08	0.252	0.793	-0.059	–	0.224
full surface area	-0.02	0.488	0.991	-0.092	–	0.044	-0.05	0.238	0.722	-0.124	–	0.031	0.07	0.300	0.793	-0.059	–	0.190

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus healthy controls; a positive Effect size indicates a larger surface area of region x in patient group y versus healthy controls.

Supplementary Table S59: mega-analytic results for each subcortical structure comparing pediatric ADHD, ASD and OCD patients, controlling for age, sex, ICV, scan site, and IQ.

ROI	ADHD vs OCD					ASD vs OCD					ASD vs ADHD				
	Effect size	P-value	FDR P-value	95% CI		Effect size	P-value	FDR P-value	95% CI		Effect size	P-value	FDR P-value	95% CI	
thalamus	0.05	0.639	0.781	-0.161	0.262	0.00	0.974	0.996	-0.225	0.233	-0.05	0.517	0.953	-0.188	0.095
caudate	0.04	0.781	0.781	-0.230	0.306	0.07	0.608	0.811	-0.199	0.340	0.03	0.638	0.953	-0.103	0.168
putamen	-0.17	0.218	0.436	-0.430	0.098	-0.11	0.432	0.811	-0.399	0.171	0.05	0.534	0.953	-0.112	0.216
pallidum	-0.05	0.694	0.781	-0.318	0.211	0.00	0.996	0.996	-0.266	0.267	0.05	0.415	0.953	-0.076	0.183
hippocampus	-0.17	0.148	0.395	-0.395	0.059	-0.16	0.183	0.523	-0.384	0.073	0.01	0.834	0.953	-0.101	0.125
amygdala	-0.31	0.147	0.395	-0.732	0.109	-0.31	0.151	0.523	-0.730	0.113	0.00	0.960	0.960	-0.115	0.121
accumbens	-0.10	0.449	0.718	-0.372	0.165	-0.08	0.594	0.811	-0.381	0.218	0.02	0.814	0.953	-0.162	0.207
ICV	**-0.49**	**0.000**	**0.000**	**-0.712**	**-0.259**	-0.18	0.196	0.523	-0.444	0.091	**0.31**	**0.001**	**0.008**	**0.132**	**0.486**

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red
A negative Effect size indicates a smaller volume of region x in patient group y versus patient group z; a positive Effect size indicates a larger volume of region x in patient group y versus patient group z.

Supplementary Table S60: mega-analytic results for cortical thickness of each structure comparing pediatric ADHD, ASD and OCD patients, controlling for age, sex, scan site, and IQ.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.02	0.896	0.896	-0.288 – 0.329	-0.10	0.514	0.990	-0.415 – 0.208	-0.12	0.119	0.666	-0.280 – 0.032
caudal anterior cingulate cortex	-0.04	0.767	0.893	-0.336 – 0.248	-0.11	0.547	0.990	-0.456 – 0.242	-0.06	0.601	0.746	-0.300 – 0.173
caudal middle frontal gyrus	0.15	0.276	0.796	-0.122 – 0.429	0.10	0.574	0.990	-0.243 – 0.439	-0.06	0.652	0.746	-0.296 – 0.185
cuneus cortex	0.07	0.629	0.834	-0.208 – 0.343	0.05	0.750	0.990	-0.280 – 0.388	-0.01	0.909	0.936	-0.244 – 0.217
entorhinal cortex	-0.17	0.235	0.764	-0.454 – 0.111	**-0.37**	**0.024**	**0.840**	**-0.694 – -0.049**	-0.20	0.052	0.666	-0.402 – 0.001
fusiform gyrus	-0.03	0.838	0.893	-0.313 – 0.254	-0.15	0.379	0.990	-0.492 – 0.187	-0.12	0.295	0.666	-0.353 – 0.107
inferior parietal cortex	0.18	0.221	0.764	-0.106 – 0.460	0.07	0.703	0.990	-0.290 – 0.430	-0.11	0.421	0.666	-0.367 – 0.153
inferior temporal gyrus	0.02	0.867	0.893	-0.250 – 0.297	-0.13	0.450	0.990	-0.473 – 0.210	-0.15	0.212	0.666	-0.398 – 0.088
isthmus cingulate cortex	0.03	0.844	0.893	-0.267 – 0.327	0.03	0.863	0.990	-0.274 – 0.327	0.00	0.963	0.963	-0.152 – 0.145
lateral occipital cortex	-0.07	0.643	0.834	-0.344 – 0.212	-0.17	0.351	0.990	-0.519 – 0.184	-0.10	0.430	0.666	-0.353 – 0.150
lateral orbitofrontal cortex	0.16	0.218	0.764	-0.094 – 0.412	0.07	0.665	0.990	-0.247 – 0.387	-0.09	0.442	0.666	-0.315 – 0.137
lingual gyrus	0.04	0.776	0.893	-0.221 – 0.296	-0.02	0.917	0.990	-0.335 – 0.301	-0.05	0.634	0.746	-0.278 – 0.169
medial orbitofrontal cortex	0.20	0.129	0.764	-0.057 – 0.450	0.08	0.623	0.990	-0.252 – 0.422	-0.11	0.386	0.666	-0.365 – 0.141
middle temporal gyrus	0.17	0.240	0.764	-0.116 – 0.463	-0.04	0.814	0.990	-0.392 – 0.308	-0.22	0.081	0.666	-0.457 – 0.026
parahippocampal gyrus	-0.08	0.591	0.827	-0.372 – 0.212	-0.22	0.189	0.990	-0.553 – 0.109	-0.14	0.182	0.666	-0.350 – 0.066
paracentral lobule	0.10	0.506	0.827	-0.190 – 0.385	0.00	0.990	0.990	-0.330 – 0.326	-0.10	0.350	0.666	-0.308 – 0.109
pars opercularis	0.03	0.846	0.893	-0.266 – 0.324	-0.08	0.642	0.990	-0.435 – 0.268	-0.11	0.352	0.666	-0.350 – 0.125
pars orbitalis	0.13	0.341	0.796	-0.143 – 0.412	0.00	0.983	0.990	-0.353 – 0.345	-0.14	0.278	0.666	-0.389 – 0.112
pars triangularis	0.12	0.383	0.827	-0.153 – 0.399	-0.06	0.751	0.990	-0.427 – 0.308	-0.06	0.751	0.821	-0.427 – 0.308
pericalcarine cortex	-0.04	0.767	0.893	-0.324 – 0.239	0.07	0.640	0.990	-0.217 – 0.353	0.11	0.119	0.666	-0.029 – 0.250
postcentral gyrus	-0.11	0.470	0.827	-0.409 – 0.189	-0.16	0.294	0.990	-0.464 – 0.140	-0.05	0.495	0.693	-0.201 – 0.097
posterior cingulate cortex	-0.09	0.570	0.827	-0.380 – 0.209	-0.16	0.370	0.990	-0.519 – 0.193	-0.08	0.535	0.720	-0.322 – 0.167
precentral gyrus	-0.08	0.573	0.827	-0.380 – 0.210	-0.10	0.560	0.990	-0.428 – 0.232	-0.01	0.900	0.936	-0.217 – 0.191

precuneus cortex	0.17	0.224	0.764	-0.106	–	0.454	0.06	0.748	0.990	-0.288	–	0.402	-0.12	0.344	0.666	-0.360	–	0.125
rostral anterior cingulate cortex	0.20	0.136	0.764	-0.062	–	0.459	0.11	0.487	0.990	-0.205	–	0.430	-0.09	0.442	0.666	-0.305	–	0.133
rostral middle frontal gyrus	0.07	0.591	0.827	-0.180	–	0.315	0.01	0.955	0.990	-0.328	–	0.348	-0.06	0.661	0.746	-0.317	–	0.201
superior frontal gyrus	0.17	0.206	0.764	-0.091	–	0.424	0.02	0.914	0.990	-0.304	–	0.340	-0.15	0.204	0.666	-0.378	–	0.081
superior parietal cortex	0.19	0.184	0.764	-0.090	–	0.467	0.04	0.820	0.990	-0.290	–	0.367	-0.15	0.180	0.666	-0.370	–	0.069
superior temporal gyrus	0.10	0.463	0.827	-0.173	–	0.381	-0.04	0.823	0.990	-0.391	–	0.311	-0.14	0.270	0.666	-0.399	–	0.111
supramarginal gyrus	0.25	0.089	0.764	-0.037	–	0.530	0.12	0.505	0.990	-0.237	–	0.482	-0.12	0.350	0.666	-0.384	–	0.136
frontal pole	-0.14	0.324	0.796	-0.421	–	0.139	-0.21	0.226	0.990	-0.548	–	0.129	-0.07	0.565	0.732	-0.302	–	0.165
temporal pole	-0.17	0.230	0.764	-0.449	–	0.108	-0.30	0.061	0.990	-0.604	–	0.014	-0.12	0.197	0.666	-0.313	–	0.064
transverse temporal cortex	0.10	0.483	0.827	-0.182	–	0.385	-0.12	0.522	0.990	-0.496	–	0.252	-0.22	0.117	0.666	-0.503	–	0.056
insula	0.14	0.325	0.796	-0.138	–	0.416	0.06	0.725	0.990	-0.266	–	0.382	-0.08	0.457	0.666	-0.294	–	0.132
average thickness	0.10	0.486	0.827	-0.176	–	0.371	-0.04	0.849	0.990	-0.401	–	0.330	-0.13	0.346	0.666	-0.409	–	0.143

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus patient group z; a positive Effect size indicates a thicker cortex of region x in patient group y versus patient group z.

Supplementary Table S61: mega-analytic results for surface area of each structure comparing pediatric ADHD, ASD and OCD patients, controlling for age, sex, ICV, scan site, and IQ.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.25	0.059	0.476	-0.510 – 0.009	**-0.39**	**0.004**	**0.128**	**-0.650 – -0.126**	**-0.14**	**0.044**	**0.344**	**-0.272 – -0.004**
caudal anterior cingulate cortex	-0.26	0.050	0.476	-0.529 – 0.000	-0.26	0.060	0.420	-0.525 – 0.011	0.01	0.921	0.940	-0.128 – 0.141
caudal middle frontal gyrus	-0.11	0.404	0.643	-0.373 – 0.150	-0.18	0.180	0.560	-0.447 – 0.084	-0.07	0.307	0.747	-0.205 – 0.064
cuneus cortex	0.15	0.256	0.573	-0.112 – 0.419	0.06	0.652	0.823	-0.207 – 0.331	-0.09	0.189	0.598	-0.229 – 0.045
entorhinal cortex	-0.14	0.373	0.642	-0.442 – 0.166	0.04	0.786	0.840	-0.264 – 0.349	**0.18**	**0.017**	**0.298**	**0.032 – 0.329**
fusiform gyrus	-0.14	0.245	0.573	-0.385 – 0.098	-0.17	0.183	0.560	-0.411 – 0.078	-0.02	0.712	0.828	-0.144 – 0.099
inferior parietal cortex	-0.14	0.262	0.573	-0.374 – 0.102	-0.17	0.198	0.560	-0.439 – 0.091	-0.04	0.651	0.814	-0.202 – 0.126
inferior temporal gyrus	**-0.32**	**0.008**	**0.280**	**-0.551 – -0.085**	**-0.35**	**0.011**	**0.128**	**-0.616 – -0.080**	-0.03	0.732	0.828	-0.205 – 0.144
isthmus cingulate cortex	-0.02	0.884	0.948	-0.293 – 0.253	0.15	0.272	0.680	-0.122 – 0.432	**0.18**	**0.013**	**0.298**	**0.037 – 0.314**
lateral occipital cortex	-0.05	0.696	0.902	-0.300 – 0.200	0.00	0.981	0.981	-0.250 – 0.256	0.05	0.412	0.747	-0.074 – 0.180
lateral orbitofrontal cortex	-0.09	0.430	0.654	-0.321 – 0.137	-0.04	0.762	0.840	-0.293 – 0.214	0.05	0.506	0.747	-0.103 – 0.209
lingual gyrus	-0.12	0.370	0.642	-0.392 – 0.146	-0.18	0.201	0.560	-0.451 – 0.095	-0.05	0.436	0.747	-0.193 – 0.083
medial orbitofrontal cortex	-0.02	0.843	0.948	-0.253 – 0.207	0.04	0.784	0.840	-0.230 – 0.304	0.06	0.499	0.747	-0.115 – 0.236
middle temporal gyrus	-0.19	0.102	0.510	-0.417 – 0.038	**-0.33**	**0.008**	**0.128**	**-0.578 – -0.085**	-0.14	0.059	0.344	-0.288 – 0.005
parahippocampal gyrus	-0.17	0.249	0.573	-0.461 – 0.120	-0.13	0.376	0.793	-0.427 – 0.161	0.04	0.608	0.788	-0.107 – 0.183
paracentral lobule	-0.07	0.612	0.857	-0.334 – 0.197	0.06	0.646	0.823	-0.206 – 0.332	0.13	0.059	0.344	-0.005 – 0.268
pars opercularis	0.08	0.563	0.821	-0.189 – 0.347	0.04	0.792	0.840	-0.235 – 0.308	-0.04	0.545	0.763	-0.180 – 0.095
pars orbitalis	-0.06	0.650	0.875	-0.303 – 0.189	-0.05	0.682	0.823	-0.301 – 0.197	0.00	0.940	0.940	-0.122 – 0.132
pars triangularis	-0.03	0.852	0.948	-0.297 – 0.246	-0.08	0.568	0.823	-0.355 – 0.195	-0.05	0.448	0.747	-0.195 – 0.086
pericalcarine cortex	0.20	0.167	0.573	-0.083 – 0.481	0.07	0.623	0.823	-0.214 – 0.357	-0.13	0.082	0.410	-0.270 – 0.016
postcentral gyrus	0.01	0.920	0.948	-0.234 – 0.259	0.07	0.612	0.823	-0.207 – 0.352	0.06	0.512	0.747	-0.119 – 0.238
posterior cingulate cortex	-0.18	0.178	0.573	-0.441 – 0.082	-0.08	0.570	0.823	-0.342 – 0.188	0.10	0.129	0.502	-0.030 – 0.236
precentral gyrus	0.02	0.867	0.948	-0.214 – 0.254	0.09	0.492	0.823	-0.167 – 0.348	0.07	0.379	0.747	-0.086 – 0.227

precuneus cortex	-0.04	0.722	0.903	-0.284	–	0.197	0.08	0.524	0.823	-0.165	–	0.323	0.12	0.052	0.344	-0.001	–	0.247
rostral anterior cingulate cortex	-0.24	0.046	0.476	-0.467	–	-0.004	-0.24	0.043	0.376	-0.476	–	-0.007	-0.01	0.914	0.940	-0.125	–	0.112
rostral middle frontal gyrus	-0.21	0.068	0.476	-0.433	–	0.016	-0.17	0.181	0.560	-0.414	–	0.078	0.04	0.591	0.788	-0.108	–	0.189
superior frontal gyrus	-0.10	0.350	0.642	-0.311	–	0.110	-0.05	0.669	0.823	-0.284	–	0.182	0.05	0.498	0.747	-0.094	–	0.193
superior parietal cortex	0.01	0.960	0.960	-0.370	–	0.390	0.03	0.897	0.923	-0.357	–	0.408	0.02	0.814	0.890	-0.112	–	0.143
superior temporal gyrus	-0.15	0.200	0.573	-0.382	–	0.080	-0.20	0.091	0.531	-0.435	–	0.032	-0.05	0.408	0.747	-0.168	–	0.068
supramarginal gyrus	-0.14	0.285	0.587	-0.383	–	0.112	-0.05	0.674	0.823	-0.304	–	0.197	0.08	0.205	0.598	-0.044	–	0.207
frontal pole	0.01	0.921	0.948	-0.262	–	0.290	0.14	0.341	0.793	-0.144	–	0.415	0.12	0.094	0.411	-0.021	–	0.264
temporal pole	-0.23	0.093	0.510	-0.509	–	0.039	-0.18	0.208	0.560	-0.456	–	0.099	0.06	0.432	0.747	-0.084	–	0.198
transverse temporal cortex	0.12	0.385	0.642	-0.151	–	0.391	0.20	0.162	0.560	-0.079	–	0.471	0.08	0.290	0.747	-0.065	–	0.217
insula	-0.14	0.241	0.573	-0.372	–	0.094	-0.06	0.634	0.823	-0.293	–	0.179	0.08	0.162	0.567	-0.033	–	0.197
full surface area	-0.12	0.192	0.573	-0.304	–	0.061	-0.10	0.385	0.793	-0.313	–	0.121	0.03	0.733	0.828	-0.121	–	0.172

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus patient group z; a positive Effect size indicates a larger surface area of region x in patient group y versus patient group z.

