SUPPLEMENTAL MATERIAL

A1. DETAILED SEARCH STRATEGY

Update of the search by Dickstein et al. (1)

The updated search was conducted with the restriction period: 2005-2011 (we selected 2005, instead of 2006, to avoid missing papers in press and unavailable in the electronic databases at the time of the Dickstein et al. (1) search). The first main search was performed on January 27, 2011 and updated (after the data extraction from the relevant papers retrieved in the first main search) on June 30, 2011. Studies published in English as well as in other languages were included in the search.

Recheck of the search by Dickstein et al. (1)

Since Dickstein et al. (1) used a more restricted set of databases and search terms compared to the ones used in the present study, we repeated the search for the period covered by their meta-analysis using the same databases and search terms of the updated search, to ensure that Dickstein et al. (1) had found all eligible studies.

We searched the following databases: PubMed, Ovid (including PsycINFO and Ovid MEDLINE®), EMBASE, Web of Science (SCI-EXPANDED, SSCI, A&HCI), ERIC, CINHAL, and "NeuroSynth". We also manually screened the references of included studies. Here, we report the list of search terms for each database:

PUBMED (MEDLINE)

Search terms:

(ADHD OR attention deficit hyperactivity disorder OR attention-deficit/hyperactivity disorder OR attention deficit disorder with hyperactivity OR hyperkinetic syndrome OR syndrome hyperkinetic OR hyperactivity disorder OR hyperactive child syndrome OR childhood hyperkinetic syndrome OR attention deficit disorder OR deficit disorder attention OR disorder attention deficit OR addh OR overactive child syndrome OR attention deficit hyperkinetic disorder OR hyperkinetic disorder OR attention deficit disorder hyperactivity OR child attention deficit disorder OR hyperkinetic syndrome childhood OR hyperkinesis) AND (Imaging OR

neuroimaging OR magnetic resonance imaging OR MRI OR nuclear magnetic resonance imaging OR NMR imaging OR functional imaging OR functional magnetic imaging OR Functional MRI OR fMRI OR Positron emission tomography OR PET OR Tomography Positron-Emission OR positron emission tomographic scan OR positron tomography OR Positron emission tomography computer assisted OR Computer assisted positron emission tomography OR Positron emission computed tomography OR Single Photon Emission Compute Tomography OR CT Scan Single-Photon Emission OR Emission-Computed Tomography Single-Photon OR Tomography Single-Photon Emission-Computed OR SPECT OR computer assisted tomography single photon emission OR emission computer tomography single photon OR tomography emission-computed single-photon)

Limits: 2005-2011, human

OVID databases

PsycInfo

Search terms:

(ADHD OR attention deficit hyperactivity disorder OR attention deficit disorder with hyperactivity OR hyperkinetic syndrome OR syndrome hyperkinetic OR hyperactivity disorder OR hyperactive child syndrome OR childhood hyperkinetic syndrome OR attention deficit disorder OR deficit disorder attention OR disorder attention deficit OR addh OR overactive child syndrome OR attention deficit hyperkinetic disorder OR hyperkinetic disorder OR attention deficit disorder hyperactivity OR child attention deficit disorder OR hyperkinetic syndrome childhood OR hyperkinesis OR Attention deficit disorder / OR ((attenti$) adj3 (deficit$ OR disorder$ or hyperactiv$ OR hyper?activ$ OR adhd OR addh OR ad??hd)) OR ((hyperkin$ OR hyper?kin$) adj3 (deficit$ OR disorder$ OR hkd))) AND (Imaging OR neuroimaging OR magnetic resonance imaging OR MRI OR nuclear magnetic resonance imaging OR NMR imaging OR functional imaging OR functional magnetic imaging OR Functional MRI OR fMRI OR Positron emission tomography OR PET OR Tomography Positron-Emission OR positron emission tomographic scan OR positron tomography OR Positron emission tomography computer assisted OR Computer assisted positron emission tomography OR Positron emission computed tomography OR Single Photon Emission Compute Tomography OR CT Scan Single-Photon Emission OR Emission-Computed Tomography Single-Photon OR Tomography Single-Photon Emission-Computed OR SPECT OR computer assisted tomography single photon emission OR emission computer tomography single photon OR tomography emission-computed single-photon)

Limits: 2005-to date; peer review; human

Ovid Medline

Search terms:

(ADHD OR attention deficit hyperactivity disorder OR attention deficit disorder with hyperactivity OR hyperkinetic syndrome OR syndrome hyperkinetic OR hyperactivity disorder OR hyperactive child syndrome OR childhood hyperkinetic syndrome OR attention deficit disorder OR deficit disorder attention OR disorder attention deficit OR addh OR overactive child syndrome OR attention deficit hyperkinetic disorder OR hyperkinetic disorder OR attention

