**Appendix**

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Figure A.1. Flowchart of literature search and study selection

1484 articles identified in Pubmed

2248 articles identified in Web of Science

3732 articles in initial search

Name filtering

1759 articles after name filtering

Abstact screening

320 articles after abstract screening

Full text screening

148 articles after full text screening

Removing non-seed-based correlation analyses

33 articles after seed-based studies screening

Eliminating non-focused networks

20 articles are eligible

Note. The literature search was made to include previous studies published prior to 27.01.2020.

Table A.1. Summary of demographic characteristics of studies included in meta-analysis

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  Paper |  Comparison | N | MeanAge (sd) | Mean IQ | % Male  | % RightHanded | % Med Naïve | Those not niave | Comorbidity | ADHDC | ADHDI | ADHDHI |
| Tian et al 06 | ADHD | 8 | 14.9(0.3) | >80 | all | all  | 100 |  | 0 | 1 | 7 | 0 |
| Con | 8 | 13.3(0.5) | >80 | all |  |  |  |  |  |  |
| Castellanos et al 08 | ADHD | 20 | 34.9(9.9) | nr | 80 | all  | 55 | 9 free >24h | 0 | 20 | 0 | 0 |
| Con | 20 | 31.2(9.0) | nr | 14 |  |  |  |  |  |  |
| Cao et al 09 | ADHD | 19 | 13.4(1.5) | 101 | all | all  | 100 |  | 7 | 7 | 12 | 0 |
| Con | 23 | 13.3(0.9) | 115 | all |  |  |  |  |  |  |
| Sun et al 12 | ADHD | 19 | 13.3(1.3) | 102 | all | all  | 100 |  | 7 | 7 | 12 | 0 |
| Con | 23 | 13.2(0.9) | 113 | all |  |  |  |  |  |  |
| McCarthy et al 13 | ADHD | 16 | 24.5(8.3) | 100 | 69 | 75right | 12.5 | 14 free >48h | 0 | 16 | 0 | 0 |
| Con | 16 | 24.4(8.0) | 104 | 69 |  |  |  |  |  |  |
| Posner et al ]13 | ADHD | 22 | 10.0(1.6) | 96 | 77 | nr | 100 |  | 7 | 19 | 3 | 0 |
| Cont | 20 | 10.5(1.4) | 100 | 75 |  |  |  |  |  |  |
| Li et al 14 | ADHD | 33 | 10.1(2.6) | >90 | all | all  | 100 |  | 0 | 22 | 0 | 11 |