Supplementary Table S62: mega-analytic results for each subcortical structure comparing adolescent ADHD, ASD and OCD patients, controlling for age, sex, ICV, scan site, and IQ.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	-0.07	0.48	0.640	-0.248 – 0.117	-0.16	0.069	0.184	-0.337 – 0.013	-0.10	0.132	0.419	-0.222 – 0.029
caudate	-0.06	0.591	0.675	-0.284 – 0.162	-0.17	0.121	0.242	-0.388 – 0.045	-0.11	0.157	0.419	-0.263 – 0.042
putamen	-0.18	0.11	0.293	-0.401 – 0.041	**-0.28**	**0.033**	**0.132**	**-0.528 – -0.022**	-0.09	0.344	0.688	-0.291 – 0.101
pallidum	**-0.22**	**0.048**	**0.293**	**-0.433 – -0.002**	**-0.28**	**0.022**	**0.132**	**-0.516 – -0.040**	-0.06	0.514	0.765	-0.241 – 0.121
hippocampus	-0.07	0.46	0.640	-0.271 – 0.123	-0.07	0.514	0.685	-0.275 – 0.138	0.01	0.943	0.943	-0.148 – 0.159
amygdala	0.03	0.748	0.748	-0.173 – 0.241	0.00	0.996	0.996	-0.234 – 0.232	-0.03	0.711	0.813	-0.217 – 0.148
accumbens	-0.08	0.455	0.640	-0.303 – 0.136	-0.15	0.293	0.469	-0.435 – 0.131	-0.07	0.574	0.765	-0.306 – 0.170
ICV	-0.18	0.09	0.293	-0.391 – 0.028	0.02	0.836	0.955	-0.191 – 0.236	**0.20**	**0.004**	**0.032**	**0.066 – 0.342**

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus patient group z; a positive Effect size indicates a larger volume of region x in patient group y versus patient group z.

Supplementary Table S63: mega-analytic results for cortical thickness of each structure comparing adolescent ADHD, ASD and OCD patients, controlling for age, sex, scan site, and IQ.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.05	0.692	0.988	-0.187 – 0.281	-0.09	0.534	0.831	-0.393 – 0.204	-0.14	0.241	0.823	-0.379 – 0.095
caudal anterior cingulate cortex	-0.14	0.224	0.988	-0.363 – 0.085	-0.24	0.076	0.831	-0.506 – 0.025	-0.10	0.321	0.823	-0.303 – 0.099
caudal middle frontal gyrus	-0.02	0.849	0.988	-0.247 – 0.203	-0.10	0.493	0.831	-0.386 – 0.186	-0.08	0.499	0.823	-0.305 – 0.149
cuneus cortex	-0.02	0.857	0.988	-0.249 – 0.207	-0.11	0.448	0.831	-0.404 – 0.178	-0.09	0.438	0.823	-0.323 – 0.140
entorhinal cortex	-0.19	0.106	0.988	-0.427 – 0.041	**-0.32**	**0.021**	**0.735**	**-0.586 – -0.048**	-0.12	0.213	0.823	-0.320 – 0.071
fusiform gyrus	-0.10	0.392	0.988	-0.314 – 0.123	-0.17	0.221	0.831	-0.435 – 0.100	-0.07	0.498	0.823	-0.278 – 0.135
inferior parietal cortex	0.07	0.557	0.988	-0.153 – 0.284	0.02	0.917	0.958	-0.277 – 0.308	-0.05	0.682	0.823	-0.288 – 0.188
inferior temporal gyrus	0.08	0.455	0.988	-0.137 – 0.307	0.00	0.994	0.994	-0.270 – 0.267	-0.09	0.415	0.823	-0.292 – 0.120
isthmus cingulate cortex	0.00	0.990	0.990	-0.227 – 0.224	-0.05	0.716	0.835	-0.348 – 0.240	-0.05	0.660	0.823	-0.290 – 0.183
lateral occipital cortex	0.13	0.216	0.988	-0.079 – 0.347	0.07	0.656	0.831	-0.224 – 0.356	-0.07	0.573	0.823	-0.307 – 0.170
lateral orbitofrontal cortex	-0.13	0.260	0.988	-0.351 – 0.095	-0.16	0.259	0.831	-0.438 – 0.118	-0.03	0.775	0.904	-0.251 – 0.187
lingual gyrus	-0.05	0.634	0.988	-0.273 – 0.166	-0.08	0.600	0.831	-0.396 – 0.229	-0.03	0.822	0.925	-0.292 – 0.232
medial orbitofrontal cortex	0.09	0.447	0.988	-0.142 – 0.323	0.01	0.931	0.958	-0.279 – 0.305	-0.08	0.510	0.823	-0.307 – 0.152
middle temporal gyrus	-0.02	0.839	0.988	-0.251 – 0.204	-0.13	0.316	0.831	-0.395 – 0.128	-0.11	0.263	0.823	-0.302 – 0.082
parahippocampal gyrus	-0.15	0.205	0.988	-0.394 – 0.085	-0.16	0.210	0.831	-0.399 – 0.088	0.00	0.991	0.998	-0.159 – 0.157
paracentral lobule	-0.11	0.342	0.988	-0.329 – 0.114	-0.19	0.149	0.831	-0.449 – 0.068	-0.08	0.403	0.823	-0.276 – 0.111
pars opercularis	0.03	0.828	0.988	-0.206 – 0.257	-0.08	0.536	0.831	-0.349 – 0.181	-0.11	0.271	0.823	-0.304 – 0.085
pars orbitalis	-0.02	0.885	0.988	-0.255 – 0.220	-0.10	0.474	0.831	-0.381 – 0.177	-0.08	0.431	0.823	-0.294 – 0.126
pars triangularis	0.03	0.786	0.988	-0.195 – 0.257	-0.11	0.449	0.831	-0.401 – 0.177	-0.14	0.223	0.823	-0.373 – 0.087
pericalcarine cortex	-0.15	0.193	0.988	-0.383 – 0.077	-0.15	0.284	0.831	-0.432 – 0.127	0.00	0.998	0.998	-0.215 – 0.215
postcentral gyrus	-0.01	0.932	0.988	-0.244 – 0.224	-0.05	0.704	0.835	-0.319 – 0.216	-0.04	0.676	0.823	-0.237 – 0.154
posterior cingulate cortex	0.09	0.445	0.988	-0.138 – 0.315	-0.09	0.535	0.831	-0.364 – 0.189	-0.18	0.108	0.823	-0.390 – 0.039
precentral gyrus	-0.04	0.737	0.988	-0.272 – 0.192	-0.04	0.747	0.843	-0.311 – 0.223	0.00	0.966	0.998	-0.202 – 0.193

precuneus cortex	-0.07	0.504	0.988	-0.293	–	0.144	-0.17	0.209	0.831	-0.431	–	0.094	-0.09	0.360	0.823	-0.295	–	0.107
rostral anterior cingulate cortex	-0.08	0.486	0.988	-0.302	–	0.144	-0.16	0.219	0.831	-0.409	–	0.094	-0.08	0.400	0.823	-0.260	–	0.104
rostral middle frontal gyrus	0.00	0.990	0.990	-0.219	–	0.222	-0.08	0.624	0.831	-0.395	–	0.237	-0.08	0.553	0.823	-0.346	–	0.185
superior frontal gyrus	0.13	0.272	0.988	-0.100	–	0.354	-0.06	0.665	0.831	-0.356	–	0.227	-0.19	0.107	0.823	-0.424	–	0.041
superior parietal cortex	0.03	0.775	0.988	-0.186	–	0.250	-0.03	0.851	0.931	-0.296	–	0.244	-0.06	0.589	0.823	-0.268	–	0.152
superior temporal gyrus	0.04	0.704	0.988	-0.187	–	0.277	-0.08	0.564	0.831	-0.361	–	0.197	-0.13	0.244	0.823	-0.341	–	0.087
supramarginal gyrus	-0.05	0.667	0.988	-0.281	–	0.180	-0.21	0.161	0.831	-0.498	–	0.083	-0.16	0.173	0.823	-0.384	–	0.069
frontal pole	-0.06	0.591	0.988	-0.299	–	0.170	-0.12	0.446	0.831	-0.411	–	0.181	-0.05	0.671	0.823	-0.286	–	0.184
temporal pole	-0.12	0.312	0.988	-0.347	–	0.111	-0.07	0.588	0.831	-0.336	–	0.190	0.05	0.648	0.823	-0.149	–	0.239
transverse temporal cortex	-0.11	0.319	0.988	-0.336	–	0.109	-0.14	0.385	0.831	-0.455	–	0.175	-0.03	0.846	0.925	-0.291	–	0.238
insula	-0.13	0.262	0.988	-0.343	–	0.093	-0.19	0.154	0.831	-0.443	–	0.070	-0.06	0.525	0.823	-0.251	–	0.128
average thickness	0.01	0.909	0.988	-0.206	–	0.232	-0.11	0.463	0.831	-0.398	–	0.181	-0.12	0.314	0.823	-0.357	–	0.114

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus patient group z; a positive Effect size indicates a thicker cortex of region x in patient group y versus patient group z.

Supplementary Table S64: mega-analytic results for surface area of each structure comparing adolescent ADHD, ASD and OCD patients, controlling for age, sex, ICV, scan site, and IQ.

ROI	ADHD vs OCD				ASD vs OCD				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.08	0.480	0.956	-0.293 – 0.138	-0.13	0.241	0.913	-0.348 – 0.087	-0.05	0.463	0.989	-0.194 – 0.088
caudal anterior cingulate cortex	0.04	0.743	0.956	-0.182 – 0.255	0.04	0.755	0.937	-0.187 – 0.258	0.00	0.989	0.989	-0.147 – 0.145
caudal middle frontal gyrus	-0.07	0.509	0.956	-0.279 – 0.138	-0.05	0.620	0.937	-0.266 – 0.159	0.02	0.815	0.989	-0.122 – 0.155
cuneus cortex	0.01	0.921	0.956	-0.201 – 0.222	0.06	0.634	0.937	-0.183 – 0.300	0.05	0.599	0.989	-0.131 – 0.227
entorhinal cortex	0.09	0.483	0.956	-0.169 – 0.357	0.08	0.496	0.937	-0.154 – 0.319	-0.01	0.905	0.989	-0.204 – 0.180
fusiform gyrus	0.03	0.735	0.956	-0.157 – 0.223	0.01	0.935	0.963	-0.211 – 0.229	-0.02	0.775	0.989	-0.187 – 0.139
inferior parietal cortex	0.02	0.834	0.956	-0.175 – 0.216	0.03	0.820	0.937	-0.195 – 0.246	0.00	0.955	0.989	-0.155 – 0.164
inferior temporal gyrus	-0.03	0.763	0.956	-0.219 – 0.161	-0.09	0.407	0.937	-0.316 – 0.128	-0.06	0.447	0.989	-0.231 – 0.102
isthmus cingulate cortex	-0.17	0.117	0.875	-0.372 – 0.041	-0.13	0.270	0.913	-0.358 – 0.100	0.04	0.664	0.989	-0.128 – 0.201
lateral occipital cortex	0.02	0.822	0.956	-0.168 – 0.212	0.03	0.808	0.937	-0.200 – 0.256	0.01	0.943	0.989	-0.169 – 0.181
lateral orbitofrontal cortex	0.28	0.003	0.053	0.092 – 0.465	0.16	0.181	0.913	-0.075 – 0.398	-0.12	0.220	0.989	-0.306 – 0.070
lingual gyrus	0.05	0.682	0.956	-0.174 – 0.266	0.01	0.927	0.963	-0.214 – 0.234	-0.04	0.634	0.989	-0.182 – 0.111
medial orbitofrontal cortex	0.31	0.001	0.035	0.121 – 0.500	0.21	0.051	0.913	-0.001 – 0.425	-0.10	0.214	0.989	-0.253 – 0.057
middle temporal gyrus	-0.02	0.859	0.956	-0.197 – 0.164	-0.07	0.487	0.937	-0.278 – 0.133	-0.06	0.462	0.989	-0.207 – 0.094
parahippocampal gyrus	0.10	0.378	0.898	-0.121 – 0.319	0.14	0.231	0.913	-0.087 – 0.362	0.04	0.609	0.989	-0.108 – 0.185
paracentral lobule	0.23	0.035	0.408	0.016 – 0.442	0.21	0.060	0.913	-0.009 – 0.425	-0.02	0.776	0.989	-0.163 – 0.122
pars opercularis	-0.01	0.911	0.956	-0.232 – 0.207	-0.02	0.830	0.937	-0.247 – 0.199	-0.01	0.872	0.989	-0.157 – 0.133
pars orbitalis	0.16	0.126	0.875	-0.044 – 0.358	0.13	0.202	0.913	-0.072 – 0.339	-0.02	0.736	0.989	-0.158 – 0.111
pars triangularis	0.00	0.993	0.993	-0.212 – 0.214	-0.05	0.666	0.937	-0.265 – 0.169	-0.05	0.499	0.989	-0.190 – 0.093
pericalcarine cortex	-0.07	0.538	0.956	-0.294 – 0.154	-0.09	0.449	0.937	-0.316 – 0.140	-0.02	0.815	0.989	-0.167 – 0.131
postcentral gyrus	0.13	0.201	0.875	-0.067 – 0.318	0.00	0.976	0.976	-0.226 – 0.219	-0.13	0.125	0.989	-0.293 – 0.036
posterior cingulate cortex	0.09	0.382	0.898	-0.110 – 0.287	0.06	0.534	0.937	-0.138 – 0.267	-0.02	0.721	0.989	-0.157 – 0.109
precentral gyrus	-0.01	0.929	0.956	-0.197 – 0.180	-0.04	0.662	0.937	-0.235 – 0.149	-0.03	0.589	0.989	-0.159 – 0.090

precuneus cortex	0.10	0.309	0.898	-0.091	–	0.287	0.10	0.393	0.937	-0.125	–	0.318	0.00	0.987	0.989	-0.169	–	0.166
rostral anterior cingulate cortex	0.09	0.385	0.898	-0.111	–	0.287	0.05	0.687	0.937	-0.184	–	0.280	-0.04	0.647	0.989	-0.214	–	0.133
rostral middle frontal gyrus	0.13	0.191	0.875	-0.063	–	0.315	0.13	0.188	0.913	-0.063	–	0.322	0.00	0.958	0.989	-0.122	–	0.129
superior frontal gyrus	0.12	0.176	0.875	-0.055	–	0.302	0.12	0.233	0.913	-0.078	–	0.321	0.00	0.979	0.989	-0.146	–	0.142
superior parietal cortex	0.04	0.678	0.956	-0.157	–	0.242	0.08	0.460	0.937	-0.127	–	0.281	0.03	0.610	0.989	-0.098	–	0.167
superior temporal gyrus	0.01	0.894	0.956	-0.174	–	0.199	-0.03	0.793	0.937	-0.215	–	0.164	-0.04	0.543	0.989	-0.161	–	0.085
supramarginal gyrus	-0.12	0.225	0.875	-0.320	–	0.075	-0.17	0.143	0.913	-0.389	–	0.056	-0.04	0.591	0.989	-0.203	–	0.115
frontal pole	-0.04	0.740	0.956	-0.259	–	0.184	0.13	0.287	0.913	-0.113	–	0.383	0.17	0.063	0.989	-0.010	–	0.354
temporal pole	-0.03	0.779	0.956	-0.255	–	0.191	-0.10	0.391	0.937	-0.326	–	0.127	-0.07	0.372	0.989	-0.215	–	0.080
transverse temporal cortex	0.03	0.795	0.956	-0.187	–	0.244	-0.02	0.868	0.949	-0.259	–	0.218	-0.05	0.578	0.989	-0.221	–	0.123
insula	0.10	0.312	0.898	-0.092	–	0.289	0.06	0.589	0.937	-0.160	–	0.282	-0.04	0.651	0.989	-0.199	–	0.125
full surface area	0.07	0.338	0.898	-0.076	–	0.220	0.02	0.802	0.937	-0.163	–	0.211	-0.05	0.522	0.989	-0.197	–	0.100

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus patient group z; a positive Effect size indicates a larger surface area of region x in patient group y versus patient group z.

