

| Reference | Sample | Comorbidity (patient population) | Type of Analysis | Imaging Methods | Key Findings |
|-------------------------------------|------------------------------|--|---|--------------------|---|
| PTSD | | | | | |
| Bing et al. ³² 2013 | 20 PTSD 20 HC | MDD (n = 3) | linear regression analysis comparing cortical thickness to ALFF | 3 T | <ol style="list-style-type: none"> 1. ALFF values ↑ in left mPFC, left ACC & right cerebellum in PTSD vs HC 2. positive correlation between ALFF values in mPFC & CAPS scores 3. cortical thickness ↓ in left mPFC, left IFG, left ACC & right STG in PTSD vs HC 4. negativ correlation between cortical thickness within mPFC & CAPS scores as well as in ACC & CAPS scores |
| Bluhm et al. ³³ 2009 | 17 PTSD 15 HC | current MDD (n=6) current dysthymia (n=1) current depression disorder NOS (n=1) current PD (n=8) current agoraphobia (n=3) current GAD (n=2) past alcohol dependence (n=5) past alcohol abuse (n=2) past substance dependence (n=3) past substance abuse (n=3) past MDD (n=3) past PD (n=2) past bulimia nervosa (n=2) | (ROI) - based functional connectivity analysis | 4 T | <ol style="list-style-type: none"> 1. CON ↑ in PCC/precunues seed and: left mPFC, ACC, bilateral parietal cortex, bilateral ITG & right thalamus within HC 2. CON ↑ in PCC/precuneus seed and: PCC, left thalamus within PTSD 3. CON ↑ in PCC/precuneus seed and: right mPFC, bilateral pariatal cortex & MTG, right parahippocampal gyrus & hippocampus, right insula and amygdala in HC vs PTSD 4. CON with PCC pos correlated with DES scores in right STG and right IFG |
| Lanius et al. ³⁴ 2010 | 11 acute trauma survivors | MDD (n=2)** PD (n=1)** PTSD (n=2)** | (ROI) - based functional connectivity analysis | 4 T | <ol style="list-style-type: none"> 1. CON ↑ in PCC/precuneus seed and: left MFG, right parahippocampal gyrus, left ITG & MFG, right MTG in trauma exposed subjects 2. CON in PCC/precuneus seed pos correlated with CAPS in bilateral periangular anterior cingulate gyrus at time of scan 3. CON in PCC/precuneus seed with right amygdala at 5-6 week post traumatic event pos correlated with CAPS at 12 weeks post traumatic event |

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| Rabinak et al. ³⁵ 2011 | 15 PTSD 17 combat controls | current MDD (n=2) current alcohol abuse (n=2) past MDD (n=1) past alcohol abuse (n=4) past opioid abuse (n=1) past alcohol dependence (n=1) | (ROI) - based functional connectivity analysis | 3 T | 1. CON ↑ in right amygdala seed and right insula in PTSD vs CEC |
| Sripada et al. ³⁷ 2012 | 15 PTSD 15 combat controls 15 HC | current MDD (n=7) current PD (n=1) | (ROI) - based functional connectivity analysis | 3 T | 1. CON ↑ within SN in PTSD 2. CON ↑ between SN and DMN in PTSD 3. CON ↓ within DMN in PTSD |
| Sripada et al. ³⁶ 2012 | 15 PTSD 14 combat controls | current MDD (n=7) current PD (n=1) | (ROI) - based functional connectivity analysis | 3 T | 1. CON ↑ in right amygdala seed and right insula in PTSD vs CC 2. CON ↓ in right amygdala seed and dACC in PTSD vs CC 3. CON ↑ in right amygdala seed and: left hippocampus & left OFG in CC vs PTSD 4. CON ↑ in left amygdala seed and right insula in PTSD vs CC 5. CON ↓ in left amygdala seed and right rostral ACC in PTSD vs CC 6. no CON ↑ in left amygdala seed for CC vs PTSD |
| Qin et al. ³⁸ 2012 | 22 PTSD 19 trauma controls | not otherwise specified | (ROI) - based functional connectivity analysis | 3 T | 1. CON ↓ within right lingual & middle temporal gyri & left posterior cingulate cortex in PTSD 2. neg. correlation between PCC connectivity & CAPS scores |
| Yin et al. ⁴¹ 2011 | 54 PTSD 72 trauma controls | not otherwise specified | (ROI) - based functional connectivity analysis | 3 T | 1. CON ↑ in left thalamus seed and: right MFG in CC vs PTSD 2. CON ↑ in left thalamus seed and: left IFG & MFG, right precuneus in PTSD vs CC 3. CON ↑ in right thalamus seed and: left ACC, right MFG in CC vs PTSD 4. CON ↑ in right thalamus seed and: left IFG & MFG & IPL, right IFG in PTSD vs CC |
| Yin et al. ⁴² | 54 PTSD | not otherwise specified | low-frequency | 3 T | 1. ALFF ↓ in right insula, visual cortex, cerebellum |