| Con | 32 | 10.9(2.6) | >90 | all |  |  |  |  |  |  |
| Posner et al 14 | ADHD | 30 | 9.83(2.1) | 99 | 80 | nr | 100 |  | 11 | 24 | 5 | 1 |
| Con | 31 | 10.7(2.0) | 109 | 68 |  |  |  |  |  |  |
| Tomasi et al 14 | ADHD | 247 | 12.0(3.0) | nr | 80 | nr | 100 |  | nr | nr | nr | nr |
| Con | 459 | 12.0(3.0) | nr | 53 |  |  |  |  |  |  |
| Barber et al 15 | ADHD | 50 | 9.8(1.3) | 112 | 64 | 90right |  | 35 free >48h | 17 | 39 | 10 | 1 |
| Con | 50 | 10.0(1.0) | 113 | 62 |  |  |  |  |  |  |
| Costa Dias et al 15 | ADHD | 41 | 9.6(1.4) | 110 | 75 | all  | nr | All free>24-48h | 14 | 27 | 14 | 1 |
| Con | 63 | 9.1(1.1) | 117 | 59 |  |  |  |  |  |  |
| Francx et al 15 | ADHD | 129 | 11.7(2.3) | 100 | 78 | 89% right | 100 |  | 43 | 129 | 0 | 0 |
| Con | 100 | 11.9(3.1) | 107 | 34 |  |  |  |  |  |  |
| Hong et al 2015 | ADHD | 83 | 9.6(2.6) | 106 | 78 | 90%right | nr | All free >4 wks | 18 | 44 | 32 | 1 |
| Con | 22 | 9.8(2.5) | 115 | 63 |  |  |  |  |  |  |
| Lin et al 15 | ADHD | 25 | 9.9(1.7) | 110  | 80 | all  | 0 | All free 7d | 8 | nr | nr | nr |
| Con | 25 | 10.0(2.1) | 114 | 78 |  |  |  |  |  |  |
| Lin at al 16 | ADHD | 12 | 32.5(9.8) | 120 | 41 | all  | 100 |  | 0 | nr | nr | nr |
| Con | 24 | 30.4(8.9) | 117 | 44 |  |  |  |  |  |  |
| Yu et al 2016 | ADHD | 35 | 10.3(1.8) | 106 | all | all  | 100 |  | 11 | 16 | 18 | 1 |
| Con | 30 | 10.3(1.7) | 121 | all |  |  |  |  |  |  |
| Zhao et al 17 | ADHD | 28 | 27.1(5.5) | 123 | 53 | all  | 22 |  | 0 | 7 | 21 | 0 |
| Con | 30 | 25.9(3.8) | 123 | 57 |  |  |  |  |  |  |
| Icer et al 18 | ADHD | 15 | 11.6(2.5) | >85 | 80 | all  | 100 |  | 0 | nr | nr | nr |
| Con | 15 | 13.4(1.8) | >85 | 67 |  |  |  |  |  |  |
| Kumar et al 20 | ADHD | 16 | 9.6(1.8) | 93 | all | all  | 100 |  | nr | nr | nr | nr |
| Con | 16 | 9.7(1.9) | 109 | all |  |  |  |  |  |  |
| Shang et al 20 | ADHD | 96 | 11.5(2.3) | 105 | 85 | 93%right | 96 | 0 | 0 | 30 | 66 | 0 |
| Con | 114 | 12.3(2.9) | 110 | 65 |  |  |  |  |  |  |