Supplementary Table S65: mega-analytic results for each subcortical structure comparing adult ASD and ADHD to each other and to healthy control subjects, controlling for age, sex, ICV, scan site, and IQ.

ROI	ADHD vs HC				ASD vs HC				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	-0.01	0.858	0.858	-0.080 – 0.067	0.09	0.167	0.648	-0.037 – 0.212	0.09	0.195	0.886	-0.048 – 0.237
caudate	-0.01	0.839	0.858	-0.100 – 0.081	0.00	0.983	0.983	-0.104 – 0.102	0.01	0.903	0.914	-0.125 – 0.141
putamen	-0.02	0.587	0.858	-0.104 – 0.059	-0.09	0.313	0.648	-0.278 – 0.089	-0.07	0.478	0.886	-0.271 – 0.127
pallidum	0.04	0.356	0.858	-0.046 – 0.127	-0.02	0.784	0.896	-0.200 – 0.151	-0.07	0.509	0.886	-0.259 – 0.128
hippocampus	-0.01	0.762	0.858	-0.097 – 0.071	-0.07	0.157	0.648	-0.167 – 0.027	-0.06	0.374	0.886	-0.182 – 0.069
amygdala	-0.02	0.713	0.858	-0.104 – 0.071	-0.03	0.727	0.896	-0.168 – 0.117	-0.01	0.914	0.914	-0.174 – 0.156
accumbens	-0.04	0.282	0.858	-0.123 – 0.036	-0.07	0.405	0.648	-0.247 – 0.100	-0.03	0.757	0.914	-0.219 – 0.159
ICV	0.02	0.666	0.858	-0.061 – 0.096	0.07	0.360	0.648	-0.074 – 0.205	0.05	0.554	0.886	-0.110 – 0.206

A negative Effect size indicates a smaller volume of region x in patient group y versus group z; a positive Effect size indicates a larger volume of region x in patient group y versus group z

Supplementary Table S66: mega-analytic results for surface area of each structure comparing adult ASD and ADHD to eachother and to healthy control subjects, controlling for age, sex, ICV, scan site, and IQ.

ROI	ADHD vs HC				ASD vs HC				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.02	0.742	0.938	-0.077 – 0.107	-0.06	0.260	0.798	-0.171 – 0.046	-0.08	0.265	0.825	-0.215 – 0.059
caudal anterior cingulate cortex	-0.06	0.244	0.805	-0.152 – 0.039	-0.08	0.159	0.798	-0.197 – 0.032	-0.03	0.725	0.853	-0.168 – 0.117
caudal middle frontal gyrus	-0.04	0.419	0.811	-0.128 – 0.053	0.01	0.911	0.966	-0.103 – 0.115	0.04	0.532	0.825	-0.093 – 0.180
cuneus cortex	-0.05	0.276	0.805	-0.148 – 0.042	-0.11	0.061	0.798	-0.223 – 0.005	-0.06	0.436	0.825	-0.199 – 0.086
entorhinal cortex	0.03	0.606	0.938	-0.075 – 0.128	-0.06	0.344	0.798	-0.170 – 0.060	-0.08	0.265	0.825	-0.227 – 0.062
fusiform gyrus	-0.03	0.560	0.933	-0.114 – 0.062	-0.06	0.214	0.798	-0.166 – 0.037	-0.04	0.565	0.825	-0.169 – 0.092
inferior parietal cortex	-0.04	0.345	0.805	-0.126 – 0.044	-0.02	0.665	0.966	-0.125 – 0.080	0.02	0.781	0.853	-0.111 – 0.148
inferior temporal gyrus	-0.02	0.677	0.938	-0.105 – 0.068	-0.06	0.244	0.798	-0.160 – 0.041	-0.04	0.532	0.825	-0.170 – 0.088
isthmus cingulate cortex	-0.01	0.858	0.938	-0.093 – 0.077	0.02	0.706	0.966	-0.083 – 0.122	0.03	0.676	0.853	-0.102 – 0.157
lateral occipital cortex	-0.01	0.757	0.938	-0.098 – 0.072	0.01	0.854	0.966	-0.093 – 0.112	0.02	0.726	0.853	-0.106 – 0.152
lateral orbitofrontal cortex	0.01	0.804	0.938	-0.070 – 0.091	0.02	0.727	0.966	-0.080 – 0.114	0.01	0.910	0.937	-0.116 – 0.130
lingual gyrus	-0.02	0.697	0.938	-0.119 – 0.079	-0.07	0.203	0.798	-0.190 – 0.040	-0.05	0.457	0.825	-0.200 – 0.090
medial orbitofrontal cortex	-0.01	0.725	0.938	-0.094 – 0.065	0.01	0.906	0.966	-0.090 – 0.101	0.02	0.746	0.853	-0.101 – 0.141
middle temporal gyrus	-0.01	0.830	0.938	-0.095 – 0.076	-0.08	0.285	0.798	-0.227 – 0.067	-0.07	0.404	0.825	-0.237 – 0.095
parahippocampal gyrus	-0.08	0.087	0.805	-0.177 – 0.012	0.03	0.628	0.966	-0.082 – 0.136	0.11	0.120	0.825	-0.029 – 0.247
paracentral lobule	0.00	0.971	0.991	-0.090 – 0.093	0.05	0.365	0.798	-0.059 – 0.161	0.05	0.482	0.825	-0.088 – 0.186
pars opercularis	0.00	0.991	0.991	-0.091 – 0.092	0.02	0.752	0.966	-0.093 – 0.128	0.02	0.804	0.853	-0.120 – 0.155
pars orbitalis	-0.04	0.420	0.811	-0.122 – 0.051	0.03	0.623	0.966	-0.078 – 0.130	0.06	0.355	0.825	-0.069 – 0.193
pars triangularis	**-0.11**	**0.020**	**0.700**	**-0.200 – -0.017**	0.03	0.556	0.966	-0.077 – 0.143	**0.14**	**0.041**	**0.825**	**0.006 – 0.277**
pericalcarine cortex	-0.09	0.068	0.805	-0.190 – 0.007	-0.06	0.355	0.798	-0.174 – 0.062	0.04	0.633	0.853	-0.111 – 0.183
postcentral gyrus	-0.05	0.251	0.805	-0.135 – 0.035	0.01	0.826	0.966	-0.090 – 0.113	0.06	0.351	0.825	-0.067 – 0.190
posterior cingulate cortex	-0.03	0.504	0.882	-0.117 – 0.058	-0.08	0.120	0.798	-0.188 – 0.022	-0.05	0.429	0.825	-0.186 – 0.079
precentral gyrus	0.00	0.983	0.991	-0.080 – 0.082	**0.10**	**0.048**	**0.798**	**0.001 – 0.195**	0.10	0.121	0.825	-0.026 – 0.219

precuneus cortex	-0.04	0.334	0.805	-0.121	0.041	-0.08	0.092	0.798	-0.182	0.014	-0.04	0.486	0.825	-0.168	0.080
rostral anterior cingulate cortex	0.01	0.853	0.938	-0.080	0.097	-0.02	0.771	0.966	-0.122	0.091	-0.02	0.724	0.853	-0.158	0.110
rostral middle frontal gyrus	-0.06	0.143	0.805	-0.139	0.020	0.04	0.365	0.798	-0.051	0.140	0.10	0.092	0.825	-0.017	0.224
superior frontal gyrus	-0.05	0.194	0.805	-0.128	0.026	-0.01	0.796	0.966	-0.105	0.081	0.04	0.517	0.825	-0.079	0.157
superior parietal cortex	-0.04	0.311	0.805	-0.130	0.041	0.00	0.943	0.971	-0.100	0.107	0.05	0.468	0.825	-0.082	0.178
superior temporal gyrus	-0.04	0.406	0.811	-0.123	0.050	0.00	0.989	0.989	-0.098	0.099	0.04	0.566	0.825	-0.090	0.165
supramarginal gyrus	0.01	0.829	0.938	-0.074	0.092	-0.01	0.855	0.966	-0.109	0.091	-0.02	0.774	0.853	-0.145	0.108
frontal pole	-0.05	0.261	0.805	-0.149	0.040	-0.06	0.317	0.798	-0.172	0.056	0.00	0.957	0.957	-0.148	0.140
temporal pole	-0.04	0.440	0.811	-0.140	0.061	-0.10	0.105	0.798	-0.212	0.020	-0.06	0.445	0.825	-0.200	0.088
transverse temporal cortex	-0.06	0.209	0.805	-0.161	0.035	0.02	0.716	0.966	-0.092	0.135	0.08	0.248	0.825	-0.059	0.227
insula	-0.07	0.103	0.805	-0.144	0.013	0.06	0.420	0.865	-0.082	0.197	0.11	0.084	0.825	-0.014	0.227
full surface area	-0.03	0.343	0.805	-0.102	0.035	0.01	0.872	0.966	-0.076	0.090	0.04	0.457	0.825	-0.066	0.146

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus group z; a positive Effect size indicates a larger surface area of region x in patient group y versus group z.

Supplementary Table S67: mega-analytic results for cortical thickness of each structure comparing adult ASD and ADHD to each other and to healthy control subjects, controlling for age, sex, scan site, and IQ.

ROI	ADHD vs HC				ASD vs HC				ASD vs ADHD			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.04	0.362	0.987	-0.048 – 0.130	-0.01	0.903	0.958	-0.111 – 0.098	-0.05	0.485	0.886	-0.183 – 0.087
caudal anterior cingulate cortex	-0.10	0.021	0.462	-0.190 – -0.016	0.08	0.333	0.777	-0.079 – 0.234	0.18	0.045	0.158	0.004 – 0.356
caudal middle frontal gyrus	-0.03	0.450	0.987	-0.109 – 0.049	0.07	0.358	0.783	-0.080 – 0.221	0.10	0.238	0.694	-0.067 – 0.268
cuneus cortex	0.05	0.269	0.973	-0.037 – 0.133	0.14	0.179	0.482	-0.065 – 0.351	0.09	0.404	0.884	-0.128 – 0.317
entorhinal cortex	-0.11	0.032	0.462	-0.204 – -0.009	-0.08	0.482	0.851	-0.309 – 0.146	0.02	0.842	0.989	-0.219 – 0.269
fusiform gyrus	-0.03	0.451	0.987	-0.124 – 0.055	-0.07	0.508	0.851	-0.259 – 0.128	-0.03	0.775	0.989	-0.241 – 0.180
inferior parietal cortex	0.05	0.253	0.973	-0.034 – 0.130	0.01	0.781	0.958	-0.084 – 0.112	-0.03	0.596	0.948	-0.159 – 0.091
inferior temporal gyrus	0.00	0.996	0.996	-0.096 – 0.096	-0.08	0.385	0.793	-0.276 – 0.106	-0.08	0.430	0.885	-0.296 – 0.126
isthmus cingulate cortex	0.02	0.681	0.996	-0.072 – 0.111	0.11	0.139	0.443	-0.036 – 0.257	0.09	0.292	0.726	-0.078 – 0.261
lateral occipital cortex	0.09	0.066	0.462	-0.006 – 0.176	0.01	0.878	0.958	-0.174 – 0.203	-0.07	0.503	0.886	-0.277 – 0.136
lateral orbitofrontal cortex	-0.03	0.445	0.987	-0.116 – 0.051	0.16	0.037	0.144	0.010 – 0.315	0.19	0.026	0.109	0.023 – 0.366
lingual gyrus	0.02	0.592	0.996	-0.064 – 0.111	0.06	0.535	0.851	-0.128 – 0.247	0.04	0.733	0.989	-0.169 – 0.240
medial orbitofrontal cortex	-0.05	0.241	0.973	-0.138 – 0.035	0.24	0.002	0.014	0.090 – 0.392	0.29	0.001	0.009	0.122 – 0.464
middle temporal gyrus	0.00	0.977	0.996	-0.091 – 0.094	-0.01	0.875	0.958	-0.201 – 0.171	-0.02	0.876	0.989	-0.221 – 0.189
parahippocampal gyrus	0.03	0.508	0.996	-0.064 – 0.129	-0.03	0.787	0.958	-0.217 – 0.164	-0.06	0.583	0.948	-0.269 – 0.151
paracentral lobule	0.00	0.951	0.996	-0.079 – 0.084	0.10	0.203	0.508	-0.054 – 0.253	0.10	0.266	0.716	-0.074 – 0.269
pars opercularis	-0.03	0.436	0.987	-0.111 – 0.048	0.13	0.008	0.040	0.033 – 0.223	0.16	0.010	0.050	0.038 – 0.281
pars orbitalis	-0.01	0.813	0.996	-0.107 – 0.084	0.19	0.001	0.009	0.078 – 0.307	0.20	0.006	0.035	0.059 – 0.350
pars triangularis	0.00	0.905	0.996	-0.084 – 0.074	0.24	0.000	0.000	0.147 – 0.336	0.25	0.000	0.000	0.125 – 0.368
pericalcarine cortex	0.02	0.655	0.996	-0.060 – 0.095	0.02	0.771	0.958	-0.137 – 0.185	0.01	0.944	0.997	-0.171 – 0.183
postcentral gyrus	0.01	0.777	0.996	-0.069 – 0.093	0.01	0.903	0.958	-0.134 – 0.152	0.00	0.972	0.997	-0.164 – 0.159
posterior cingulate cortex	-0.08	0.045	0.462	-0.157 – -0.002	0.18	0.008	0.040	0.048 – 0.316	0.26	0.001	0.009	0.108 – 0.414
precentral gyrus	-0.01	0.735	0.996	-0.091 – 0.064	0.00	0.997	0.997	-0.129 – 0.130	0.01	0.857	0.989	-0.135 – 0.163

precuneus cortex	0.00	0.908	0.996	-0.077	–	0.087	0.02	0.701	0.958	-0.079	–	0.117	0.01	0.822	0.989	-0.111	–	0.140
rostral anterior cingulate cortex	-0.08	0.063	0.462	-0.166	–	0.004	0.12	0.142	0.443	-0.041	–	0.284	**0.20**	**0.028**	**0.109**	**0.022**	–	**0.382**
rostral middle frontal gyrus	0.01	0.777	0.996	-0.068	–	0.091	**0.19**	**0.029**	**0.127**	**0.019**	–	**0.360**	0.18	0.060	0.191	-0.008	–	0.364
superior frontal gyrus	-0.03	0.525	0.996	-0.112	–	0.057	**0.20**	**0.000**	**0.000**	**0.096**	–	**0.298**	**0.22**	**0.001**	**0.009**	**0.096**	–	**0.353**
superior parietal cortex	0.06	0.142	0.828	-0.020	–	0.140	0.06	0.427	0.830	-0.088	–	0.209	0.00	0.997	0.997	-0.166	–	0.167
superior temporal gyrus	0.01	0.827	0.996	-0.081	–	0.101	0.04	0.735	0.958	-0.194	–	0.276	0.03	0.811	0.989	-0.219	–	0.280
supramarginal gyrus	0.00	0.964	0.996	-0.080	–	0.084	0.03	0.515	0.851	-0.066	–	0.131	0.01	0.867	0.989	-0.135	–	0.160
frontal pole	0.02	0.681	0.996	-0.075	–	0.115	**0.25**	**0.000**	**0.000**	**0.134**	–	**0.362**	**0.23**	**0.002**	**0.014**	**0.085**	–	**0.372**
temporal pole	-0.06	0.278	0.973	-0.155	–	0.045	-0.01	0.931	0.958	-0.239	–	0.218	0.05	0.719	0.989	-0.200	–	0.291
transverse temporal cortex	0.02	0.611	0.996	-0.070	–	0.118	0.02	0.844	0.958	-0.172	–	0.210	-0.01	0.961	0.997	-0.214	–	0.203
insula	-0.04	0.400	0.987	-0.128	–	0.051	0.02	0.775	0.958	-0.141	–	0.189	0.06	0.506	0.886	-0.122	–	0.247
full surface area	0.01	0.881	0.996	-0.073	–	0.085	0.07	0.152	0.443	-0.025	–	0.164	0.07	0.311	0.726	-0.065	–	0.204