deficit disorder hyperactivity OR child attention deficit disorder OR hyperkinetic syndrome childhood OR hyperkinesis OR Attention deficit disorder / OR ((attenti$) adj3 (deficit$ OR disorder$ or hyperactiv$ OR hyper?activ$ OR adhd OR addh OR ad??hd)) OR ((hyperkin$ OR hyper?kin$) adj3 (deficit$ OR disorder$ OR hkd))) AND (Imaging OR neuroimaging OR magnetic resonance imaging OR MRI OR nuclear magnetic resonance imaging OR NMR imaging OR functional imaging OR functional magnetic imaging OR Functional MRI OR fMRI OR Positron emission tomography OR PET OR Tomography Positron-Emission OR positron emission tomographic scan OR positron tomography OR Positron emission tomography computer assisted OR Computer assisted positron emission tomography OR Positron emission computed tomography OR Single Photon Emission Compute Tomography OR CT Scan Single-Photon Emission OR Emission-Computed Tomography Single-Photon OR Tomography Single-Photon Emission-Computed OR SPECT OR computer assisted tomography single photon emission OR emission computer tomography single photon OR tomography emission-computed single-photon)

Limits: 2005-to date; humans

EMBASE + EMBASE CLASSIC

Search terms:

(ADHD OR attention deficit hyperactivity disorder OR attention deficit disorder with hyperactivity OR hyperkinetic syndrome OR syndrome hyperkinetic OR hyperactivity disorder OR hyperactive child syndrome OR childhood hyperkinetic syndrome OR attention deficit disorder OR deficit disorder attention OR disorder attention deficit OR addh OR overactive child syndrome OR attention deficit hyperkinetic disorder OR hyperkinetic disorder OR attention deficit disorder hyperactivity OR child attention deficit disorder OR hyperkinetic syndrome childhood OR hyperkinesis OR Attention deficit disorder / OR ((attenti$) adj3 (deficit$ OR disorder$ or hyperactiv$ OR hyper?activ$ OR adhd OR addh OR ad??hd)) OR ((hyperkin$ OR hyper?kin$) adj3 (deficit$ OR disorder$ OR hkd))) AND (Imaging OR neuroimaging OR magnetic resonance imaging OR MRI OR nuclear magnetic resonance imaging OR NMR imaging OR functional imaging OR functional magnetic imaging OR Functional MRI OR fMRI OR Positron emission tomography OR PET OR Tomography Positron-Emission OR positron emission tomographic scan OR positron tomography OR Positron emission tomography computer assisted OR Computer assisted positron emission tomography OR Positron emission computed tomography OR Single Photon Emission Compute Tomography OR CT Scan Single-Photon Emission OR Emission-Computed Tomography Single-Photon OR Tomography Single-Photon Emission-Computed OR SPECT OR computer assisted tomography single photon emission OR emission computer tomography single photon OR tomography emission-computed single-photon)

Limits: 2005-to date: human

WEB OF KNOWLEDGE

(Web of science (science citation index expanded), Biological abstracts, Biosis, Food science and technology abstracts)

Search terms:

(ADHD OR attention deficit hyperactivity disorder OR attention deficit disorder with hyperactivity OR hyperkinetic syndrome OR syndrome hyperkinetic OR hyperactivity disorder OR hyperactive child syndrome OR childhood hyperkinetic syndrome OR attention deficit disorder OR deficit disorder attention OR disorder attention deficit OR addh OR overactive child syndrome OR attention deficit hyperkinetic disorder OR hyperkinetic disorder OR attention deficit disorder hyperactivity OR child attention deficit disorder OR hyperkinetic syndrome childhood OR hyperkinesis) AND (Imaging OR neuroimaging OR magnetic resonance imaging OR MRI OR nuclear magnetic resonance imaging OR NMR imaging OR functional imaging OR functional magnetic imaging OR Functional MRI OR fMRI OR Positron emission tomography OR PET OR Tomography Positron-Emission OR positron emission tomographic scan OR positron tomography OR Positron emission tomography computer assisted OR Computer assisted positron emission tomography OR Positron emission computed tomography OR Single Photon Emission Compute Tomography OR CT Scan Single-Photon Emission OR Emission-Computed Tomography Single-Photon OR Tomography Single-Photon Emission-Computed OR SPECT OR computer assisted tomography single photon emission OR emission computer tomography single photon OR tomography emission-computed single-photon)

Limits: 2005-to date: articles and abstracts

ERIC

Search terms:

(ADHD OR attention deficit hyperactivity disorder OR attention deficit disorder with hyperactivity OR hyperkinetic syndrome OR syndrome hyperkinetic OR hyperactivity disorder OR hyperactive child syndrome OR childhood hyperkinetic syndrome OR attention deficit disorder OR deficit disorder attention OR disorder attention deficit OR addh OR overactive child syndrome OR attention deficit hyperkinetic disorder OR hyperkinetic disorder OR attention deficit disorder hyperactivity OR child attention deficit disorder OR hyperkinetic syndrome childhood OR hyperkinesis) AND (Imaging OR neuroimaging OR magnetic resonance imaging OR MRI OR nuclear magnetic resonance imaging OR NMR imaging OR functional imaging OR functional magnetic imaging OR Functional MRI OR fMRI OR Positron emission tomography OR PET OR Tomography Positron-Emission OR positron emission tomographic scan OR positron tomography OR Positron emission tomography computer assisted OR Computer assisted positron emission tomography OR Positron emission computed tomography OR Single Photon Emission Compute Tomography OR CT Scan Single-Photon Emission OR Emission-Computed Tomography Single-Photon OR Tomography Single-Photon Emission-Computed OR SPECT OR computer assisted tomography single photon emission OR emission computer tomography single photon OR tomography emission-computed single-photon)