*Note.* The references included in meta-analysis are listed in Text A.1.; ADHD: Attention-deficit Hyperactivity Disorder; N: number; SD: standard deviation; IQ: intelligence quotient; ADHD-C: combined type of ADHD; ADHD-I: inattentive type of ADHD; ADHD-H: hyperactivity type of ADHD; Y: yes; N: no; R: right; L: left; perf: performance score of IQ, nr: not reported.

Table A.2. Studies Excluded From Meta-analysis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Reference | Sample | Analysis | Reason for Exclusion | Details on Exclusion |
| Shehzad et. al, 2014 | ADHD vs TDC | MDMR | Not SCA | The study used a method called multivariate distance matrix regression and is outside the boundaries of SCA |
| Rosenberg et al., 2016 | ADHD vs HC | Graph based analysis | Not SCA | The analysis used graph theory instead of SCA to examine ROIs |
| Kyeong et al., 2015 | ADHD vs HC | Topological | Topological | The study used topological analysis instead of SCA |
| Poldrack et al., 2016 | ADHD or BP or S vs HC | Data descriptor | Not SCA | Not an analysis but a data descriptor |
| Choi et al., 2013 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Yu et al., 2013 | PNE | z-score correlation | Not ADHD patients | Study exclusively excluded ADHD patients |
| Hulvershorn et al., 2014 | ADHD vs HC | demeaned scale scores  | Not ADHD | The participants divided into subgroups according their scores of emotional lability scale.  |
| Sato et al., 2012 | ADHD vs HC | One class SVM | Not SCA | The study examined machine learning method (one class-SVM) to observe the differences in results from Pearson correlation-based analyses |
| Tomasi et al., 2012 | ADHD vs HC | Graph based analysis | Not SCA | The analysis used graph metrics instead of seed-based functional connectivity analysis (SCA) to examine ROIs. |
| Cao et al., 2006 | ADHD vs HC | ReHo | Not SCA | The study used ReHo instead of SCA |
| Qui et al., 2011 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Yang et al., 2011 | ADHD vs HC | ALFF | Not SCA | The study used ALFF instead of SCA |
| Yu-Feng et al., 2007 | ADHD vs HC | Conjunction Analysis | Not SCA | The study used conjunction analysis instead of SCA |
| Mills et.al, 2012 | ADHD vs HC | SCA | Data missing  | Coordinates were given after SCA but authors do not state whether those are ADHD>HC or vice versa |
| Cocchi et al., 2012 | ADHD vs HC | NBS, ReHo, CNM | Not SCA | Characterized multivariate (CNM),bivariate (NBS), and univariate (ReHo) properties of brain networks instead of SCA |
| Lee et al., 2017 | IGD or IGD+ADHD vs HC | SCA | Not ADHD | The participants have only childhood history of ADHD and are not diagnosed with ADHD |
| Wang et al., 2013a | ADHD vs HC | ALFF | Not SCA | The study used ALFF instead of SCA |
| Wang et al., 2013b | ADHD vs HC | ReHo | Not SCA | The study used ReHo instead of SCA |
| Hoekzema et.al,2013 | ADHD vs HC | ICA & SCA | Not significant | No significant difference was found between ADHD and controls at the corrected level |
| Oldehinkel et al., 2016 | ADHD vs HC | SCA | Dimensional analysis | The study used dimensional analysis instead of categorical |
| McLeod et al., 2016 | DCD or ADHD or ADHD+ DCD vs HC | SCA | Not between group contrast | Comparisons of connectivity were not between disease groups but hemispheres within each group |
| Han et al., 2017 | IGD or IGD+ADHD or IGD+MDD vs HC or ADHD or MDD | ROI-to-ROI | Not whole brain | Analyses tested connectivity among a set of a priori ROIs |
| Mattfeld et al., 2014 | Persistent or Remittent ADHD vs HC | SCA | Data missing | Coordinates of regions of interest were not given |
| Lorenzen et. al.,2016 | ADHD vs HC | SCA | Task-based analysis | The study did not use resting state FC for between-group comparisons  |
| McCarthy et al., 2016 | Persistent or Remittent ADHD vs HC | ROI to whole-brain functional connectivity | Task-based analysis | The study used task-based FC for between-group comparisons  |