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus group z; a positive Effect size indicates a thicker cortex of region x in patient group y versus group z.

Supplementary Table S68: mega-analytic results for each subcortical structure comparing pediatric ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, scan site and IQ.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	0.01	0.901	0.909	-0.185 – 0.210	0.06	0.119	0.190	-0.016 – 0.142	0.02	0.792	0.874	-0.105 – 0.137
caudate	-0.08	0.540	0.904	-0.331 – 0.173	-0.04	0.401	0.404	-0.136 – 0.054	-0.01	0.874	0.874	-0.111 – 0.094
putamen	0.07	0.565	0.904	-0.176 – 0.323	**-0.09**	**0.040**	**0.124**	**-0.181 – -0.004**	-0.04	0.571	0.874	-0.182 – 0.100
pallidum	0.01	0.909	0.909	-0.235 – 0.265	-0.04	0.401	0.404	-0.129 – 0.051	0.02	0.762	0.874	-0.083 – 0.114
hippocampus	0.13	0.220	0.733	-0.080 – 0.348	-0.03	0.404	0.404	-0.112 – 0.045	-0.02	0.624	0.874	-0.107 – 0.064
amygdala	0.23	0.275	0.733	-0.183 – 0.643	-0.08	0.052	0.124	-0.163 – 0.001	-0.08	0.086	0.344	-0.168 – 0.011
accumbens	0.02	0.896	0.909	-0.237 – 0.270	-0.09	0.062	0.124	-0.178 – 0.004	-0.06	0.439	0.874	-0.228 – 0.099
ICV	**0.37**	**0.001**	**0.008**	**0.160 – 0.588**	**-0.11**	**0.005**	**0.040**	**-0.189 – -0.035**	**0.20**	**0.017**	**0.136**	**0.035 – 0.360**

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S69: mega-analytic results for cortical thickness of each structure comparing pediatric ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex and scan site and IQ.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.05	0.749	0.911	-0.337 – 0.243	-0.03	0.634	0.825	-0.136 – 0.083	**-0.15**	**0.012**	**0.140**	**-0.268 – -0.033**
caudal anterior cingulate cortex	0.04	0.784	0.911	-0.237 – 0.314	-0.01	0.914	0.951	-0.106 – 0.095	-0.07	0.538	0.588	-0.287 – 0.150
caudal middle frontal gyrus	-0.21	0.117	0.592	-0.468 – 0.052	-0.05	0.261	0.582	-0.151 – 0.041	-0.11	0.337	0.491	-0.335 – 0.115
cuneus cortex	-0.09	0.494	0.780	-0.351 – 0.169	-0.02	0.642	0.825	-0.119 – 0.073	-0.04	0.739	0.739	-0.251 – 0.178
entorhinal cortex	0.11	0.421	0.780	-0.158 – 0.379	-0.06	0.199	0.536	-0.154 – 0.032	**-0.26**	**0.005**	**0.088**	**-0.444 – -0.078**
fusiform gyrus	-0.09	0.516	0.780	-0.357 – 0.179	**-0.12**	**0.017**	**0.198**	**-0.215 – -0.021**	**-0.24**	**0.026**	**0.163**	**-0.453 – -0.029**
inferior parietal cortex	-0.24	0.073	0.592	-0.512 – 0.023	-0.07	0.174	0.534	-0.165 – 0.030	-0.17	0.163	0.267	-0.419 – 0.070
inferior temporal gyrus	-0.08	0.557	0.780	-0.335 – 0.181	-0.05	0.266	0.582	-0.149 – 0.041	-0.21	0.072	0.235	-0.436 – 0.019
isthmus cingulate cortex	0.02	0.904	0.941	-0.263 – 0.298	0.05	0.369	0.711	-0.056 – 0.150	0.04	0.450	0.544	-0.070 – 0.157
lateral occipital cortex	-0.04	0.771	0.911	-0.301 – 0.224	**-0.10**	**0.030**	**0.263**	**-0.199 – -0.010**	-0.21	0.088	0.257	-0.443 – 0.030
lateral orbitofrontal cortex	-0.17	0.165	0.592	-0.408 – 0.070	-0.01	0.820	0.901	-0.097 – 0.077	-0.10	0.361	0.505	-0.311 – 0.113
lingual gyrus	-0.07	0.557	0.780	-0.317 – 0.171	-0.04	0.436	0.727	-0.125 – 0.054	-0.09	0.397	0.534	-0.298 – 0.118
medial orbitofrontal cortex	-0.18	0.148	0.592	-0.416 – 0.063	0.02	0.653	0.825	-0.067 – 0.107	-0.09	0.454	0.544	-0.332 – 0.148
middle temporal gyrus	-0.19	0.169	0.592	-0.463 – 0.081	-0.02	0.735	0.887	-0.119 – 0.084	**-0.23**	**0.041**	**0.179**	**-0.456 – -0.010**
parahippocampal gyrus	0.01	0.941	0.941	-0.266 – 0.287	-0.07	0.172	0.534	-0.170 – 0.030	**-0.21**	**0.028**	**0.163**	**-0.400 – -0.023**
paracentral lobule	-0.14	0.307	0.700	-0.413 – 0.130	-0.04	0.386	0.711	-0.143 – 0.055	-0.14	0.134	0.267	-0.331 – 0.044
pars opercularis	-0.14	0.340	0.700	-0.414 – 0.143	**-0.11**	**0.039**	**0.273**	**-0.207 – -0.005**	-0.22	0.050	0.194	-0.438 – 0.000
pars orbitalis	-0.09	0.490	0.780	-0.354 – 0.170	0.04	0.390	0.711	-0.054 – 0.140	-0.10	0.423	0.544	-0.331 – 0.139
pars triangularis	-0.13	0.340	0.700	-0.387 – 0.133	0.00	0.935	0.951	-0.099 – 0.091	-0.19	0.165	0.267	-0.449 – 0.077
pericalcarine cortex	0.01	0.935	0.941	-0.255 – 0.277	-0.03	0.521	0.793	-0.127 – 0.065	0.08	0.143	0.267	-0.027 – 0.185
postcentral gyrus	0.03	0.837	0.915	-0.253 – 0.312	-0.08	0.127	0.534	-0.184 – 0.023	**-0.13**	**0.022**	**0.163**	**-0.246 – -0.019**
posterior cingulate cortex	0.11	0.440	0.780	-0.168 – 0.387	0.02	0.640	0.825	-0.077 – 0.125	-0.05	0.645	0.664	-0.280 – 0.174
precentral gyrus	-0.07	0.637	0.826	-0.346 – 0.212	**-0.15**	**0.003**	**0.088**	**-0.254 – -0.050**	-0.17	0.074	0.235	-0.346 – 0.016

precuneus cortex	-0.24	0.075	0.592	-0.505	–	0.024	-0.07	0.183	0.534	-0.164	–	0.031	-0.18	0.112	0.267	-0.410	–	0.043
rostral anterior cingulate cortex	-0.19	0.134	0.592	-0.434	–	0.058	0.01	0.816	0.901	-0.079	–	0.100	-0.08	0.466	0.544	-0.279	–	0.128
rostral middle frontal gyrus	-0.09	0.465	0.780	-0.320	–	0.146	-0.02	0.660	0.825	-0.104	–	0.066	-0.08	0.541	0.588	-0.324	–	0.170
superior frontal gyrus	-0.16	0.207	0.604	-0.399	–	0.087	0.01	0.824	0.901	-0.079	–	0.099	-0.14	0.205	0.312	-0.353	–	0.076
superior parietal cortex	-0.25	0.058	0.592	-0.517	–	0.009	-0.07	0.182	0.534	-0.162	–	0.031	**-0.22**	**0.036**	**0.179**	**-0.418**	–	**-0.014**
superior temporal gyrus	-0.14	0.275	0.700	-0.405	–	0.116	-0.04	0.406	0.711	-0.139	–	0.056	-0.19	0.129	0.267	-0.424	–	0.054
supramarginal gyrus	**-0.33**	**0.016**	**0.560**	**-0.597**	–	**-0.062**	-0.08	0.096	0.534	-0.181	–	0.015	-0.21	0.097	0.261	-0.451	–	0.037
frontal pole	0.14	0.286	0.700	-0.120	–	0.408	0.00	0.951	0.951	-0.094	–	0.100	-0.07	0.554	0.588	-0.282	–	0.151
temporal pole	0.03	0.807	0.911	-0.230	–	0.296	**-0.14**	**0.005**	**0.088**	**-0.235**	–	**-0.041**	**-0.26**	**0.002**	**0.070**	**-0.429**	–	**-0.095**
transverse temporal cortex	-0.07	0.620	0.826	-0.335	–	0.200	0.03	0.502	0.793	-0.065	–	0.132	-0.19	0.161	0.267	-0.455	–	0.076
insula	-0.19	0.144	0.592	-0.456	–	0.067	-0.06	0.244	0.582	-0.150	–	0.038	-0.14	0.168	0.267	-0.331	–	0.058
average thickness	-0.17	0.187	0.595	-0.431	–	0.084	-0.08	0.113	0.534	-0.171	–	0.018	-0.21	0.119	0.267	-0.472	–	0.054

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus healthy controls; a positive Effect size indicates a thicker cortex of region x in patient group y versus healthy controls.

Supplementary Table S70: mega-analytic results for surface area of each structure comparing pediatric ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site and IQ.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.22	0.077	0.971	-0.024 – 0.464	-0.03	0.525	0.540	-0.123 – 0.063	**-0.17**	**0.001**	**0.018**	**-0.271 – -0.065**
caudal anterior cingulate cortex	0.17	0.183	0.971	-0.080 – 0.420	**-0.09**	**0.045**	**0.105**	**-0.186 – -0.002**	-0.09	0.102	0.291	-0.192 – 0.017
caudal middle frontal gyrus	0.01	0.911	0.984	-0.233 – 0.261	**-0.10**	**0.039**	**0.098**	**-0.190 – -0.005**	**-0.17**	**0.002**	**0.018**	**-0.273 – -0.062**
cuneus cortex	-0.11	0.370	0.971	-0.365 – 0.136	0.04	0.419	0.458	-0.055 – 0.134	-0.05	0.336	0.619	-0.161 – 0.055
entorhinal cortex	0.03	0.860	0.971	-0.263 – 0.314	**-0.11**	**0.032**	**0.093**	**-0.215 – -0.010**	0.07	0.247	0.502	-0.047 – 0.184
fusiform gyrus	0.05	0.657	0.971	-0.176 – 0.279	**-0.09**	**0.029**	**0.093**	**-0.174 – -0.009**	**-0.11**	**0.017**	**0.085**	**-0.208 – -0.021**
inferior parietal cortex	0.07	0.540	0.971	-0.154 – 0.294	-0.07	0.115	0.201	-0.148 – 0.016	-0.10	0.163	0.357	-0.250 – 0.042
inferior temporal gyrus	**0.53**	**0.000**	**0.000**	**0.261 – 0.794**	**-0.13**	**0.012**	**0.070**	**-0.227 – -0.028**	0.05	0.615	0.821	-0.152 – 0.258
isthmus cingulate cortex	-0.06	0.672	0.971	-0.314 – 0.202	-0.08	0.114	0.201	-0.170 – 0.018	0.10	0.071	0.276	-0.009 – 0.207
lateral occipital cortex	0.00	0.984	0.984	-0.234 – 0.238	-0.05	0.278	0.360	-0.134 – 0.038	0.01	0.914	0.969	-0.093 – 0.103
lateral orbitofrontal cortex	-0.04	0.712	0.971	-0.256 – 0.175	**-0.13**	**0.001**	**0.018**	**-0.211 – -0.054**	-0.08	0.258	0.502	-0.218 – 0.058
lingual gyrus	0.08	0.523	0.971	-0.171 – 0.337	-0.04	0.402	0.454	-0.134 – 0.054	-0.10	0.084	0.277	-0.203 – 0.013
medial orbitofrontal cortex	-0.10	0.382	0.971	-0.314 – 0.120	**-0.12**	**0.003**	**0.035**	**-0.199 – -0.041**	-0.06	0.467	0.711	-0.220 – 0.101
middle temporal gyrus	0.15	0.182	0.971	-0.068 – 0.359	-0.04	0.277	0.360	-0.124 – 0.036	**-0.19**	**0.004**	**0.023**	**-0.313 – -0.059**
parahippocampal gyrus	0.12	0.375	0.971	-0.151 – 0.399	-0.05	0.362	0.422	-0.146 – 0.053	-0.01	0.886	0.969	-0.122 – 0.105
paracentral lobule	-0.03	0.809	0.971	-0.281 – 0.220	**-0.10**	**0.038**	**0.098**	**-0.194 – -0.005**	0.03	0.557	0.802	-0.075 – 0.139
pars opercularis	-0.13	0.333	0.971	-0.379 – 0.128	-0.05	0.340	0.410	-0.141 – 0.049	-0.09	0.108	0.291	-0.197 – 0.020
pars orbitalis	-0.03	0.830	0.971	-0.257 – 0.206	-0.08	0.062	0.121	-0.169 – 0.004	-0.08	0.124	0.303	-0.176 – 0.021
pars triangularis	-0.03	0.820	0.971	-0.286 – 0.227	-0.06	0.261	0.360	-0.152 – 0.041	-0.11	0.051	0.223	-0.220 – 0.000
pericalcarine cortex	-0.17	0.212	0.971	-0.437 – 0.097	0.03	0.571	0.571	-0.070 – 0.127	-0.10	0.087	0.277	-0.211 – 0.014
postcentral gyrus	-0.07	0.550	0.971	-0.303 – 0.161	-0.06	0.183	0.305	-0.144 – 0.027	0.00	0.986	0.999	-0.159 – 0.162
posterior cingulate cortex	0.07	0.591	0.971	-0.179 – 0.314	**-0.11**	**0.015**	**0.075**	**-0.203 – -0.022**	-0.01	0.863	0.969	-0.113 – 0.094
precentral gyrus	-0.07	0.548	0.971	-0.289 – 0.153	-0.05	0.251	0.360	-0.129 – 0.034	0.02	0.749	0.936	-0.115 – 0.161