Limits: 2005-to date; peer reviewed

CINAHAL PLUS

Search terms:

(ADHD OR attention deficit hyperactivity disorder OR attention deficit disorder with hyperactivity OR hyperkinetic syndrome OR syndrome hyperkinetic OR hyperactivity disorder OR hyperactive child syndrome OR childhood hyperkinetic syndrome OR attention deficit

disorder OR deficit disorder attention OR disorder attention deficit OR addh OR overactive child syndrome OR attention deficit hyperkinetic disorder OR hyperkinetic disorder OR attention deficit disorder hyperactivity OR child attention deficit disorder OR hyperkinetic syndrome childhood OR hyperkinesis) AND (Imaging OR neuroimaging OR magnetic resonance imaging OR MRI OR nuclear magnetic resonance imaging OR NMR imaging OR functional imaging OR functional magnetic imaging OR Functional MRI OR fMRI OR Positron emission tomography OR PET OR Tomography Positron-Emission OR positron emission tomographic scan OR positron tomography OR Positron emission tomography computer assisted OR Computer assisted positron emission tomography OR Positron emission computed tomography OR Single Photon Emission Compute Tomography OR CT Scan Single-Photon Emission OR Emission-Computed Tomography Single-Photon OR Tomography Single-Photon Emission-Computed OR SPECT OR computer assisted tomography single photon emission OR emission computer tomography single photon OR tomography emission-computed single-photon)

Limits: 2005-2011; human peer reviewed

A2. STUDIES INCLUDED IN THE META-ANALYSIS: DETAILED DESCRIPTION OF INCLUDED/EXCLUDED STUDIES

The first search (performed on January 27, 2011) of PubMed (Medline), Ovid, EMBASE, Web of Science, ERIC, and CINHAL (after February 2006) provided a total of 5072 citations. The numbers of citations found in each database were as follows: Pubmed: n=889; PsycInfo: n= 426; Ovid Medline: n= 935; Embase+Embase classic: n= 1249; Web of Knowledge: n= 1419; Eric: n= 75; CINAHAL Plus: n= 78. After removing duplicates, 2285 papers remained. Of these, 2204 articles were discarded because review of the abstracts supported the conclusion that they clearly did not meet the eligibility criteria. Among the remaining 81 studies, 10 (2-11) had already been included in Dickstein et al. (1) The full text of the remaining 71 papers was examined in more detail. Among these, one (12) did not use formal criteria for the diagnosis of ADHD, three (13-15) did not report 3D coordinates, five (16-20) did not perform "between groups" comparisons, 11 (21-31) were based on an *a priori* ROI analysis, two (32;33) did not include a control group, one (34) did not report comparison between untreated participants with ADHD and controls, one (35) contrasted controls and adults with ADHD in partial remission or full syndrome, without reporting results of the contrast "adults with current ADHD *vs.* controls", and one (36) reported only deactivation. Two additional potentially pertinent studies were retrieved after hand-search of reference lists but both of them were not considered suitable for the meta-analysis since one (37) did not report 3D coordinates and the other (38) was based on an *a priori* ROI. After exclusion of these papers, 46 articles remained. Of these, five (39-43) used SPECT, two (44;45) assessed participants by near infrared spectroscopy, one (46) relied on PET, and another one (47) was based on arterial spin labeling. The paucity of studies using techniques other than fMRI confirmed the appropriateness of our choice to exclude studies using imaging techniques other than task-based fMRI.

Therefore, a total of 37 articles were identified for inclusion in the meta-analysis from the main search performed on January 27, 2011.The additional search on June 30, 2011 retrieved nine (48-56) additional papers that met eligibility criteria for inclusion.

The search of PubMed (Medline), Ovid, EMBASE, Web of Science, ERIC, and CINHAL also confirmed that Dickstein et al. (1) had found all eligible articles published before February 2006. Nine (2;4;6-9;57-59) of the studies retrieved by Dickstein et al. (1) presented "between" comparisons and were therefore included in the present meta-analysis. We excluded nine studies originally included in Dickstein et al. (1) since three (3;9;60) of them did not present "between groups" comparisons, two (5;61) presented data on participants with persistent or remitted ADHD (without specifying values only for those with persistent ADHD), one (11) was based on *a priori* ROI, and three (62-64) were based on PET.

Therefore, in total, the present meta-analysis included 55 papers. Sixteen papers (10;49;50;65-77) included adults with ADHD, while 39 (2;4;6-8;48;51-59;78-101) assessed children with ADHD ("children" refers to participants ≤18 years-old). We note that the following studies included the same participants (same number of participants, same mean age and age standard deviation): two papers by Kobel et al. (81;82); two sets of papers (90;92) and (52;53), from Rubia et al. assessing children with ADHD; two papers by Cubillo et al. (49;50) assessing adults with ADHD; and two papers by Spinelli et al. (55;56) . Therefore, data from these studies related to the same participants were pooled in the same experiment line when entered into the GingerALE file.