| Dipasquale et al., 2017 | ADHD vs HC | SCA | Data missing | Coordinates of ROIs associated with the seed region was not found |
| Park et al., 2016a | ADHD (children) vs ADHD (adolescent) | DC | Not SCA | The analysis used DC analysis to study connectivity |
| Park & Park, 2016b | ADHD vs HC | Graph based analysis | Not SCA | The analysis used graph theory instead of SCA to examine ROIs |
| Sidlauskaite et al., 2016a | ADHD vs HC | ROI-to-ROI | Not SCA | Analysis conducted rest-to-task and task-to-rest experiments to study default mode network; also the analysis did not use SCA for FC differences between HC and ADHD groups |
| Sidlauskaite et al., 2016b | ADHD vs HC | ROI-to-ROI | Not SCA | The analysis was restricted to four networks |
| Uytun et. al., 2017 | ADHD vs ADHD+CD vs HC | SCA | Data missing | Coordinates of significant voxels were not given |
| Chabernaud et al., 2012 | ADHD vs HC | SCA | Dimensional Analysis | The study used dimensional analysis instead of categorical |
| Kucyi et. al, 2015 | ADHD vs HC | SCA | Data missing | The resulting coordinates were not given fully |
| Sripada et. al, 2014 | ADHD vs HC | NBS | Not SCA | The study used NBS instead of SCA |
| Fair et. al, 2013 | ADHD vs HC | SVM-based multivariate pattern analysis & graph based analysis | Not SCA | SVM - based multivariate pattern analysis & graph-theory are used for the analysis instead of SCA |
| Wang et al., 2015 | ADHD vs HC | Topological | Not SCA | The study used topological analysis for ROIs instead of SCA |
| Yu et al., 2016 | ADHD vs HC | ReHo | Not SCA | The study used ReHo instead of SCA |
| Biskup et al., 2016 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Ho et al., 2015 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| An et al., 2013a | ADHD vs HC | ReHo | Not SCA | The study used ReHo instead of SCA |
| An et al., 2013b | ADHD vs HC | ALFF | Not SCA | The study used ALFF instead of SCA |
| Kessler et. al,2014 | ADHD vs HC | Joint ICA | Not SCA | The study used ICA instead of SCA |
| Yang et al., 2016 | ADHD vs HC | SCA | Drug Treatment | The study analysed only stimulant-induced FC changes |
| Mennes et. al,2012 | ADHD vs HC | SCA | Not resting | There was only the relationship between rsFC and behavioral and diagnostic variables. |
| Costa Dias 2013 | ADHD vs HC | SCA | Data missing | The resulting coordinates were not given fully |
| Alonso et al., 2014 | ADHD vs HC | ReHo, ALFF, ICA | Not SCA | The study used ReHo, ALFF, and ICA instead of SCA |
| Cormana et. al. 2015 | ADHD vs HC | Graph based analysis | Not SCA | The study used graph theory instead of SCA |
| Peterson et. al, 2017 | ADHD or SC or Addiction vs HC | SCA | Mixed samples | Study mixed the samples obtained from ADHD200 dataset with other FCON100 data |
| Xia et al.,2014 | ADHD vs HC | Graph based analysis and NBS | Not SCA | The analysis used graph theory and NBS instead of SCA |
| Yoo et al., 2017 | ADHD vs HC | ALFF, ICA, Graph based analysis | Not SCA | The study used ALFF, ICA, graph theory instead of SCA |
| Hyun et al., 2016 | ADHD vs HC | RFC | Not predefined ROI | The study had not any seed within our predefined regions of interest |
| Mostert et al., 2016 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| McLeod et al., 2014 | DCD or ADHD or ADHD+ DCD vs HC | SCA | Not predefined ROI | The study had not any seed within our predefined regions of interest |
| Qian et al., 2018b | ADHD | ICA | Not SCA, not healthy group | The study had not any healthy group and used ICA instead of seed-based analysis |
| Qian et al., 2018c | ADHD | ReHo | Not healthy group | The study had not any healthy group |
| Kernbach et al., 2018 | ADHD, ASD vs HC | Hierarchical Bayesian modeling  | Not SCA | The study used hierarchical Bayesian modeling instead of seed-based analysis |
| Wang et al., 2018 | ADHD | functional connectivity density mapping | Not SCA, not healthy group | The study had not any healthy group and used functional connectivity density mapping instead of seed-based analysis |