precuneus cortex	0.00	0.966	0.984	-0.232	–	0.222	-0.05	0.258	0.360	-0.133	–	0.036	0.07	0.130	0.303	-0.022	–	0.170
rostral anterior cingulate cortex	0.10	0.354	0.971	-0.115	–	0.321	**-0.13**	**0.001**	**0.018**	**-0.213**	–	**-0.052**	**-0.14**	**0.003**	**0.021**	**-0.230**	–	**-0.047**
rostral middle frontal gyrus	0.13	0.226	0.971	-0.081	–	0.342	-0.08	0.049	0.107	-0.156	–	0.000	-0.04	0.573	0.802	-0.167	–	0.093
superior frontal gyrus	0.00	0.977	0.984	-0.196	–	0.201	-0.10	0.009	0.070	-0.171	–	-0.024	-0.05	0.459	0.711	-0.175	–	0.079
superior parietal cortex	-0.04	0.837	0.971	-0.410	–	0.332	-0.03	0.512	0.540	-0.116	–	0.058	-0.01	0.785	0.947	-0.113	–	0.085
superior temporal gyrus	0.06	0.595	0.971	-0.158	–	0.276	-0.09	0.026	0.093	-0.173	–	-0.011	**-0.14**	**0.002**	**0.018**	**-0.232**	–	**-0.052**
supramarginal gyrus	0.05	0.652	0.971	-0.180	–	0.287	-0.08	0.062	0.121	-0.167	–	0.004	0.00	0.999	0.999	-0.097	–	0.097
frontal pole	0.05	0.725	0.971	-0.214	–	0.308	0.06	0.228	0.360	-0.038	–	0.160	**0.18**	**0.002**	**0.018**	**0.070**	–	**0.296**
temporal pole	0.13	0.336	0.971	-0.132	–	0.386	-0.11	0.030	0.093	-0.205	–	-0.010	-0.05	0.365	0.639	-0.162	–	0.060
transverse temporal cortex	-0.17	0.196	0.971	-0.426	–	0.087	-0.05	0.328	0.410	-0.147	–	0.049	0.03	0.633	0.821	-0.084	–	0.139
insula	0.05	0.650	0.971	-0.169	–	0.271	-0.09	0.026	0.093	-0.166	–	-0.010	-0.01	0.890	0.969	-0.095	–	0.082
full surface area	0.04	0.659	0.971	-0.133	–	0.211	-0.08	0.010	0.070	-0.146	–	-0.020	-0.06	0.402	0.670	-0.192	–	0.077

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus healthy controls; a positive Effect size indicates a larger surface area of region x in patient group y versus healthy controls.

Supplementary Table S71: mega-analytic results for each subcortical structure comparing adolescent ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, scan site and IQ.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
thalamus	0.11	0.162	0.432	-0.044 – 0.265	0.04	0.374	0.886	-0.054 – 0.144	-0.05	0.233	0.466	-0.137 – 0.033
caudate	0.05	0.628	0.787	-0.144 – 0.239	-0.01	0.821	0.886	-0.131 – 0.104	**-0.12**	**0.022**	**0.176**	**-0.230 – -0.018**
putamen	0.15	0.117	0.432	-0.039 – 0.347	-0.03	0.645	0.886	-0.136 – 0.084	-0.12	0.155	0.466	-0.287 – 0.046
pallidum	0.18	0.067	0.432	-0.012 – 0.363	-0.04	0.446	0.886	-0.151 – 0.067	-0.10	0.178	0.466	-0.252 – 0.047
hippocampus	0.09	0.279	0.558	-0.076 – 0.264	0.02	0.704	0.886	-0.082 – 0.122	0.03	0.678	0.731	-0.094 – 0.145
amygdala	-0.03	0.775	0.787	-0.205 – 0.152	0.01	0.886	0.886	-0.099 – 0.115	-0.03	0.731	0.731	-0.179 – 0.126
accumbens	0.04	0.697	0.787	-0.152 – 0.227	-0.05	0.425	0.886	-0.159 – 0.067	-0.11	0.292	0.467	-0.327 – 0.098
ICV	0.03	0.787	0.787	-0.162 – 0.213	**-0.16**	**0.002**	**0.016**	**-0.252 – -0.059**	0.05	0.364	0.485	-0.056 – 0.153

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S72: mega-analytic results for cortical thickness of each structure comparing adolescent ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex and scan site and IQ.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	-0.01	0.927	0.936	-0.219 – 0.200	0.04	0.495	0.888	-0.070 – 0.145	-0.10	0.343	0.572	-0.320 – 0.111
caudal anterior cingulate cortex	0.12	0.233	0.936	-0.079 – 0.324	-0.02	0.757	0.888	-0.119 – 0.087	-0.12	0.195	0.505	-0.296 – 0.060
caudal middle frontal gyrus	-0.01	0.912	0.936	-0.214 – 0.191	-0.03	0.527	0.888	-0.136 – 0.070	-0.11	0.291	0.566	-0.318 – 0.095
cuneus cortex	0.06	0.592	0.936	-0.149 – 0.261	0.04	0.514	0.888	-0.070 – 0.141	-0.06	0.601	0.771	-0.268 – 0.155
entorhinal cortex	0.09	0.396	0.936	-0.120 – 0.304	-0.10	0.058	0.508	-0.205 – 0.003	**-0.23**	**0.010**	**0.350**	**-0.397 – -0.054**
fusiform gyrus	-0.01	0.936	0.936	-0.204 – 0.188	**-0.10**	**0.042**	**0.490**	**-0.203 – -0.004**	-0.18	0.064	0.505	-0.361 – 0.010
inferior parietal cortex	-0.05	0.645	0.936	-0.243 – 0.150	0.02	0.702	0.888	-0.079 – 0.118	-0.03	0.786	0.834	-0.251 – 0.190
inferior temporal gyrus	-0.10	0.322	0.936	-0.299 – 0.098	-0.02	0.762	0.888	-0.118 – 0.086	-0.10	0.279	0.566	-0.286 – 0.082
isthmus cingulate cortex	0.01	0.932	0.936	-0.193 – 0.211	0.01	0.888	0.888	-0.096 – 0.111	-0.05	0.680	0.771	-0.263 – 0.171
lateral occipital cortex	-0.08	0.388	0.936	-0.275 – 0.107	0.05	0.312	0.888	-0.047 – 0.148	-0.02	0.873	0.898	-0.239 – 0.203
lateral orbitofrontal cortex	0.06	0.548	0.936	-0.138 – 0.260	-0.07	0.203	0.888	-0.170 – 0.036	-0.10	0.326	0.572	-0.296 – 0.099
lingual gyrus	0.03	0.774	0.936	-0.168 – 0.226	-0.02	0.635	0.888	-0.126 – 0.077	-0.05	0.663	0.771	-0.300 – 0.191
medial orbitofrontal cortex	-0.03	0.803	0.936	-0.235 – 0.182	0.06	0.242	0.888	-0.043 – 0.170	-0.01	0.898	0.898	-0.222 – 0.195
middle temporal gyrus	-0.01	0.929	0.936	-0.213 – 0.195	-0.03	0.537	0.888	-0.137 – 0.071	-0.14	0.092	0.505	-0.309 – 0.024
parahippocampal gyrus	0.03	0.786	0.936	-0.186 – 0.246	**-0.12**	**0.028**	**0.490**	**-0.236 – -0.014**	**-0.13**	**0.044**	**0.505**	**-0.249 – -0.003**
paracentral lobule	0.05	0.592	0.936	-0.144 – 0.253	-0.05	0.305	0.888	-0.155 – 0.049	-0.14	0.116	0.505	-0.305 – 0.033
pars opercularis	-0.06	0.594	0.936	-0.265 – 0.151	-0.03	0.566	0.888	-0.137 – 0.075	-0.14	0.104	0.505	-0.310 – 0.029
pars orbitalis	0.03	0.758	0.936	-0.180 – 0.247	0.02	0.776	0.888	-0.094 – 0.126	-0.07	0.470	0.658	-0.254 – 0.117
pars triangularis	0.10	0.935	0.936	-0.194 – 0.211	0.05	0.451	0.888	-0.064 – 0.143	-0.10	0.335	0.572	-0.313 – 0.107
pericalcarine cortex	0.11	0.285	0.936	-0.094 – 0.319	-0.04	0.454	0.888	-0.146 – 0.065	-0.04	0.683	0.771	-0.232 – 0.152
postcentral gyrus	-0.03	0.812	0.936	-0.236 – 0.185	-0.04	0.510	0.888	-0.142 – 0.071	-0.08	0.371	0.589	-0.247 – 0.092
posterior cingulate cortex	-0.05	0.640	0.936	-0.251 – 0.154	0.04	0.455	0.888	-0.065 – 0.144	-0.14	0.165	0.505	-0.328 – 0.056
precentral gyrus	-0.03	0.765	0.936	-0.240 – 0.176	-0.07	0.185	0.888	-0.177 – 0.034	-0.08	0.387	0.589	-0.248 – 0.096

precuneus cortex	0.05	0.612	0.936	-0.145	0.246	-0.02	0.642	0.888	-0.125	0.077	-0.12	0.196	0.505	-0.296	0.061
rostral anterior cingulate cortex	0.05	0.607	0.936	-0.147	0.252	-0.03	0.605	0.888	-0.129	0.075	-0.11	0.187	0.505	-0.261	0.051
rostral middle frontal gyrus	0.02	0.870	0.936	-0.181	0.215	0.02	0.728	0.888	-0.083	0.119	-0.06	0.623	0.771	-0.312	0.187
superior frontal gyrus	-0.08	0.452	0.936	-0.281	0.125	0.05	0.356	0.888	-0.055	0.153	-0.14	0.190	0.505	-0.355	0.071
superior parietal cortex	-0.02	0.825	0.936	-0.218	0.174	0.01	0.848	0.888	-0.090	0.110	-0.05	0.619	0.771	-0.237	0.141
superior temporal gyrus	-0.03	0.749	0.936	-0.242	0.174	0.01	0.840	0.888	-0.096	0.118	-0.12	0.231	0.505	-0.306	0.074
supramarginal gyrus	0.06	0.576	0.936	-0.149	0.267	0.01	0.866	0.888	-0.093	0.111	-0.15	0.158	0.505	-0.355	0.058
frontal pole	0.03	0.779	0.936	-0.180	0.240	-0.03	0.540	0.888	-0.144	0.075	-0.09	0.435	0.634	-0.299	0.129
temporal pole	-0.03	0.748	0.936	-0.239	0.172	**-0.15**	**0.005**	**0.175**	**-0.257**	**-0.046**	-0.11	0.218	0.505	-0.276	0.063
transverse temporal cortex	0.10	0.340	0.936	-0.102	0.297	-0.02	0.762	0.888	-0.120	0.088	-0.04	0.738	0.807	-0.290	0.206
insula	0.04	0.657	0.936	-0.152	0.242	-0.08	0.101	0.707	-0.176	0.016	-0.14	0.096	0.505	-0.308	0.025
average thickness	-0.02	0.803	0.936	-0.221	0.171	-0.01	0.813	0.888	-0.114	0.089	-0.13	0.228	0.505	-0.350	0.083

Trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a thinner cortex of region x in patient group y versus healthy controls; a positive Effect size indicates a thicker cortex of region x in patient group y versus healthy controls.

Supplementary Table S73: mega-analytic results for surface area of each structure comparing adolescent ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site and IQ.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI	Effect size	P-value	FDR P-value	95% CI
banks superior temporal sulcus	0.04	0.681	0.907	-0.153 – 0.233	-0.04	0.467	0.832	-0.137 – 0.063	-0.09	0.104	0.636	-0.198 – 0.018
caudal anterior cingulate cortex	-0.08	0.453	0.834	-0.272 – 0.121	-0.04	0.454	0.832	-0.140 – 0.063	-0.04	0.494	0.720	-0.154 – 0.074
caudal middle frontal gyrus	-0.02	0.872	0.947	-0.203 – 0.172	-0.09	0.083	0.832	-0.183 – 0.011	-0.07	0.208	0.636	-0.177 – 0.039
cuneus cortex	-0.08	0.382	0.834	-0.275 – 0.105	-0.07	0.143	0.832	-0.174 – 0.025	-0.03	0.744	0.898	-0.183 – 0.131
entorhinal cortex	0.01	0.915	0.947	-0.201 – 0.224	0.11	0.203	0.832	-0.057 – 0.268	0.09	0.119	0.636	-0.024 – 0.212
fusiform gyrus	-0.06	0.518	0.907	-0.227 – 0.114	-0.02	0.600	0.832	-0.111 – 0.064	-0.05	0.515	0.721	-0.189 – 0.095
inferior parietal cortex	-0.04	0.663	0.907	-0.215 – 0.137	-0.02	0.688	0.860	-0.107 – 0.071	-0.01	0.847	0.926	-0.151 – 0.124
inferior temporal gyrus	0.02	0.819	0.947	-0.150 – 0.190	-0.01	0.834	0.885	-0.097 – 0.078	-0.07	0.320	0.636	-0.220 – 0.072
isthmus cingulate cortex	0.12	0.192	0.560	-0.062 – 0.309	-0.04	0.388	0.832	-0.138 – 0.053	-0.01	0.937	0.937	-0.145 – 0.134
lateral occipital cortex	-0.07	0.435	0.834	-0.238 – 0.102	-0.05	0.305	0.832	-0.134 – 0.042	-0.04	0.618	0.825	-0.195 – 0.116
lateral orbitofrontal cortex	**-0.24**	**0.004**	**0.070**	**-0.408 – -0.075**	0.04	0.391	0.832	-0.048 – 0.124	-0.08	0.358	0.636	-0.250 – 0.090
lingual gyrus	-0.09	0.354	0.826	-0.292 – 0.104	-0.05	0.366	0.832	-0.151 – 0.056	-0.08	0.155	0.636	-0.198 – 0.032
medial orbitofrontal cortex	**-0.31**	**0.000**	**0.000**	**-0.475 – -0.136**	0.00	0.912	0.939	-0.082 – 0.092	-0.09	0.169	0.636	-0.226 – 0.040
middle temporal gyrus	-0.01	0.920	0.947	-0.170 – 0.153	-0.02	0.560	0.832	-0.108 – 0.058	-0.08	0.220	0.636	-0.211 – 0.049
parahippocampal gyrus	-0.05	0.619	0.907	-0.248 – 0.148	0.05	0.346	0.832	-0.053 – 0.151	0.09	0.133	0.636	-0.026 – 0.201
paracentral lobule	**-0.20**	**0.038**	**0.376**	**-0.394 – -0.011**	0.03	0.605	0.832	-0.074 – 0.126	0.01	0.920	0.937	-0.106 – 0.117
pars opercularis	-0.04	0.700	0.907	-0.236 – 0.159	-0.05	0.324	0.832	-0.153 – 0.051	-0.06	0.275	0.636	-0.177 – 0.050
pars orbitalis	-0.12	0.191	0.560	-0.301 – 0.060	0.04	0.445	0.832	-0.057 – 0.130	0.01	0.804	0.926	-0.091 – 0.117
pars triangularis	-0.04	0.672	0.907	-0.234 – 0.151	-0.04	0.429	0.832	-0.141 – 0.060	-0.09	0.118	0.636	-0.202 – 0.023
pericalcarine cortex	-0.04	0.676	0.907	-0.244 – 0.159	**-0.11**	**0.035**	**0.832**	**-0.218 – -0.008**	**-0.13**	**0.028**	**0.636**	**-0.248 – -0.014**
postcentral gyrus	-0.11	0.216	0.582	-0.282 – 0.064	0.02	0.713	0.860	-0.071 – 0.104	-0.11	0.125	0.636	-0.256 – 0.031
posterior cingulate cortex	-0.15	0.092	0.537	-0.331 – 0.025	-0.06	0.173	0.832	-0.157 – 0.028	-0.09	0.093	0.636	-0.192 – 0.015
precentral gyrus	-0.01	0.953	0.953	-0.174 – 0.164	-0.01	0.757	0.860	-0.100 – 0.073	-0.05	0.326	0.636	-0.144 – 0.048