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SUPPLEMENTAL TABLES AND FIGURES

Table S1. Regions exhibiting significantly greater activation in comparisons realtive to individuals with ADHD and vice-versa in the meta-analyses restricted to specific tasks or clinical characteristics. Brodmann areas (BA) are indicated in parenthesis when identifiable. When located unambiguously in a cortical region, the anatomic label is followed in parenthesis, in italics, by the neural network corresponding to the maximum activation likelihood estimation value, from the seven reference neuronal networks identified by Yeo et al. (9).

Cluster #	Volume (mm^3)	Weighted Center*			Extrema Value	Maximum ALE value*			Anatomical Label
		x	y	z		x	y	z	
Comparisons > Participants with ADHD									
Stimulant naïve participants, all tasks *Number of foci= 149; Number of experiments= 20; Total number of subjects= 593 **									
1	1648	3.23	17.17	52.61	0.0143	0	16	54	Medial Superior Frontal Gyrus/Supplementary Motor Area (BA6) R, L *(Frontoparietal/Ventral Attention)*
					0.0111	12	22	56	Superior Frontal Gyrus (BA 6) R
2	664	32.71	0.59	2.61	0.0132	32	2	4	Putamen R
3	560	8.9	-15.81	-2.77	0.0116	8	-16	-2	Thalamus R
4	504	-29.04	58.98	-0.49	0.0098	-32	56	-8	Middle Frontal Gyrus (BA 10) L *(Frontoparietal/Default)*
					0.0093	-26	64	8	Superior Frontal Gyrus (BA 10) L *(Ventral Attention/Default)*
					0.0092	-28	60	2	Middle Frontal Gyrus (BA 10) L *(Frontoparietal/Default)*
5	400	56.07	12.66	-6.85	0.0131	56	12	-6	Superior Temporal Gyrus (BA 22) R *(Somatomotor)*
6	392	-18.38	7.79	-7.36	0.0101	-18	8	-6	Putamen L
7	392	-17.98	-2.78	61.2	0.0132	-18	-2	62	Middle Frontal Gyrus (BA 6-8) L *(Dorsal Attention)*
8	352	43.38	9	30	0.0123	44	8	30	Inferior Frontal Sulcus; Inferior Precentral Sulcus R *(Dorsal Attention/Frontoparietal)*

9	272	13.94	-45.7	26.65	0.0103	14	-46	26	Posterior Cingulate Cortex; Subparietal Sulcus R
10	256	33.43	-26.31	48.46	0.0101	34	-26	48	Postcentral Gyrus R *(Somatomotor)*
11	232	2.3	47.39	15.64	0.0095	4	48	16	Medial Frontal Gyrus; Paracingulate Sulcus (BA 10; BA 32) R *(Default)*
Participants without comorbidities, all tasks									
*Number of foci= 203; Number of experiments= 27; Total number of subjects= 791 ***									
1	1896	1.28	16.35	52.44	0.0208	0	16	54	Medial Superior Frontal Gyrus, BA 6; Supplementary Motor Area R, L *(Frontoparietal/Ventral Attention)*
					0.0111	12	22	56	Superior Frontal Gyrus (BA 6) R
2	608	33.68	-27.29	50.65	0.0137	34	-28	52	Postcentral Gyrus R *(Somatomotor)*
3	496	-28.03	59.69	0.87	0.0099	-28	60	2	Middle Frontal Gyrus (BA 10) L *(Frontoparietal)*
					0.0098	-32	56	-8	Middle Frontal Gyrus (BA 10) L *(Default/Frontoparietal)*
4	472	30.15	-0.44	4.78	0.0121	30	0	6	Putamen R
5	384	19.42	-91.75	8.07	0.0114	20	-92	8	Occipital Pole R
6	344	55.94	12.9	-5	0.0131	56	12	-6	Superior Temporal Gyrus (BA 22) R *(Somatomotor)*
7	336	40.62	10.85	6.6	0.0133	40	10	6	Inferior Frontal Gyrus (Frontal Operculum) R *(Ventral Attention)*
8	320	-40.52	19.27	-3.34	0.0104	-40	18	-2	Inferior Frontal Gyrus (Orbital Part); Anterior Insula L *(Frontoparietal)*
9	304	-18.94	7.69	-7.77	0.0111	-18	8	-6	Putamen L
10	272	43.53	9.00	30.00	0.0123	44	8	30	Inferior Frontal Sulcus; Inferior Precentral Sulcus R *(Dorsal Attention/Frontoparietal)*
11	232	3.91	48.57	15.79	0.0102	4	48	16	Medial Frontal Gyrus; Paracingulate Sulcus (BA 10; BA 32) R *(Default)*
12	200	46.96	25.92	33.13	0.0111	46	26	34	Middle Frontal Gyrus (BA 9/46) R *(Frontoparietal)*
All participants, inhibition tasks									
*Number of foci= 125; Number of experiments= 21; Total number of subjects= 566 ***									