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| 2011 | 72 trauma controls | | fluctuation (ALFF) analysis | | in PTSD vs CC 2. ALFF ↑ right medial frontal gyrus, middle frontal gyrus in PTSD vs CC 3. pos correlation between ALFF values in right medial frontal gyrus and CAPS |
| Yin et al. ³⁹ 2012 | 54 PTSD 72 trauma controls | not otherwise specified | regional homogeneity map analysis | 3 T | 1. ReHo ↑ in left inferior parietal lobule & in right SFG in PTSD vs CC 2. ReHo ↑ in right MTG & in right lingual gyrus in CC vs PTSD |
| Zhou et al. ⁴⁰ 2012 | 15 PTSD | not otherwise specified | pearson's analysis to derive correlations between PCC connectivity & CAPS scores | 3 T | 1. CON in PCC seed neg correlated with CAPS in left STG and right hippocampal gyrus/amygdala in PTSD 2. CON of PCC & right amygdala; PCC & left amygdala; left & right amygdala neg correlated with CAPS in PTSD at time of diagnosis |

GAD

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| Etkin et al. ⁴³ 2009 | 16 GAD 17 GAD-controls 31 HC | MDD (n=4) social anxiety disorder (n=5) PD (n=2) dysthymia (n=2) OCD (n=1) | (ROI) - based functional connectivity analysis | 3 T | 1. CON ↑ in basolateral amygdala with higher-order sensory and medial prefrontal cortices in HC 2. CON ↑ between centromedial amygdalae and cerebellum, thalamus, and midbrain in HC 3. higher corr between BAL & CMA in GAD vs HC 4. CON ↓ of BLA or CMA to all of their normal targets in GAD 5. CON ↑ of BLA or CMA to all of other subregions' targets in GAD 6. CON ↑ in frontoparietal CEN in GAD (e.g. Amygdala & dlPFC, vlPFC, dmPFC) 7. CON ↓ in SN in GAD (e.g. Amygdala & Insula) 8. gray matter volume ↑ in right CMA in GAD |
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SAD

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| Ding et al. ⁴⁵ 2011 | 17 SAD 19 HC | not otherwise specified | Temporal correlation of 90 paired brain sub-regions | 3 T | 1. pos CON ↓ within frontal lobe, e.g. between right median PFD and right IFC in SAD vs HC 2. neg CON ↓ between frontal and occipital lobe, e.g. right median PFC & left calcarine fissure, left superior occipital cortex & left cuneus region |
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| | | | | | in SAD vs HC 3. neg CON ↓ between frontal & occipital lobe pos correlated with severity of SAD |
| Hahn et al. ⁴⁴ 2011 | 10 SAD 27 HC | SAD + PD (n=2) PD (n=1) | (ROI) - based functional connectivity analysis | 3 T | 1. CON ↓ in left amygdala seed and: left media OFC, left PCC/precuneus in SAD vs HC 2. CON ↓ in left medial OFC & bilateral ACC in SAD vs HC 3. ACC clusters neg associated with STAI-S scores |
| Liao et al. ⁴⁶ 2010 | 22 SAD 21 HC | not otherwise specified | Granger causality analysis of (ROI) based functional connectivity analysis data | 3T | a1. CON ↑ <i>from left amygdala</i> to MFG, temporal cortex, somato-motor & visual cortex & cerebellum in SAD vs HC a2. CON ↓ <i>from left amygdala</i> to left SFG, right MTG & bilateral postcentral gyri in SAD vs HC a3. CON ↑ <i>from the right amygdala</i> to mOFG, temporal, occipital and limbic cortex in SAD vs HC a4. CON ↓ <i>from right amygdala</i> to right SFG, Hippocampus, regions in parietal lobe & cerebellum in SAD vs HC b1. CON ↑ <i>to left amygdala</i> and DMN regions (precuneus, middle cingulate gyrus), visual cortex, striatal cortex in SAD vs HC b2. CON ↓ <i>to left amygdala</i> and SFG & bilateral ITG in SAD vs HC b3. CON ↑ <i>to right amygdala</i> and DMN regions (precuneus, middle & superior FG), visual cortex, striatal cortex in SAD vs HC b4. CON ↓ <i>to right amygdala</i> and frontal cortex, ITG, few regions in parietal lobe & subcortical cortices in SAD vs HC c1. CON ↑ in right amygdala with left mOFG pos correlated with avoidance factor of LSAS in SAD group c2. CON ↓ in bilateral amygdala and bilateral ITG neg correlated with avoidance factor of LSAS in SAD group |
| Liao et al. ⁵¹ 2010 | 20 SAD 20 HC | not otherwise specified | ICA | 3 T | 1. CON ↓ in somato-motor network (SMN), visual network (VN) in SAD vs HC |