precuneus cortex	-0.11	0.191	0.560	-0.281	–	0.056	-0.01	0.745	0.860	-0.102	–	0.073	-0.02	0.833	0.926	-0.163	–	0.132
rostral anterior cingulate cortex	-0.12	0.173	0.560	-0.303	–	0.054	-0.04	0.442	0.832	-0.128	–	0.056	-0.08	0.325	0.636	-0.229	–	0.076
rostral middle frontal gyrus	-0.15	0.078	0.537	-0.321	–	0.017	-0.03	0.553	0.832	-0.113	–	0.060	-0.02	0.643	0.825	-0.119	–	0.074
superior frontal gyrus	**-0.17**	**0.043**	**0.376**	**-0.326**	–	**-0.005**	-0.04	0.315	0.832	-0.124	–	0.040	-0.04	0.483	0.720	-0.167	–	0.079
superior parietal cortex	-0.12	0.181	0.560	-0.302	–	0.057	-0.08	0.088	0.832	-0.172	–	0.012	-0.05	0.384	0.636	-0.148	–	0.057
superior temporal gyrus	-0.01	0.864	0.947	-0.182	–	0.152	0.00	0.964	0.964	-0.088	–	0.084	-0.04	0.400	0.636	-0.133	–	0.053
supramarginal gyrus	0.10	0.273	0.683	-0.079	–	0.279	-0.02	0.618	0.832	-0.111	–	0.066	-0.07	0.345	0.636	-0.204	–	0.071
frontal pole	-0.03	0.771	0.947	-0.229	–	0.170	-0.07	0.214	0.832	-0.173	–	0.039	0.11	0.193	0.636	-0.053	–	0.263
temporal pole	0.05	0.651	0.907	-0.155	–	0.248	0.01	0.786	0.860	-0.091	–	0.120	-0.05	0.376	0.636	-0.170	–	0.064
transverse temporal cortex	-0.01	0.896	0.947	-0.207	–	0.181	0.02	0.767	0.860	-0.087	–	0.118	-0.03	0.660	0.825	-0.182	–	0.115
insula	-0.07	0.426	0.834	-0.242	–	0.102	0.03	0.509	0.832	-0.056	–	0.113	-0.01	0.903	0.937	-0.151	–	0.133
full surface area	-0.09	0.169	0.560	-0.224	–	0.039	-0.02	0.560	0.832	-0.089	–	0.048	-0.07	0.314	0.636	-0.202	–	0.065

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange.
A negative Effect size indicates a smaller surface area of region x in patient group y versus healthy controls; a positive Effect size indicates a larger surface area of region x in patient group y versus healthy controls.

Supplementary Table S74*:* Correlations of the overall effect sizes of the mega-analytic results comparing pediatric ADHD, ASD and OCD patients to healthy control subjects, controlling for age, sex, ICV, and scan site.

Pedicatric											
Subcortical	OCD vs HC	ADHD vs HC	ASD vs HC	**Cort Thickness**	OCD vs HC	ADHD vs HC	ASD vs HC	**Cort Surface area**	OCD vs HC	ADHD vs HC	ASD vs HC
OCD vs HC	1			OCD vs HC	1			OCD vs HC	1		
ADHD vs HC	-0.07877	1		ADHD vs HC	0.363059	1		ADHD vs HC	-0.01911	1	
ASD vs HC	0.172642	0.020101	1	ASD vs HC	0.235374	0.370689	1	ASD vs HC	0.045279	-0.06884	11
Adolescents											
Subcortical	OCD vs HC	ADHD vs HC	ASD vs HC	**Cort Thickness**	OCD vs HC	ADHD vs HC		**Cort Surface area**	OCD vs HC	ADHD vs HC	ASD vs HC
OCD vs HC	1			OCD vs HC	1			OCD vs HC	1		
ADHD vs HC	0.461147	1		ADHD vs HC	-0.19114	1		ADHD vs HC	-0.14856	1	
ASD vs HC	0.251488	-0.30208	1	ASD vs HC	0.006728	0.290681	1	ASD vs HC	0.284233	0.318223	11
Adults											
Subcortical	OCD vs HC	ADHD vs HC	ASD vs HC	**Cort Thickness**	OCD vs HC	ADHD vs HC	ASD vs HC	**Cort Surface area**	OCD vs HC	ADHD vs HC	ASD vs HC
OCD vs HC	1			OCD vs HC	1			OCD vs HC	1		
ADHD vs HC	0.446089	1		ADHD vs HC	-0.08083	1		ADHD vs HC	0.185934	1	
ASD vs HC	0.515263	0.369503	1	ASD vs HC	-0.0028	-0.02121	1	ASD vs HC	-0.34197	-0.25307	11

Significant results, corrected for multiple comparisons (FDR P-value ≤ 0.05), are color-coded red; trend significant results (nominal P-value < 0.05) are color-coded orange. The effect sizes that form the basis of these correlations can be found in Supplementary Tables S05-S13.

Supplementary Table S75: distribution of group sizes for all diagnostic groups in all age bins, comparing the number of samples scanned with 1.5 Tesla vs 3 Tesla field strength scanners.

Group	N 3 Tesla	N 1.5 Tesla
Pediatric Controls	317	1267
Pediatric OCD	20	120
Pediatric ADHD	149	560
Pediatric ASD	179	540
Adolescent Controls	322	1071
Adolescent OCD	97	262
Adolescent ADHD	242	391
Adolescent ASD	81	459
Adult Controls	1299	1549
Adult OCD	839	985
Adult ADHD	493	436
Adult ASD	77	378

Supplementary Table S76: mega-analytic results for each subcortical structure comparing pediatric ADHD, ASD and OCD patients to healthy control subjects, split by samples using a 1.5 Tesla and 3 Tesla scanner.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size (3T)	P-value	Effect size (1.5T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T	P-value
ICV	0.157	0.070	0.130	0.488	-0.126	**0.004**	-0.140	**0.044**	0.144	**0.009**	0.054	0.621
thalamus	0.208	**0.063**	0.196	0.375	-0.046	0.402	0.189	0.324	0.105	0.315	0.069	0.562
caudate	-0.010	0.932	0.111	0.679	-0.147	**0.014**	-0.195	0.092	-0.021	0.812	-0.023	0.871
putamen	0.181	0.107	0.362	0.206	-0.204	**0.000**	-0.235	**0.030**	-0.036	0.726	0.131	0.191
pallidum	0.056	0.633	-0.185	0.521	-0.140	**0.011**	-0.190	0.083	-0.046	0.599	0.209	**0.052**
hippocampus	0.213	**0.050**	0.388	**0.054**	-0.152	**0.005**	-0.186	**0.022**	-0.021	0.769	0.016	0.894
amygdala	0.098	0.407	0.883	**0.000**	-0.182	**0.001**	-0.160	**0.047**	-0.016	0.825	-0.087	0.243
accumbens	0.081	0.463	0.275	0.300	-0.217	**0.000**	-0.125	0.242	-0.056	0.570	0.047	0.705

Significant results, uncorrected for multiple comparisons are indicated in **bold**. Results where the direct of effect is different between 1.5 and 3 Tesla are indicated in red.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S77: mega-analytic results for cortical thickness comparing pediatric ADHD, ASD and OCD patients to healthy control subjects, split by samples using a 1.5 Tesla and 3 Tesla scanner.

ROI	OCD vs HC ADHD vs HC ASD vs HC		ASD vs HC						ASD vs HC			
	Effect size (3T)	P-value	Effect size (1.5T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T	P-value
banks superior temporal sulcus	-0.117	0.331	0.099	0.727	-0.058	0.322	0.017	0.879	-0.025	0.564	-0.085	0.766
caudal anterior cingulate cortex	0.014	0.902	0.255	0.348	-0.030	0.585	-0.008	0.942	0.000	1.000	0.045	0.730
caudal middle frontal gyrus	-0.160	0.155	-0.275	0.279	-0.072	0.196	0.011	0.905	0.013	0.843	-0.053	0.752
cuneus cortex	0.021	0.847	-0.386	0.102	-0.072	0.191	0.058	0.528	0.055	0.444	0.259	0.123
entorhinal cortex	0.073	0.549	-0.065	0.801	-0.055	0.338	-0.012	0.874	-0.072	0.492	-0.103	0.387
fusiform gyrus	-0.002	0.986	-0.078	0.750	-0.131	**0.015**	-0.162	0.081	-0.057	0.425	-0.088	0.312
inferior parietal cortex	-0.186	0.104	-0.377	0.161	-0.069	0.209	-0.055	0.596	-0.017	0.567	0.227	0.163
inferior temporal gyrus	-0.039	0.722	0.091	0.689	-0.036	0.500	-0.092	0.284	-0.008	0.902	0.057	0.563
isthmus cingulate cortex	0.202	0.081	-0.196	0.479	-0.026	0.654	0.132	0.211	0.169	0.025	0.097	0.593
lateral occipital cortex	-0.047	0.664	-0.153	0.532	-0.094	0.076	-0.115	0.217	-0.040	0.507	0.188	0.280
lateral orbitofrontal cortex	-0.059	0.558	-0.100	0.670	-0.007	0.891	-0.011	0.903	-0.002	0.948	0.080	0.509
lingual gyrus	0.146	0.148	-0.262	0.244	-0.117	**0.021**	0.012	0.883	0.007	0.922	0.217	0.185
medial orbitofrontal cortex	-0.108	0.321	-0.143	0.523	0.075	0.167	-0.069	0.405	-0.022	0.806	0.170	0.168
middle temporal gyrus	-0.134	0.231	-0.025	0.925	-0.011	0.849	-0.047	0.649	-0.091	0.163	-0.009	0.966
parahippocampal gyrus	0.011	0.923	0.103	0.713	-0.122	**0.031**	-0.014	0.893	-0.119	0.166	-0.082	0.537
paracentral lobule	-0.101	0.360	-0.125	0.629	-0.093	0.091	-0.004	0.970	0.053	0.361	-0.117	0.241
pars opercularis	-0.065	0.567	-0.231	0.394	-0.051	0.364	-0.261	0.018	-0.014	0.690	-0.116	0.280
pars orbitalis	-0.056	0.623	-0.242	0.339	-0.007	0.907	0.043	0.670	0.035	0.623	0.157	0.190
pars triangularis	-0.132	0.232	-0.240	0.336	0.001	0.989	-0.137	0.184	0.013	0.841	0.228	0.286
pericalcarine cortex	0.081	0.448	-0.234	0.333	-0.056	0.289	-0.067	0.457	0.056	0.375	0.246	0.289
postcentral gyrus	0.028	0.810	-0.156	0.561	-0.092	0.100	-0.015	0.884	0.060	0.135	0.069	0.566
posterior cingulate cortex	0.156	0.159	0.029	0.920	-0.008	0.888	0.071	0.520	0.068	0.405	0.014	0.926
precentral gyrus	-0.066	0.567	-0.095	0.725	-0.164	**0.004**	-0.153	0.142	0.024	0.694	0.042	0.762

precuneus cortex	-0.149	0.179	-0.279	0.278	-0.119	**0.032**	-0.008	0.935	0.062	0.139	-0.213	0.174
rostral anterior cingulate cortex	-0.139	0.173	-0.072	0.777	0.087	0.079	-0.084	0.377	-0.047	0.387	-0.014	0.942
rostral middle frontal gyrus	-0.040	0.697	-0.481	0.041	-0.015	0.765	-0.071	0.436	0.033	0.714	-0.302	0.044
superior frontal gyrus	-0.117	0.286	-0.299	0.209	-0.001	0.979	0.012	0.894	-0.006	0.933	-0.219	0.124
superior parietal cortex	-0.145	0.189	-0.357	0.162	-0.063	0.245	-0.059	0.540	-0.026	0.414	0.156	0.306
superior temporal gyrus	-0.110	0.304	0.105	0.694	0.003	0.948	-0.113	0.280	0.022	0.781	-0.181	0.297
supramarginal gyrus	-0.109	0.338	-0.380	0.141	-0.065	0.236	-0.077	0.444	-0.028	0.365	0.015	0.894
frontal pole	0.097	0.390	0.146	0.546	-0.054	0.341	0.106	0.270	-0.018	0.835	0.253	0.122
temporal pole	0.034	0.752	0.006	0.982	-0.062	0.245	-0.208	0.031	-0.096	0.233	-0.028	0.841
transverse temporal cortex	-0.088	0.408	0.066	0.812	0.035	0.510	0.030	0.779	-0.060	0.523	-0.024	0.846
insula	-0.139	0.175	0.068	0.800	0.028	0.581	-0.218	0.034	-0.026	0.623	-0.003	0.977
average thickness	-0.108	0.311	-0.188	0.454	-0.076	0.154	-0.100	0.308	-0.237	0.085	-0.015	0.903

Significant results, uncorrected for multiple comparisons are indicated in **bold**. Results where the direct of effect is different between 1.5 and 3 Tesla are indicated in red.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S78: mega-analytic results for cortical surface area comparing pediatric ADHD, ASD and OCD patients to healthy control subjects, split by samples using a 1.5 Tesla and 3 Tesla scanner.