1	1264	-0.23	15.53	53.54	0.0204	0	16	54	Medial Superior Frontal Gyrus/Supplementary Motor Area (BA6) R, L *(Frontoparietal/Ventral Attention)*
					0.0091	0	14	44	Paracingulate Gyrus (BA 32) R, L *(Ventral Attention)*
2	528	55.8	12.36	-6.54	0.0136	56	12	-6	Superior Temporal Gyrus (BA 22) R *(Somatomotor)*
3	400	7.38	-16.2	-0.96	0.0112	8	-16	-2	Thalamus R
4	296	42.71	14.54	9.2	0.0091	44	18	12	Inferior Frontal Gyrus (Frontal Operculum) R
					0.0091	42	12	8	Inferior Frontal Gyrus (Frontal Operculum) R *(Ventral Attention)*
5	280	51.27	25.43	21.95	0.0093	54	26	18	Inferior Frontal Gyrus (BA 44/45) R *(Frontoparietal)*
					0.0087	48	24	28	Middle Frontal Gyrus (BA 9/46) R *(Frontoparietal)*
6	272	-26.34	62.03	6	0.0096	-26	64	8	Superior Frontal Gyrus (BA 10) L *(Frontoparietal/Default)*
7	224	-37.94	44.77	3.96	0.0099	-38	44	4	Inferior Frontal Gyrus/Inferior Frontal Sulcus (BA 45; BA 9/46) L *(Frontoparietal)*
8	216	-41.43	-73.6	-4.45	0.0102	-42	-74	-4	Inferior Occipital Gyrus L *(Visual)*
9	216	-7.55	-29.84	-4.89	0.0094	-8	-30	-6	Midbrain; Superior Colliculus L
All participants, working memory tasks *Number of foci= 48; Number of experiments= 8; Total number of subjects= 341 ***									
1	264	-40.13	20.73	-6.2	0.0083	-40	20	-8	Inferior Frontal Gyrus (Orbital Part); Anterior Insula L *(Default/Frontoparietal)*
2	256	33	57	15	0.0087	32	56	14	Middle Frontal Gyrus (BA 10) R *(Frontoparietal)*
All participants, attention tasks *Number of foci= 49; Number of experiments= 11; Total number of subjects=363 ***									
1	560	1.51	14.47	43.93	0.0142	2	14	44	Paracingulate Gyrus (BA 32) R *(Ventral Attention)*

Participants with ADHD > Comparisons

Stimulant naïve participants, all tasks

*Number of foci= 40; Number of experiments= 9; Total number of subjects= 239 ***

1	448	31.24	-7.25	16.55	0.0107	32	-8	16	White Matter R (sub-operculum)

Participants without comorbidities, all tasks

*Number of foci= 70; Number of experiments= 14; Total number of subjects= 388 ***

1	1152	40.34	-59.6	16.15	0.0155	40	-58	18	Angular gyrus; Middle Occipital Gyrus R
2	608	-39.02	-27.45	6.5	0.011	-40	-24	6	Heschl's Gyrus L *(Somatomotor)*
					0.0099	-40	-32	8	Heschl's Gyrus L *(Somatomotor)*
3	488	11.72	-50.3	30.56	0.0099	14	-50	30	Posterior Cingulate Cortex; Subparietal Sulcus R *(Default)*
					0.0093	4	-48	30	Posterior Cingulate Cortex R *(Default)*
4	280	-48.2	33.83	-0.2	0.0101	-48	34	0	Inferior Frontal Gyrus (BA 45) *(Default)*

All participants, inhibition tasks

*Number of foci= 41; Number of experiments= 10; Total number of subjects= 247 ***

1	568	39.75	-57.25	19.21	0.0133	40	-58	20	Angular Gyrus/Middle Occipital Gyrus R
2	256	22.53	38.93	20.5	0.0084	24	36	20	Intermediate Frontal Sulcus/Frontal White Matter R

Footnote: **Montreal Neurological Institute coordinates; ** After removing complete overlap but including partial overlap of participants across studies from the same research groups; *** R: Right; L: Left. ALE: Activation likelihood estimation.*

Table S2. Regions exhibiting significantly greater activation in comparisons relative to individuals with ADHD and vice-versa in the omnibus meta-analysis. Brodmann areas (BA) are indicated in parenthesis when identifiable. When located unambiguously in a cortical region, the anatomic label is followed in parenthesis, in italics, by the neural network corresponding to the maximum activation likelihood estimation value, from the seven reference neuronal networks identified by Yeo et al. (9).