| Lacy et al., 2018b | ADHD vs HC | ALFF, ICA | Not SCA | The study used ALFF and ICA instead of SCA |
| Qian et al., 2018a | ADHD | Graph based analysis | Not SCA | The study used graph based analysis instead of seed-based analysis |
| Cai et al., 2018 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Tao et al., 2017 | ADHD vs HC | Graph-based approaches | Not SCA | The study used graph based approaches instead of seed-based analysis |
| Hong et al., 2017 | ADHD vs HC | DC | Not SCA | The study used DC instead of SCA |
| Sudre et al., 2017 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Hasler et al., 2017 | ADHD | Inter-hemispherical asymmetry | Not SCA, not healthy group | The study had not any healthy group and used inter-hemispherical asymmetry measures instead of seed-based analysis |
| Wang et al., 2017a | ADHD vs HC | ALFF, ReHo, DC | Not SCA | The study did not use SCA |
| Wang et al., 2017b | ADHD vs HC | Entropy, phase synchronization | Not SCA | The study used entropy and phase synchronization instead of SCA |
| Yoo et al., 2018 | ADHD vs HC | ALFF | Not SCA | The study used ALFF instead of SCA |
| Mowinckel et al., 2017 | ADHD vs HC | ICA, dual regression, and Bayesian linear mixed models | Not SCA | The study used ICA, dual regression, and Bayesian linear mixed models instead of SCA |
| Bos et al., 2017 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Zamorano et al., 2017 | ADHD vs HC | SCA | Task-based analysis | The study did not use resting state FC for between-group comparisons |
| Wu et al., 2017 | ADHD vs HC | ICA | Task-based analysis | The study did not use resting state FC for between-group comparisons  |
| Sotnikova et al., 2017 | ADHD | Functional connectivity density | Not SCA, not healthy control | The study did not use SCA and had not any healthy group |
| Zhan et al., 2017 | ADHD vs HC | NBS | Not SCA | The study used NBS instead of SCA |
| Kelly et al., 2017 | ADHD used cannabis/not cannabis vs HC used cannabis/not cannabis | ICA | Not SCA | The study used ICA instead of SCA |
| Richards et al., 2016 | Dysgraphia with and without ADHD | SCA | Not healthy control | The study had not any healthy group |
| Silk et al., 2017 | ADHD vs HC | NBS | Not SCA | The study used NBS instead of SCA |
| Bellec et al., 2017 | ADHD vs HC | ALFF, ReHo | Not SCA | The study used ALFF and ReHo instead of SCA |
| Cary et al., 2017 | ADHD vs HC | Node dissociation index | Not SCA | The study used graph measure, called node dissociation index instead of SCA |
| Sanefuji et al., 2017 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Beare et al., 2017 | ADHD vs HC | NBS | Not SCA | The study used NBS instead of SCA |
| Lin et al., 2018 | ADHD vs HC | CCA | Not SCA | The study used CCA instead of SCA |
| Marcos-Vidal et al., 2018 | ADHD vs HC | Graph based analysis | Not SCA | The study used graph based analysis instead of SCA |
| Nomi et al., 2018 | ADHD vs HC | Whole brain voxel wise analysis | Not SCA | The study used whole brain voxel wise analysis instead of SCA |
| Kim et al., 2018 | ADHD vs HC | ReHo | Not SCA | The study used ReHo instead of SCA |
| Janes et al., 2018 | Smoker vs non-smokers with ADHD symptoms | SCA | Not ADHD | The participants were not diagnosed as ADHD |
| Querne et al., 2017 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Wolfers et al., 2016 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Von Rhein et al., 2017 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Akdeniz G.,2017 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Qureshi et al., 2017 | ADHDI vs ADHDC vs HC | Global connectivity measure | Not SCA | The study used global connectivity measure instead of SCA |
| Kim et al., 2017 | ADHD vs HC | SCA | Not predefined ROI | The study had not any seed within our predefined regions of interest |
| Son et al., 2017 | ADHD vs BP vs HC | ROI to ROI | Not SCA | Coordinates of significant regions of interest were not given |