ROI	OCD vs HC ADHD vs HC ASD vs HC		ASD vs HC						ASD vs HC			
	Effect size (3T)	P-value	Effect size (1.5T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T	P-value
banks superior temporal sulcus	0.184	0.126	0.279	0.258	-0.060	0.320	-0.131	0.189	-0.126	0.137	-0.012	0.903
caudal anterior cingulate cortex	0.135	0.245	0.039	0.880	-0.136	0.021	-0.204	**0.036**	-0.036	0.631	0.019	0.866
caudal middle frontal gyrus	-0.013	0.908	0.152	0.550	-0.146	0.014	-0.272	**0.006**	-0.145	0.073	0.036	0.782
cuneus cortex	-0.026	0.821	-0.362	0.142	-0.056	0.338	-0.054	0.587	0.026	0.751	0.071	0.461
entorhinal cortex	0.044	0.716	-0.142	0.659	-0.162	0.006	-0.154	0.132	0.043	0.477	0.085	0.490
fusiform gyrus	0.059	0.605	0.175	0.476	-0.168	0.003	-0.241	**0.011**	-0.059	0.527	0.146	0.118
inferior parietal cortex	0.022	0.851	0.166	0.492	-0.200	0.001	-0.102	0.263	-0.178	0.089	0.067	0.465
inferior temporal gyrus	0.174	0.127	0.243	0.310	-0.170	0.003	-0.070	0.455	-0.004	0.974	0.093	0.469
isthmus cingulate cortex	0.031	0.783	0.040	0.878	-0.176	0.002	-0.246	**0.016**	0.037	0.545	0.020	0.924
lateral occipital cortex	0.110	0.324	0.073	0.762	-0.118	0.037	-0.247	**0.008**	0.054	0.554	0.043	0.757
lateral orbitofrontal cortex	-0.035	0.753	0.125	0.601	-0.222	0.000	-0.251	**0.006**	-0.021	0.819	-0.095	0.488
lingual gyrus	0.172	0.130	-0.061	0.808	-0.130	0.026	-0.046	0.645	-0.025	0.770	0.089	0.359
medial orbitofrontal cortex	-0.053	0.637	0.113	0.649	-0.188	0.001	-0.225	**0.017**	-0.010	0.915	0.038	0.758
middle temporal gyrus	0.062	0.591	0.305	0.199	-0.133	0.020	-0.155	0.094	-0.146	0.146	0.105	0.375
parahippocampal gyrus	0.221	**0.051**	0.116	0.676	-0.109	0.061	-0.110	0.293	0.026	0.677	-0.025	0.806
paracentral lobule	-0.170	0.125	0.379	0.133	-0.151	0.009	-0.332	**0.001**	0.097	0.131	0.120	0.266
pars opercularis	-0.116	0.312	-0.005	0.985	-0.119	0.045	-0.074	0.439	-0.065	0.451	0.008	0.936
pars orbitalis	-0.083	0.465	0.060	0.793	-0.169	0.003	-0.128	0.166	-0.003	0.969	0.022	0.885
pars triangularis	0.020	0.862	-0.093	0.682	-0.089	0.132	-0.206	**0.028**	-0.123	0.141	-0.072	0.533
pericalcarine cortex	-0.017	0.884	-0.350	0.188	-0.055	0.356	-0.062	0.540	-0.046	0.512	-0.012	0.915
postcentral gyrus	0.050	0.661	-0.159	0.521	-0.102	0.083	-0.313	**0.001**	-0.059	0.443	0.149	0.299
posterior cingulate cortex	0.008	0.946	0.479	**0.057**	-0.214	0.000	-0.227	**0.019**	0.001	0.986	0.150	0.287

precentral gyrus	-0.035	0.757	0.137	0.557	-0.140	0.015	-0.168	0.061	0.012	0.860	0.105	0.373
precuneus cortex	0.049	0.666	-0.010	0.967	-0.104	0.073	-0.316	**0.001**	0.058	0.416	0.049	0.708
rostral anterior cingulate cortex	0.089	0.444	0.243	0.304	-0.223	0.000	-0.157	0.080	0.020	0.834	0.040	0.701
rostral middle frontal gyrus	0.036	0.746	0.272	0.248	-0.138	0.016	-0.291	**0.001**	-0.069	0.430	0.179	0.223
superior frontal gyrus	-0.070	0.535	0.204	0.366	-0.172	0.003	-0.289	**0.001**	-0.018	0.825	0.045	0.731
superior parietal cortex	0.062	0.587	-0.128	0.618	-0.106	0.068	-0.191	**0.046**	0.012	0.882	0.116	0.348
superior temporal gyrus	0.072	0.540	0.322	0.185	-0.120	0.042	-0.324	**0.001**	-0.076	0.417	0.121	0.185
supramarginal gyrus	0.174	0.140	-0.226	0.349	-0.181	0.002	-0.189	**0.044**	0.022	0.785	0.044	0.725
frontal pole	0.092	0.411	0.101	0.688	-0.040	0.491	-0.039	0.703	0.082	0.238	0.180	0.134
temporal pole	0.084	0.466	0.019	0.940	-0.199	0.001	-0.089	0.392	-0.028	0.644	0.082	0.448
transverse temporal cortex	0.057	0.610	-0.099	0.699	-0.122	0.038	-0.104	0.321	0.054	0.448	0.072	0.488
insula	0.019	0.867	0.104	0.660	-0.176	0.001	-0.192	**0.031**	0.044	0.539	-0.067	0.551
average surface area	0.057	0.607	0.163	0.461	-0.193	0.001	-0.270	**0.001**	-0.023	0.814	0.098	0.405

Significant results, uncorrected for multiple comparisons are indicated in **bold**. Results where the direct of effect is different between 1.5 and 3 Tesla are indicated in red.

A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S79: mega-analytic results for each subcortical structure comparing adolescent ADHD, ASD and OCD patients to healthy control subjects, split by samples using a 1.5 Tesla and 3 Tesla scanner.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size (3T)	P-value	Effect size (1.5T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T	P-value
ICV	-0.007	0.923	0.039	0.739	-0.213	**0.000**	-0.135	0.084	0.058	0.400	0.041	0.806
thalamus	0.045	0.576	0.200	0.109	-0.110	0.166	-0.094	0.373	0.013	0.870	-0.015	0.929
caudate	-0.018	0.833	0.257	0.054	-0.152	0.080	-0.177	0.068	0.007	0.931	0.003	0.982
putamen	-0.056	0.482	0.118	0.340	-0.211	**0.007**	-0.031	0.721	-0.086	0.296	-0.131	0.379
pallidum	0.040	0.621	-0.115	0.352	-0.197	**0.011**	-0.115	0.191	-0.075	0.420	0.014	0.923
hippocampus	0.050	0.525	0.081	0.530	-0.126	0.113	-0.142	0.125	0.055	0.423	-0.083	0.707
amygdala	0.021	0.803	0.068	0.575	-0.116	0.148	-0.192	0.030	0.043	0.592	-0.094	0.507
accumbens	-0.027	0.725	-0.106	0.351	-0.164	**0.033**	-0.027	0.736	-0.011	0.923	-0.094	0.481

Significant results, uncorrected for multiple comparisons are indicated in **bold**. Results where the direct of effect is different between 1.5 and 3 Tesla are indicated in red.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S80: mega-analytic results for cortical thickness comparing adolescent ADHD, ASD and OCD patients to healthy control subjects, split by samples using a 1.5 Tesla and 3 Tesla scanner.

ROI	OCD vs HC ADHD vs HC ASD vs HC		ASD vs HC						ASD vs HC			
	Effect size (3T)	P-value	Effect size (1.5T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T	P-value
banks superior temporal sulcus	-0.009	0.079	-0.174	0.222	0.075	0.249	0.022	0.807	-0.028	0.676	-0.085	0.766
caudal anterior cingulate cortex	0.044	0.077	0.136	0.317	0.120	0.059	-0.169	0.060	-0.071	0.407	0.045	0.730
caudal middle frontal gyrus	-0.116	0.078	-0.106	0.407	-0.087	0.183	-0.013	0.873	0.020	0.792	-0.053	0.752
cuneus cortex	-0.042	0.078	-0.234	0.086	0.037	0.571	0.014	0.877	-0.029	0.733	0.259	0.123
entorhinal cortex	-0.034	0.085	-0.165	0.178	-0.039	0.573	-0.108	0.134	-0.091	0.352	-0.103	0.387
fusiform gyrus	-0.127	0.074	-0.012	0.908	-0.092	0.137	-0.127	0.074	-0.052	0.463	-0.088	0.312
inferior parietal cortex	-0.112	0.075	-0.452	0.001	0.036	0.556	0.058	0.495	0.036	0.321	0.227	0.163
inferior temporal gyrus	-0.148	0.073	-0.116	0.331	-0.017	0.779	0.035	0.658	-0.011	0.861	0.057	0.563
isthmus cingulate cortex	-0.063	0.078	-0.102	0.423	0.067	0.307	-0.095	0.258	-0.036	0.723	0.097	0.593
lateral occipital cortex	-0.118	0.072	-0.304	0.012	0.038	0.529	0.072	0.368	-0.010	0.872	0.188	0.280
lateral orbitofrontal cortex	-0.049	0.075	-0.005	0.972	-0.029	0.649	-0.169	0.054	0.009	0.865	0.080	0.509
lingual gyrus	-0.030	0.075	-0.183	0.157	-0.024	0.700	-0.132	0.123	-0.035	0.738	0.217	0.185
medial orbitofrontal cortex	0.004	0.079	-0.058	0.660	0.114	0.087	-0.033	0.705	0.026	0.726	0.170	0.168
middle temporal gyrus	-0.054	0.076	-0.232	0.097	0.009	0.889	-0.127	0.166	-0.016	0.817	-0.009	0.966
parahippocampal gyrus	-0.103	0.084	0.166	0.204	-0.141	**0.044**	-0.128	0.140	-0.050	0.438	-0.082	0.537
paracentral lobule	-0.017	0.077	-0.292	0.023	-0.047	0.476	-0.072	0.390	-0.025	0.651	-0.117	0.241
pars opercularis	-0.107	0.079	-0.184	0.182	0.012	0.853	-0.089	0.314	0.005	0.913	-0.116	0.280
pars orbitalis	-0.167	0.082	0.060	0.662	0.049	0.477	-0.081	0.372	0.017	0.788	0.157	0.190
pars triangularis	-0.107	0.077	-0.102	0.435	0.059	0.360	-0.045	0.601	-0.005	0.936	0.228	0.286
pericalcarine cortex	-0.061	0.079	-0.143	0.281	-0.050	0.447	-0.135	0.121	-0.076	0.391	0.246	0.289
postcentral gyrus	-0.131	0.078	-0.146	0.275	0.014	0.834	-0.083	0.333	0.022	0.630	0.069	0.566
posterior cingulate cortex	-0.174	0.078	-0.112	0.379	0.076	0.247	-0.038	0.651	-0.122	0.137	0.014	0.926
precentral gyrus	-0.126	0.079	-0.134	0.309	-0.127	0.057	-0.060	0.477	-0.024	0.637	0.042	0.762

precuneus cortex	-0.031	0.077	-0.344	0.005	0.023	0.720	-0.081	0.316	0.040	0.374	-0.213	0.174
rostral anterior cingulate cortex	-0.017	0.076	0.108	0.411	0.109	0.084	-0.196	0.022	-0.027	0.649	-0.014	0.942
rostral middle frontal gyrus	-0.165	0.077	0.057	0.640	0.030	0.641	-0.017	0.828	0.032	0.742	-0.302	0.044
superior frontal gyrus	-0.148	0.078	-0.049	0.711	0.123	0.057	-0.062	0.474	-0.020	0.786	-0.219	0.124
superior parietal cortex	-0.140	0.075	-0.418	0.001	-0.007	0.912	0.043	0.607	0.044	0.338	0.156	0.306
superior temporal gyrus	-0.052	0.075	-0.104	0.484	0.066	0.294	-0.063	0.511	0.026	0.739	-0.181	0.297
supramarginal gyrus	-0.053	0.077	-0.288	0.039	0.021	0.735	0.014	0.870	-0.010	0.796	0.015	0.894
frontal pole	-0.086	0.082	0.016	0.905	0.032	0.647	-0.174	0.054	-0.122	0.184	0.253	0.122
temporal pole	0.021	0.079	-0.212	0.112	-0.135	**0.042**	-0.188	0.035	0.025	0.778	-0.028	0.841
transverse temporal cortex	-0.018	0.074	-0.221	0.111	0.035	0.580	-0.103	0.265	-0.007	0.938	-0.024	0.846
insula	0.018	0.071	-0.078	0.582	0.004	0.943	-0.217	0.014	-0.054	0.394	-0.003	0.977
average thickness	-0.141	0.073	-0.242	0.064	0.014	0.823	-0.059	0.500	-0.241	0.075	-0.083	0.634

Significant results, uncorrected for multiple comparisons are indicated in **bold**. Results where the direct of effect is different between 1.5 and 3 Tesla are indicated in red.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S81: mega-analytic results for cortical surface area comparing adolescent ADHD, ASD and OCD patients to healthy control subjects, split by samples using a 1.5 Tesla and 3 Tesla scanner.

ROI	OCD vs HC ADHD vs HC ASD vs HC				ASD vs HC				ASD vs HC			
	Effect size (3T)	P-value	Effect size (1.5T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T	P-value
banks superior temporal sulcus	-0.004	0.963	-0.028	0.842	-0.105	0.139	-0.088	0.331	0.031	0.723	-0.228	0.186
caudal anterior cingulate cortex	-0.087	0.306	-0.018	0.893	-0.105	0.132	-0.159	0.077	-0.004	0.953	0.042	0.808
caudal middle frontal gyrus	0.006	0.946	-0.059	0.662	-0.132	0.056	-0.273	0.002	0.003	0.971	-0.062	0.810
cuneus cortex	-0.042	0.613	-0.085	0.524	-0.110	0.112	-0.222	0.011	0.043	0.642	0.053	0.745
entorhinal cortex	0.088	0.319	-0.125	0.406	-0.037	0.608	-0.039	0.667	0.078	0.365	0.075	0.780
fusiform gyrus	0.021	0.796	-0.169	0.185	-0.103	0.134	-0.220	0.009	-0.001	0.995	-0.201	0.308
inferior parietal cortex	-0.061	0.468	-0.112	0.400	-0.123	0.072	-0.137	0.110	0.073	0.386	-0.194	0.331
inferior temporal gyrus	0.062	0.442	-0.062	0.640	-0.128	0.058	-0.087	0.322	0.027	0.774	-0.265	0.367
isthmus cingulate cortex	0.060	0.472	0.137	0.297	-0.202	**0.004**	-0.073	0.402	0.047	0.560	0.021	0.887
lateral occipital cortex	0.007	0.929	0.004	0.976	-0.109	0.099	-0.252	0.003	0.063	0.506	0.029	0.927
lateral orbitofrontal cortex	-0.063	0.429	-0.163	0.188	-0.114	0.091	-0.042	0.608	-0.025	0.806	0.080	0.799
lingual gyrus	0.006	0.941	0.081	0.547	-0.074	0.292	-0.165	0.066	0.001	0.991	-0.109	0.576
medial orbitofrontal cortex	-0.156	**0.058**	-0.301	0.019	-0.077	0.259	-0.126	0.135	0.019	0.838	-0.159	0.378
middle temporal gyrus	-0.007	0.934	-0.124	0.344	-0.101	0.138	-0.162	0.060	0.032	0.737	-0.114	0.649
parahippocampal gyrus	-0.013	0.876	0.040	0.759	-0.013	0.855	-0.141	0.109	0.095	0.234	-0.114	0.573
paracentral lobule	-0.133	0.104	-0.193	0.160	-0.056	0.415	-0.119	0.187	0.067	0.348	0.076	0.692
pars opercularis	-0.008	0.926	0.053	0.704	-0.139	**0.047**	-0.229	0.011	0.023	0.761	-0.172	0.250
pars orbitalis	-0.008	0.920	-0.221	0.087	-0.073	0.285	-0.047	0.582	0.069	0.395	0.027	0.897
pars triangularis	-0.022	0.793	-0.121	0.360	-0.110	0.116	-0.211	0.016	0.016	0.807	-0.139	0.640
pericalcarine cortex	-0.002	0.981	0.015	0.915	-0.129	0.067	-0.263	0.005	-0.039	0.624	-0.263	0.227
postcentral gyrus	-0.011	0.891	-0.117	0.381	-0.112	0.101	-0.038	0.655	0.031	0.746	-0.271	0.057
posterior cingulate cortex	-0.175	**0.033**	-0.223	0.082	-0.156	**0.023**	-0.216	0.011	-0.025	0.775	-0.040	0.809

precentral gyrus	0.003	0.967	0.097	0.455	-0.139	**0.039**	-0.103	0.219	0.049	0.594	0.022	0.908
precuneus cortex	0.003	0.968	0.076	0.552	-0.121	0.072	-0.158	0.061	0.083	0.376	-0.171	0.379
rostral anterior cingulate cortex	-0.082	0.326	0.034	0.796	-0.116	0.094	-0.187	0.031	0.015	0.872	-0.017	0.915
rostral middle frontal gyrus	-0.086	0.283	-0.143	0.272	-0.143	**0.035**	-0.117	0.164	0.027	0.759	-0.065	0.744
superior frontal gyrus	-0.037	0.653	-0.168	0.188	-0.197	**0.004**	-0.144	0.085	0.053	0.559	-0.181	0.448
superior parietal cortex	-0.002	0.983	0.035	0.792	-0.162	**0.018**	-0.248	0.005	0.033	0.686	-0.085	0.555
superior temporal gyrus	-0.027	0.744	0.038	0.779	-0.120	0.085	-0.047	0.590	0.043	0.626	-0.096	0.617
supramarginal gyrus	0.066	0.428	0.015	0.911	-0.144	**0.035**	-0.133	0.121	-0.036	0.631	-0.070	0.790
frontal pole	-0.023	0.785	0.299	0.028	-0.156	**0.025**	-0.036	0.695	0.087	0.292	0.190	0.193
temporal pole	0.056	0.501	-0.081	0.556	-0.105	0.134	0.025	0.788	-0.007	0.908	0.057	0.711
transverse temporal cortex	0.007	0.929	0.169	0.206	-0.082	0.240	0.020	0.825	-0.015	0.870	0.130	0.476
insula	-0.051	0.520	-0.155	0.250	-0.113	0.088	-0.037	0.662	0.029	0.770	0.046	0.895
average surface area	-0.022	0.773	-0.030	0.803	-0.156	**0.017**	-0.178	0.027	0.032	0.734	-0.132	0.586

Significant results, uncorrected for multiple comparisons are indicated in **bold**. Results where the direct of effect is different between 1.5 and 3 Tesla are indicated in red.