Cluster #	Volume (mm^3)	Weighted Center*			Extrema Value	Maximum ALE value*			Anatomical Label
		x	y	z		x	y	z	
Comparisons > Participants with ADHD, All (i.e., children + adults), all tasks *Number of foci= 322; Number of experiments= 47; Total number of subjects= 1453* **									
1	1544	-0.29	15.48	49.21	0.0213	0	16	54	Medial Superior Frontal Gyrus /Supplementary Motor Area (BA 6) R, L *** *(Frontoparietal/Ventral Attention)*
					0.0186	0	14	44	Paracingulate Gyrus (BA 32) R, L *(Ventral Attention)*
2	688	-19.66	6.16	-1.65	0.0122	-20	4	4	Putamen L
3	656	-51.78	13.11	4.05	0.0160	-48	12	6	Inferior Frontal Gyrus (Pars Opercularis; BA 44) L *(Ventral Attention)*
					0.0136	-58	14	2	Inferior Frontal Gyrus (Pars Opercularis; BA 44) L
4	632	19.61	-28.16	60.43	0.0147	20	-28	62	Central Sulcus/Postcentral Gyrus R *(Somatomotor)*
					0.0113	22	-28	52	Central Sulcus/Precentral Gyrus R
5	624	55.99	-25.46	27.94	0.0177	56	-26	28	Inferior Parietal Lobule/ Supramarginal Gyrus (BA 40) R *(Ventral Attention)*
6	584	30.96	0.63	3.33	0.0149	32	0	4	Putamen R
7	392	41.09	12.06	7.06	0.0143	40	12	6	Inferior Frontal Gyrus (Frontal Operculum) R *(Ventral Attention)*
8	376	-42.53	31.76	25.13	0.0147	-42	32	24	Middle Frontal Gyrus (BA 9/46) L *(Frontoparietal)*
9	328	33.5	-27.31	50.85	0.0137	34	-28	52	Postcentral Gyrus R *(Somatomotor)*
10	304	42.91	32.5	-3.12	0.0145	44	32	-4	Inferior Frontal Gyrus (BA 47/12) R *(Ventral Attention)*
11	224	55.66	12.32	-6.38	0.0136	56	12	-6	Superior Temporal Gyrus (BA 22) R *(Somatomotor)*

12	224	42.25	9.56	29.51	0.0134	42	10	30	Inferior Frontal Sulcus/Inferior Precentral Sulcus R *(Frontoparietal)*
13	200	26.63	-42.02	63.69	0.0129	26	-42	64	Posterior Parietal Lobule (BA 7) R *(Somatomotor)*
Participants with ADHD > Comparisons, All (i.e., children +adults), all tasks *Number of foci= 121; Number of experiments= 23; Total number of subjects= 589* **									
1	1072	40.33	-59.54	16.3	0.0155	40	-58	18	Angular Gyrus; Middle Occipital Gyrus R ***
2	792	-39.53	-27.42	5.36	0.0116	-40	-24	6	Heschl's Gyrus L *(Somatomotor)*
					0.0103	-40	-32	6	Heschl's Gyrus L *(Somatomotor)*
3	696	11.61	-49.75	29.61	0.0106	14	-50	30	Posterior Cingulate Cortex; Subparietal Sulcus *(Default)*
					0.0098	4	-48	30	Posterior Cingulate Cortex R *(Default)*
4	656	3.57	-14.81	41.47	0.0134	4	-14	42	Midcingulate Cortex R *(Ventral Attention)*
5	472	22.19	43.41	19.24	0.0111	22	44	20	Intermediate Frontal Sulcus R
					0.0087	24	36	20	Intermediate Frontal Sulcus; Right Frontal White Matter R
6	352	-49.15	34.43	-1.54	0.0102	-48	34	0	Inferior Frontal Gyrus (BA 45) L *(Default)*
					0.0078	-54	36	-10	Inferior Frontal Gyrus (BA 45; 47/12) L
7	312	31.1	-7.19	16.89	0.0107	32	-8	16	White Matter R (sub-operculum)

Footnote: **Montreal Neurological Institute coordinates; **After removing complete overlap but including partial overlap of participants across studies from the same research groups; *** R: Right; L: Left. ALE: Activation likelihood estimation.*