| Yang et al., 2018 | ADHD vs HC | SCA | Data missing | Coordinates of significant voxels were not given |
| Zepf et al., 2019 | ADHD vs HC | ROI to ROI | Not SCA | Coordinates of significant regions of interest were not given |
| Mizuno et al., 2017 | ADHD vs HC | SCA | Not predefined ROI | The study had not any seed within our predefined regions of interest |
| Dajani et al., 2019 | ADHD vs HC | Network connectivity analysis | Not SCA | The study used network connectivity metrics instead of SCA |
| Wang et al., 2019b | ADHD vs HC | Graph analysis | Not SCA | The study used graph metrics instead of SCA |
| Hawkey et al., 2018 | HC | Global efficiency, SCA | Not ADHD | The full study sample included 83 preschool children, not real ADHD |
| Borlase et al., 2019 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Mills et al., 2018 | ADHD vs HC | Network based analysis | Not SCA | The analyses were restricted to task-positive andtask-negative network regions |
| Rubia et al., 2019 | ADHD vs HC | SCA | Neurofeedback treatment | The study analysed only treatment-induced FC changes |
| Han et al., 2019 | IGD or IGD+ADHD or ADHD vs HC  | ReHo, SCA | No significant findings | No significant findings for pure ADHD compared to HC |
| Arfuso et al., 2019 | ADHD vs HC | SCA | Not predefined ROI | The study had not any seed within our predefined regions of interest |
| Picon et al., 2020 | ADHD | SCA | Drug treatment | The study analysed only treatment-induced FC changes and did not include HCs |
| Pretus et al., 2019 | ADHD vs HC | Stepwise FC analysis | Not SCA | The study used stepwise FC analysis instead of SCA |
| Jung et al., 2018 | ADHD vs HC | Machine learning | Not SCA | The study used machine learning techniques instead of SCA |
| Rosch et al., 2018 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Tan et al., 2020 | ADHD vs HC | SCA | Data missing | The resulting coordinates were not given fully |
| Tang et al., 2018 | ADHD vs HC | ALFF, fALFF, and ReHo | Not SCA | The study used ALFF, fALFF, and ReHo instead of SCA |
| Wang et al., 2019a | ADHD vs HC | Local functional connectivitydensity | Not SCA | The study used local functional connectivity density analysis instead of SCA |
| Zhou et al., 2019a | ADHD vs HC | SCA | Overlapping sample | The sample of study obtained from public dataset namely ADHD200  |
| Vatansever et al., 2019 | HC | SCA | Not ADHD | The study investigated ADHD symptomatology in healthy group, rather than in a clinical population |
| Pironti et al., 2019 | ADHD vs their relatives vs HC | SCA | Not pure ADHD vs HC comparison | The study did not include any results for ADHD compared to HC contrast |
| Kaboodvand et al., 2020 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Icer et al., 2019 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Wang et al., 2019c | ADHD vs HC | Graph analysis | Not SCA | The study used graph metrics instead of SCA |
| Zhou et al., 2019b | ADHD vs HC | DC | Not SCA | The study used DC instead of SCA |
| Pan et al., 2019 | ADHD vs HC | Graph analysis | Not SCA | The study used graph metrics instead of SCA |
| Lake et al., 2019 | ADHD vs ASD vs HC | Graph analysis | Not SCA | The study used graph metrics instead of SCA |
| Scofield et al., 2019 | ADHD vs HC | Hidden Markov Modeling | Not SCA | The study used Hidden Markov Modeling instead of SCA |
| Li et al., 2019 | ADHD vs HC | Graph analysis | Not SCA | The study used graph metrics instead of SCA |
| Pruim et al., 2019 | ADHDvs siblings vs rem-ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Sörös et al., 2019 | ADHD vs HC | ICA | Not SCA, not HC | The study used ICA instead of SCA and had not any healthy group. |
| Wu et al., 2019 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Lacy et al., 2018a | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |
| Qian et al., 2019 | ADHD vs HC | ICA | Not SCA | The study used ICA instead of SCA |