A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S82: mega-analytic results for each subcortical structure comparing adult ADHD, ASD and OCD patients to healthy control subjects, split by samples using a 1.5 Tesla and 3 Tesla scanner.

ROI	OCD vs HC				ADHD vs HC				ASD vs HC			
	Effect size (3T)	P-value	Effect size (1.5T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T	P-value
ICV	-0.004	0.909	-0.019	0.548	-0.055	0.372	0.010	0.816	0.033	0.682	0.020	0.944
thalamus	-0.038	0.288	-0.100	0.009	-0.113	0.062	0.083	0.125	0.002	0.982	0.338	0.205
caudate	-0.010	0.812	0.008	0.845	-0.049	0.451	0.014	0.817	0.038	0.655	0.024	0.907
putamen	0.045	0.207	-0.073	0.044	-0.089	0.127	0.041	0.417	0.046	0.688	0.172	0.463
pallidum	0.107	**0.004**	0.083	0.041	-0.005	0.930	0.076	0.179	0.007	0.950	0.263	0.329
hippocampus	-0.015	0.699	-0.186	0.000	-0.019	0.767	-0.006	0.926	-0.044	0.577	0.115	0.389
amygdala	-0.025	0.492	-0.114	0.004	-0.099	0.113	0.026	0.655	-0.026	0.789	-0.281	0.241
accumbens	0.000	1.000	-0.078	0.023	-0.121	0.038	0.003	0.948	-0.048	0.654	0.113	0.564

Significant results, uncorrected for multiple comparisons are indicated in **bold**. Results where the direct of effect is different between 1.5 and 3 Tesla are indicated in red.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S83: mega-analytic results for cortical thickness comparing adult ADHD, ASD and OCD patients to healthy control subjects, split by samples using a 1.5 Tesla and 3 Tesla scanner.

ROI	OCD vs HC ADHD vs HC ASD vs HC		ASD vs HC						ASD vs HC			
	Effect size (3T)	P-value	Effect size (1.5T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T	P-value
banks superior temporal sulcus	-0.089	**0.029**	0.013	0.738	0.062	0.328	0.031	0.546	-0.025	0.654	0.040	0.797
caudal anterior cingulate cortex	0.006	0.881	0.009	0.811	0.005	0.939	-0.143	0.007	0.093	0.329	-0.205	0.056
caudal middle frontal gyrus	-0.140	**0.000**	0.011	0.745	0.031	0.599	-0.068	0.156	0.027	0.762	0.024	0.790
cuneus cortex	-0.021	0.563	0.054	0.226	0.079	0.177	0.020	0.737	0.139	0.175	0.612	0.047
entorhinal cortex	-0.049	0.217	0.027	0.571	-0.029	0.636	-0.140	0.037	-0.197	0.070	-0.087	0.805
fusiform gyrus	-0.119	**0.001**	0.008	0.823	0.015	0.791	-0.068	0.187	-0.145	0.122	-0.158	0.042
inferior parietal cortex	-0.146	**0.000**	-0.051	0.171	0.098	0.100	0.024	0.633	-0.041	0.459	-0.007	0.919
inferior temporal gyrus	-0.140	**0.000**	-0.006	0.871	0.070	0.264	-0.059	0.286	-0.174	**0.026**	-0.195	0.050
isthmus cingulate cortex	-0.050	0.203	-0.057	0.190	0.023	0.711	0.033	0.583	0.075	0.416	0.044	0.738
lateral occipital cortex	-0.095	**0.012**	-0.025	0.518	0.163	**0.008**	0.050	0.348	-0.003	0.975	0.200	0.085
lateral orbitofrontal cortex	-0.109	**0.004**	-0.002	0.958	0.044	0.476	-0.052	0.265	0.134	**0.052**	0.027	0.748
lingual gyrus	-0.092	**0.011**	0.078	0.077	0.083	0.160	0.008	0.898	0.087	0.375	0.418	0.011
medial orbitofrontal cortex	-0.109	**0.005**	-0.088	0.017	-0.008	0.903	-0.073	0.153	0.169	0.057	0.044	0.755
middle temporal gyrus	-0.110	**0.004**	-0.037	0.330	0.145	**0.019**	-0.108	0.042	-0.144	0.119	-0.046	0.528
parahippocampal gyrus	-0.058	0.132	0.003	0.939	0.075	0.234	0.027	0.676	-0.111	0.253	-0.152	0.417
paracentral lobule	-0.042	0.241	0.016	0.661	0.082	0.160	-0.095	0.068	0.028	0.724	0.035	0.667
pars opercularis	-0.111	**0.002**	0.023	0.512	0.006	0.916	-0.047	0.332	0.088	0.106	-0.032	0.726
pars orbitalis	-0.112	**0.008**	0.028	0.475	0.027	0.686	-0.022	0.684	0.127	0.095	-0.041	0.762
pars triangularis	-0.082	**0.025**	-0.014	0.706	0.017	0.777	-0.031	0.542	0.180	**0.027**	0.039	0.670
pericalcarine cortex	0.011	0.731	0.042	0.325	0.038	0.478	-0.009	0.875	0.070	0.433	0.122	0.340
postcentral gyrus	-0.053	0.140	0.044	0.248	0.053	0.360	0.020	0.704	-0.075	0.233	0.031	0.818
posterior cingulate cortex	-0.086	**0.015**	-0.062	0.094	-0.012	0.840	-0.115	0.024	0.144	0.091	0.015	0.911
precentral gyrus	-0.082	**0.015**	0.040	0.267	0.014	0.793	-0.076	0.125	-0.089	**0.038**	-0.092	0.356

precuneus cortex	-0.137	**0.000**	-0.033	0.388	0.053	0.371	0.005	0.923	0.013	0.780	-0.025	0.809
rostral anterior cingulate cortex	-0.027	0.475	0.026	0.476	0.008	0.901	-0.118	0.018	0.073	0.421	-0.058	0.633
rostral middle frontal gyrus	-0.109	**0.003**	-0.037	0.301	0.026	0.666	-0.001	0.977	0.143	0.175	-0.206	0.084
superior frontal gyrus	-0.104	**0.007**	0.025	0.486	0.005	0.938	-0.038	0.434	0.133	0.154	0.093	0.346
superior parietal cortex	-0.082	**0.023**	-0.006	0.867	0.073	0.214	0.064	0.204	-0.011	0.854	-0.064	0.536
superior temporal gyrus	-0.060	0.128	0.030	0.458	0.033	0.590	-0.015	0.788	-0.099	0.324	-0.035	0.744
supramarginal gyrus	-0.110	**0.005**	-0.033	0.404	0.088	0.145	-0.028	0.581	-0.061	0.210	0.125	0.408
frontal pole	-0.067	0.116	0.060	0.139	0.100	0.144	0.015	0.789	0.185	**0.033**	0.183	0.304
temporal pole	0.010	0.786	0.002	0.960	0.008	0.900	-0.157	0.019	-0.150	0.137	-0.676	0.209
transverse temporal cortex	-0.064	0.089	0.052	0.224	0.053	0.391	-0.065	0.304	-0.046	0.567	0.018	0.890
insula	-0.042	0.264	-0.014	0.710	0.006	0.918	-0.066	0.211	-0.053	0.454	0.041	0.706
average thickness	-0.126	**0.000**	-0.008	0.820	0.062	0.289	-0.029	0.541	0.073	0.312	0.130	0.485

Significant results, uncorrected for multiple comparisons are indicated in **bold**. Results where the direct of effect is different between 1.5 and 3 Tesla are indicated in red.
A negative Effect size indicates a smaller volume of region x in patient group y versus healthy controls; a positive Effect size indicates a larger volume of region x in patient group y versus healthy controls.

Supplementary Table S84: mega-analytic results for cortical surface area comparing adolescent ADHD, ASD and OCD patients to healthy control subjects, split by samples using a 1.5 Tesla and 3 Tesla scanner.

ROI	OCD vs HC ADHD vs HC ASD vs HC				ASD vs HC				ASD vs HC			
	Effect size (3T)	P-value	Effect size (1.5T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T)	P-value	Effect size (3T)	P-value	Effect size (1.5 T	P-value
banks superior temporal sulcus	-0.013	0.773	0.043	0.360	-0.007	0.914	0.008	0.892	-0.092	0.353	0.032	0.794
caudal anterior cingulate cortex	-0.025	0.578	-0.004	0.927	-0.056	0.406	-0.069	0.248	-0.032	0.727	0.030	0.909
caudal middle frontal gyrus	-0.016	0.717	0.030	0.483	-0.086	0.192	-0.003	0.955	0.026	0.731	0.428	0.189
cuneus cortex	-0.013	0.776	0.007	0.881	-0.044	0.514	0.043	0.472	-0.058	0.455	0.155	0.211
entorhinal cortex	0.011	0.820	-0.015	0.769	0.024	0.732	-0.032	0.641	-0.045	0.491	0.058	0.653
fusiform gyrus	-0.037	0.370	0.033	0.443	-0.096	0.139	0.003	0.956	-0.080	0.396	0.190	0.380
inferior parietal cortex	0.041	0.333	0.012	0.790	-0.058	0.369	-0.028	0.632	-0.029	0.707	0.273	0.267
inferior temporal gyrus	-0.033	0.439	0.050	0.236	-0.081	0.218	0.009	0.886	-0.051	0.497	0.165	0.592
isthmus cingulate cortex	-0.055	0.185	0.022	0.619	-0.133	**0.038**	0.059	0.317	0.078	0.200	0.085	0.512
lateral occipital cortex	-0.061	0.134	0.086	0.044	-0.065	0.304	0.021	0.717	0.106	0.198	0.334	0.197
lateral orbitofrontal cortex	-0.012	0.769	0.030	0.451	-0.076	0.236	0.005	0.926	0.000	0.998	-0.063	0.820
lingual gyrus	-0.043	0.316	0.018	0.695	0.004	0.951	0.001	0.985	-0.032	0.656	0.110	0.377
medial orbitofrontal cortex	-0.009	0.836	0.032	0.437	-0.114	0.082	0.016	0.774	0.065	0.449	0.043	0.862
middle temporal gyrus	0.018	0.671	0.025	0.575	-0.083	0.201	0.022	0.711	-0.047	0.626	0.114	0.629
parahippocampal gyrus	0.033	0.445	0.035	0.436	-0.071	0.278	-0.110	0.083	-0.008	0.916	0.055	0.829
paracentral lobule	0.013	0.773	0.024	0.588	-0.034	0.617	0.052	0.380	0.097	0.152	0.304	0.019
pars opercularis	-0.086	**0.046**	-0.014	0.744	-0.066	0.311	0.031	0.604	0.009	0.890	0.234	0.423
pars orbitalis	-0.040	0.321	0.021	0.621	-0.093	0.148	-0.030	0.608	0.041	0.581	0.364	0.192
pars triangularis	-0.098	**0.020**	-0.017	0.696	-0.159	**0.013**	-0.049	0.408	0.061	0.420	0.511	0.112
pericalcarine cortex	-0.034	0.442	0.040	0.374	-0.041	0.551	-0.061	0.317	-0.022	0.780	0.066	0.683
postcentral gyrus	-0.037	0.385	0.012	0.772	-0.080	0.220	-0.027	0.637	0.059	0.399	0.401	0.179
posterior cingulate cortex	-0.015	0.721	-0.047	0.261	-0.230	**0.001**	0.062	0.275	-0.027	0.698	0.067	0.769

precentral gyrus	-0.043	0.308	0.034	0.416	-0.061	0.337	0.015	0.787	0.079	0.362	0.476	0.221
precuneus cortex	-0.029	0.490	0.003	0.935	-0.145	**0.025**	0.009	0.872	0.028	0.697	0.401	0.181
rostral anterior cingulate cortex	-0.007	0.883	0.010	0.816	-0.068	0.307	0.029	0.615	0.031	0.714	-0.046	0.716
rostral middle frontal gyrus	-0.053	0.178	0.082	0.047	-0.098	0.117	-0.037	0.515	0.026	0.766	0.315	0.274
superior frontal gyrus	-0.042	0.306	0.025	0.529	-0.051	0.420	-0.041	0.441	0.033	0.695	0.326	0.195
superior parietal cortex	-0.069	0.104	-0.001	0.978	-0.119	0.063	-0.008	0.895	0.018	0.822	0.386	0.242
superior temporal gyrus	-0.048	0.276	-0.016	0.724	-0.104	0.111	0.027	0.662	0.022	0.818	0.283	0.413
supramarginal gyrus	-0.030	0.490	0.003	0.943	-0.064	0.320	0.066	0.250	0.015	0.845	0.475	0.158
frontal pole	-0.057	0.180	0.029	0.525	-0.046	0.498	-0.018	0.769	0.096	0.264	-0.205	0.222
temporal pole	0.000	0.992	0.030	0.526	0.014	0.842	-0.115	0.079	0.001	0.985	0.073	0.567
transverse temporal cortex	-0.138	**0.002**	-0.060	0.184	-0.109	0.108	-0.031	0.635	0.007	0.932	0.343	0.182
insula	-0.035	0.387	0.013	0.752	-0.086	0.182	-0.104	0.060	0.023	0.824	0.501	0.075
average surface area	-0.043	0.265	0.027	0.479	-0.098	0.113	-0.005	0.917	0.030	0.711	0.387	0.201

Significant results, uncorrected for multiple comparisons are indicated in **bold**. Results where the direct of effect is different between 1.5 and 3 Tesla are indicated in red.

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