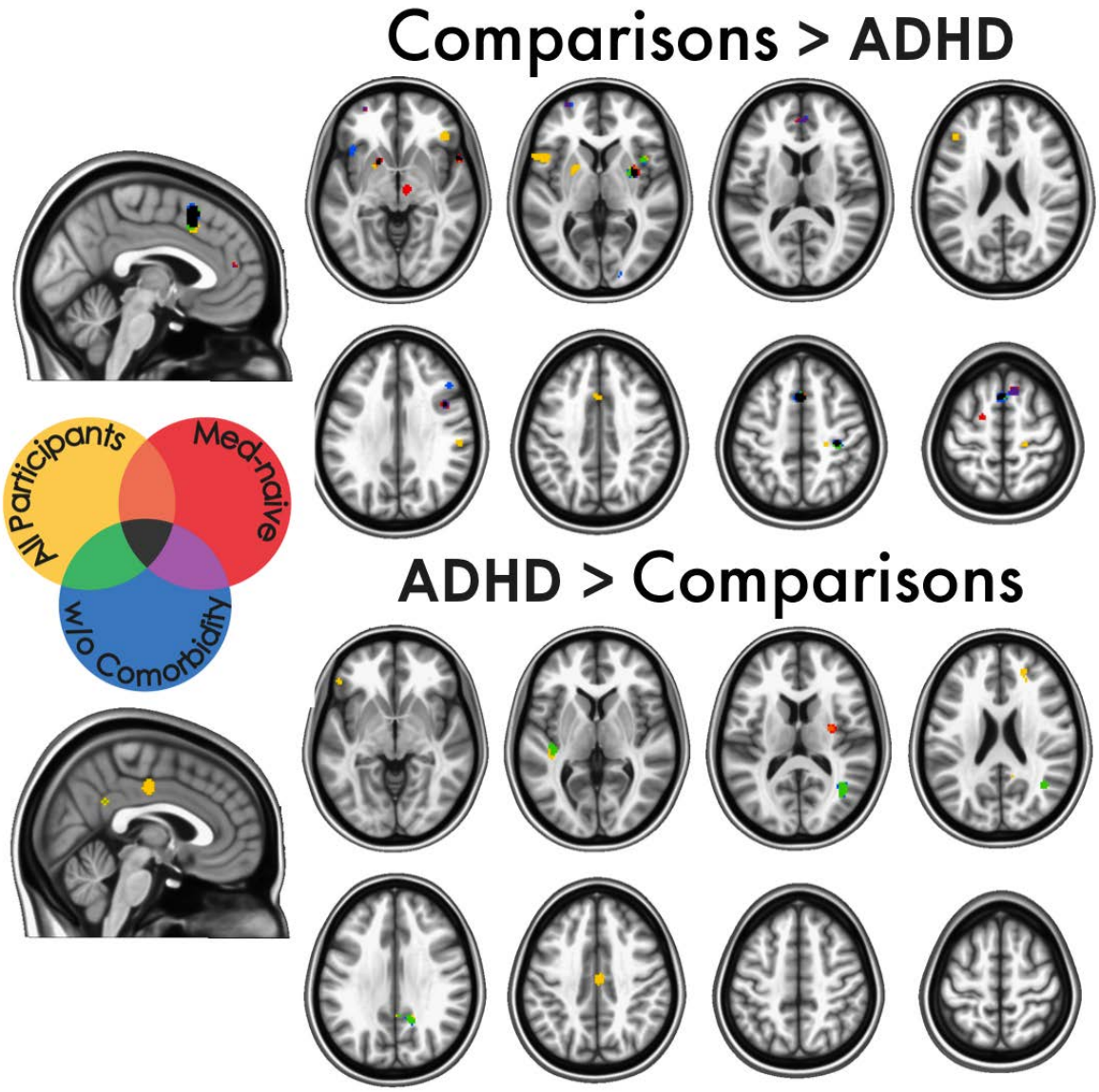
Table S3. Subtraction analyses (p uncorrected 0.05) for the contrasts Comparisons > ADHD and ADHD > Comparisons. Brodmann areas (BA) are indicated in parenthesis when identifiable. When located unambiguously in a cortical region, the anatomic label is followed in parenthesis, in italics, by the neural network corresponding to the maximum activation likelihood estimation value, from the seven reference neuronal networks identified by Yeo et al. (9).

Cluster #	Volume (mm^3)	Weighted Center*			Extrema Value	Maximum ALE value*			Anatomical Label
		x	y	z		x	y	z	
Comparisons>ADHD, all tasks									
Adults minus children									
1	304	-47.8	7.77	52.9	2.6520698	-46	6.67	55.33	Middle Frontal Gyrus (BA6) L *(Default)*
Children minus adults									
1	768	-0.24	15.7	42.9	1.8867052	-6	19.3	40.67	Dorsal Anterior Cingulate Cortex (BA 32) L *(Ventral Attention)*
					1.741477	0	18	46	Dorsal Anterior Cingulate Cortex (BA 32) R L *(Frontoparietal)*
2	320	41.6	10.3	29.2	2.0374997	42	12	30	Middle Frontal Gyrus R *(Frontoparietal)*
3	296	47.41	25.8	31.4	2.5240846	48	24	26	Middle Frontal Gyrus R *(Frontoparietal)*
4	216	55.38	13.9	-7.4	2.0179162	58	16	-6	Superior Temporal Gyrus (BA 22) R
Comorbid minus non-comorbid participants									
1	200	24.14	26.7	31.2	2.180776	24	26	32	Middle Frontal Gyrus R
Non-comorbid minus comorbid participants									
1	280	3.87	48.4	16	2.3824043	1.5	46	15.75	Perigenual Anterior Cingulate Cortex (BA 24) R
2	232	34.71	-28	48.6	1.9565533	34.67	-26	46	Postcentral Gyrus R
Stimulant-naïve minus stimulant-treated									
1	440	9.15	-16	-4.3	1.6706036	12	-14	0	Thalamus R
2	376	10.63	21.3	56.3	1.8521799	9.67	23.3	58.33	Superior Frontal Gyrus (BA 6) R
3	200	13.76	-45	26.1	2.3115952	14	-44	22	White matter
Stimulant-treated minus stimulant-naïve									
1	288	42.52	16.1	9.55	2.2029254	43	22	12	Sub-lobar insula R
ADHD>Comparisons, all tasks									