*Note.* The references excluded in meta-analysis are listed in Text A.2.; ADHD: Attention-deficit Hyperactivity Disorder; HC: Healthy Control; BP: Bipolar Disorder; CD: Conduct Disorder; DCD: Development coordination disorder; MDD: Major Depressive Disorder; ADHDI: ADHD inattentive type; ADHDI: ADHD combined type; FC: functional connectivity; ROI : Region of Interest; MDMR: Multivariate distance matrix regression; SCA: Seed-based Connectivity Analysis; S: Schizophrenia; ICA: Independent Component Analysis; PNE: Primary Nocturnal Enuresis, SVM: Support Vector Machine; ReHo: Regional Homogeneity; ALFF: Amplitude of low frequency fluctuation; NBS: Network-Based Statistics; CNM: Complex Neural Measures; IGD: Internet gaming disorder; RFC: Regional Functional Connectivity; CPRS: Conners’ Parent Rating Scale-Revised, Long Version; EL: Emotional Liability; VMHC: voxel-mirrored homotopic connectivity; CCA: canonical correlation analysis; DC: degree centrality analysis; fALFF: Fractional amplitude of low frequency fluctuation.

Table A.3. Summary of Seed-Networks and Anatomical Regions of Studies Included in Meta-analysis

|  |  |
| --- | --- |
| References | Network and direction of effect |
| **AMN** | **DMN** | **CCN** | **SN** |
| ADHD < HC | ADHD >HC | ADHD < HC | ADHD >HC | ADHD < HC | ADHD >HC | ADHD < HC | ADHD >HC |
| Posner et al., 2014 |  |  | hipp | hipp |  |  |  |  |
| Sun et al., 2012 |  |  |  |  |  |  | dACC | dACC |
| Cao et al., 2009 | putamen | putamen |  |  |  |  |  |  |
| Lin et al., 2015 |  |  |  |  | aPFC |  |  |  |
| Tian et al., 2006 |  |  |  |  |  |  |  | dACC |
| Lin & Gau, 2016 |  |  | DMN |  | dlPFC, IPS, FEF, ACC | dlPFC, IPS, FEF, ACC |  |  |
| McCarthy et al., 2013 |  | ACC |  | prec | dlPFC, IPS, FEF, ACC | dlPFC, IPS, FEF, ACC | TPJ, VFC |  |
| Costa Dias et al., 2015 | NAcc | NAcc |  |  |  |  |  |  |
| Castellanos et al., 2008 |  |  | prec |  |  |  |  | dACC |
| Barber et al., 2015 |  |  |  | DMN |  |  |  | CON |
| Posner et al., 2013 | striatum |  |  |  | dlPFC | dlPFC |  |  |
| Tomasi & Volkow, 2014 | VTA, SubN |  |  |  |  |  |  |  |
| Yu et al., 2016 | amygdala | amygdala |  |  |  |  |  |  |
| Francx et al., 2015 |  |  |  |  |  | CCN |  |  |
| Icer et al., 2018 |  |  |  | MTG, PCC, TPA, AG, IPL, mPFC | premotor, IFC, dlPFC |  |  |  |
| Zhao et al., 2017 |  |  |  |  |  |  | insula | insula |
| Li et al., 2014 | Globus pallidus, OFC | Globus pallidus, OFC |  |  | SFG | SFG |  |  |
| Hong et al., 2015 | putamen, caudate |  |  |  |  |  |  |  |
| Kumar et al., 2020 |  |  |  |  |  |  |  | dACC |
| Shang et al., 2020 | caudate, putamen, striatum |  |  |  |  |  |  |  |