Comorbid minus non-comorbid									
1	296	15.24	-48	59.5	2.149434	15.17	-48	59.5	Superior parietal lobe R
Stimulant-treated minus stimulant-naïve									
1	480	22.26	44.4	19.1	2.2262118	22.61	45.2	18.96	Frontal pole R
2	200	13.99	-49	26.1	1.8926833	13.6	-49	25.4	White matter

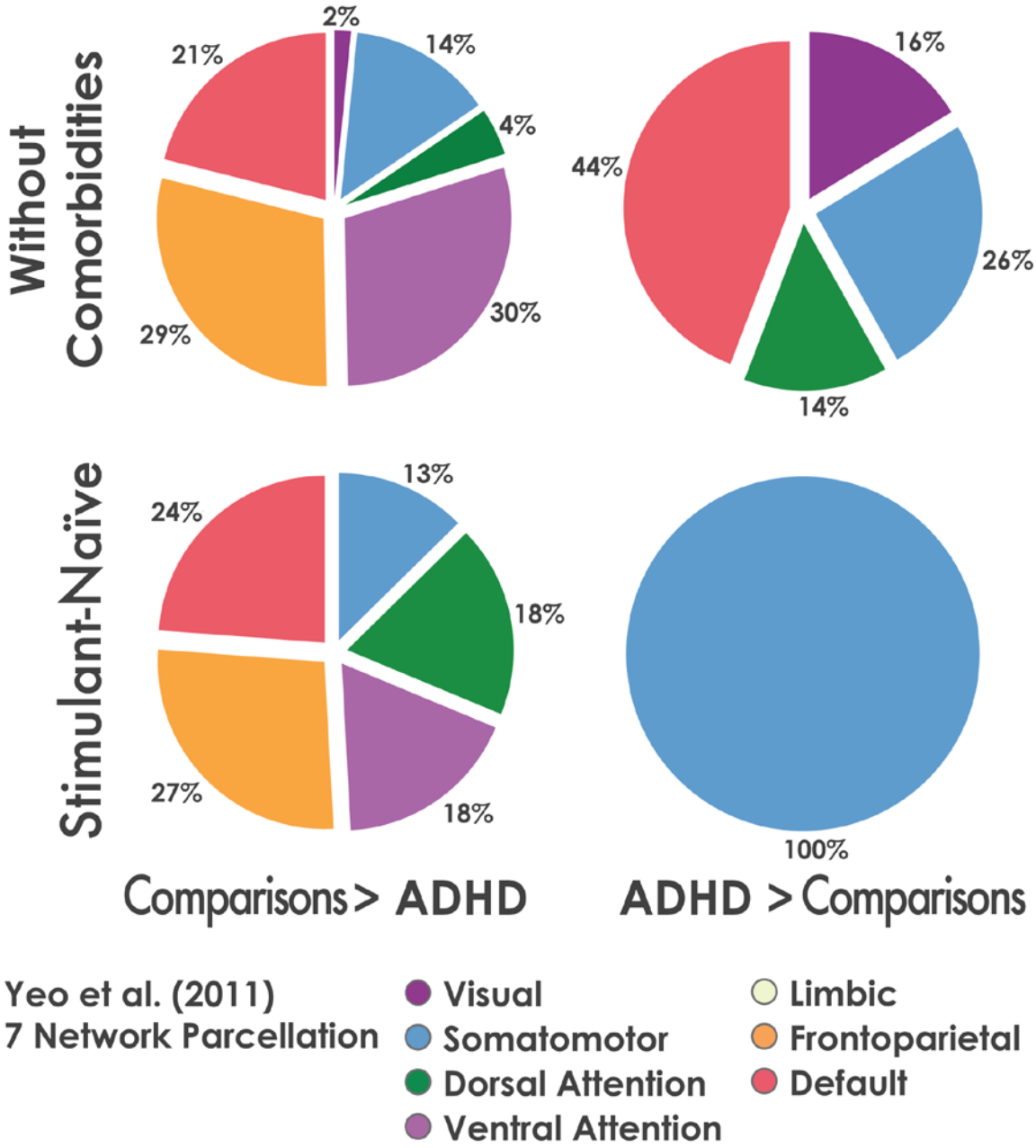
Footnote*: *Montreal Neurological Institute coordinates; **After removing complete overlap but including partial overlap of participants across studies from the same research groups; *** R: Right; L: Left.*

Figure S1. Regions exhibiting significantly greater activation in comparisons relative to individuals with ADHD (upper panel) and in individuals with ADHD relative to comparisons (lower panel). The figure reports results for the meta-analyses focused on individuals without psychiatric comorbidities or stimulant-naïve.



Footnote: R: Right; L: Left.

Figure S2. Regions of ADHD-related hypo- or hyperactivation in relation to Yeo et al. (9) seven networks for the meta-analyses focused individuals without psychiatric comorbidities or stimulant-naïve.



Footnote: For the contrast ADHD >Comparisons, in stimulant-naïve, as shown in Supplemental Table S1, only one significant cluster was detected.