*Note.* Only seeds, which had significant results, were listed. AMN, affective/motivational network; DMN, default mode network; CCN, cognitive control network; SN, salience network; ADHD, attention-deficit hyperactivity disorder; HC, healthy controls; hipp, hippocampus; dACC, dorsal anterior cingulate cortex; aPFC, anterior prefrontal cortex; dlPFC, dorsolateral prefrontal cortex; IPS, intraparietal sulcus; FEF, frontal eye field; ACC, anterior cingulate cortex; prec, precuneus; TPJ, temporaparietal junction; VFC, ventral frontal cortex; NAcc, nucleus accumbens; CON, cingulo-opercular network; VTA, ventral tegmental area; SubN, substantia nigra; IFC, inferior frontal cortex; MTG, middle temporal gyrus; PCC, posterior cingulate cortex; TPA, temporopolar area; AG, angular gyrus; IPL, inferior parietal lobe; mPFC, medial prefrontal cortex; OFC, orbitofrontal cortex; SFG, superior frontal gyrus.

Table A.4. Summary of Methods Implemented in Studies Included in Meta-analysis

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reference | Scanner | Dur(min) | TR/TE (ms) | EO/C | seed type | Physiological Regressors | Motion correction | FWE-corrected |
| global | GM | WM | CSF | HM | despk | 6-param | scrub | group t-test |  |
| Posner et al., 2014 | 3T | 2x5m | 2200/30 | C | mask (a priori) |  |  |  |  | x |  |  | x |  | x |
| Sun et al., 2012 | 3T | nr | 2000/30 | C | mask (a priori) | x |  | x | x | x |  |  |  | x | x |
| Cao et al., 2009 | 3T | nr | 2000/30 | C | mask (a priori) | x |  | x | x |  |  | x |  |  | x |
| Lin et al., 2015 | 3T | 6 | 2000/24 | C | 4-mm sphere | x |  | x | x |  |  | x |  | x | gaussian random field |
| Tian et al., 2006 | 3T | 8 | 2000/30 | C | manual | nr |  |  | x | x |
| Lin & Gau, 2016 | 3T | 6 | 2000/24 | C | mask (a priori) |  |  | x | x |  |  | x |  |  | x |
| McCarthy et al., 2013 | 3T | 7.2 | 2000/28 | nr | mask (a priori) |  |  | x | x |  |  | x |  |  | x |
| Costa Dias et al., 2015 | 3T | 3 x 3.5 | 2500/30 | O | mask (a priori) | nr | x | x |  | x |
| Castellanos et al., 2008 | 3T | 6.5 | 2000/25 | O | 3.5-mm sphere | x |  | x | x |  |  | x |  |  | gaussian random field |
| Barber et al., 2015 | 3T | 5 min 20 s | 2500/30 | O | 6-mm sphere |  |  | x | x |  |  | x |  | x | gaussian random field |
| Posner et al., 2013 | 3T | 2 x 5m | 2200/30 | C | 4-mm sphere or mask (a priori) | nr | x |  | x | x |
| Tomasi & Volkow, 2014 | 3T | nr | TR<3000 | nr | mask (a priori) | nr | x | x |  | x |
| Yu et al., 2016 | 3T | 8 | 2000/30 | C | mask (a priori) | x |  | x | x |  |  | x | x | x | x |
| Francx et al., 2015 | 1.5 T | 9 | 1960/40 | O | ICA mask (a priori) |  |  | x | x |  |  |  |  | x | x |
| Icer et al., 2018 | 1.5 T | 9 min 44 s | 2800/25 | C | mask (atlas) |  |  | x | x | x |  | x |  |  | x |
| Zhao et al., 2017 | 3T | 8 | 2000/30 | C | 6-mm sphere | x |  |  | x | x |  | x |  | x | x |
| Hong et al., 2015 | 3T | 6 min 24 s | 3000/40 | C | 3.5-mm sphere |  |  | x | x |  |  | x |  |  | x |
| Li et al., 2014 | 3T | nr | 2000/30 | C | mask (a priori) | x |  | x | x | x |  |  |  | x | x |
| Kumar et al., 2020 | 3T | nr | 2000/30 | nr | ICA mask (a priori) |  |  | x | x | x |  | x |  | x | FDR |
| Shang et al., 2020 | 3T | 6 | 2000/24 | C | 4-mm sphere | x |  | x | x | x |  |  |  |  | x |

*Note.* dur: duration; TR/TE: repetition time/echo time; nr: not reported; EO/C: participants’ eyes were open or closed during the resting state imaging; O: eyes open; C: eyes closed; GM: gray matter; WM: white matter; CSF: cerebrospinal fluid; HM: head motion; despk: despiking; 6-param: including motion parameters in statistical modeling; scrub: scrubbing to remove outlier volumes; FEW, family wise error; FDR, false discovery rate; nr, not reported.