2. CON ↑ in self-referential network (SRN) in SAD vs HC
3. alterations in dorsal attention network (DAN), CEN, DMN and control network (CN) in SAD vs HC
4. pos correlation between LSAS values and:
 right orbital IFG (DAN), left medial SFG (DMN),
 right ACC (CN)
5. neg correlation between LSAS and:
 left superior parietal gyrus (VN)

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| Liao et al. ⁴⁷ 2011 | 18 SAD 18 HC | not otherwise specified | (ROI) - based functional connectivity analysis | 3 T | <ol style="list-style-type: none"> 1. CON ↑ in right posterior ITG and left inferior occipital gyrus in SAD vs HC 2. CON degree in left IOG pos correlated with total & avoidance scores in the LSAS 3. CON ↑ in left PHG and left MTG in SAD vs HC 4. CON degree in left MTG pos correlated with fear factor of LSAS in SAD group only 5. CON ↑ in right MPFG and DMN regions in both groups 6. CON ↓ in regions involving CEN and DAN in both groups |
| Pannekoek et al. ⁴⁸ 2012 | 12 SAD 12 HC | not otherwise specified | (ROI) - based functional connectivity analysis | 3 T | <ol style="list-style-type: none"> 1. CON ↑ in right amygdala seed and: left MTG, left supramarginal gyrus & left lateral occipital cortex in SAD vs HC 2. CON ↑ in bilateral dACC seed and: left precuneus, left lateral occipital cortex in SAD vs HC 3. no group differences in PCC/precuneus seed CON |
| Prater et al. ⁵⁰ 2013 | 20 SAD 17 HC | specific phobia (n = 3) GAD (n = 1) PD (n = 1) OCD (n = 1) | (ROI) - based functional connectivity analysis | 3 T | <ol style="list-style-type: none"> 1. CON ↓ between amygdala & rostral ACC in SAD |
| Qiu et al. ⁴⁹ 2011 | 20 SAD 20 HC | not otherwise specified | regional homogeneity analy | 3 T | <ol style="list-style-type: none"> 1. ReHo ↓ in left MPFC, right DLPFC, IPG, ACC & FG and bilateral AG in SAD vs HC 2. ReHo ↑ in left MOG and right PUT in SAD vs HC 3. ReHo in left putamen, left MPFC and bilateral DLPF neg correlated with LSAS total in SAD |

4. ReHo in left MOG, bilateral IPG and left CUN
 pos correlated with LSAS total in SAD

| OCD | | | | | |
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| Harrison et al. ⁵³ 2009 | 21 OCD 21 HC | not otherwise specified | (ROI) - based functional connectivity analysis | 1.5 T | 1. CON ↑ in (left) dorsal caudate seed and right ventral caudate/nucleus accumbens in OCD vs HC 2. strength of CON between the ventral caudate/nucleus accumbens to anterior orbitofrontal cortex predicted overall OCD symptom severity |
| Hou et al. ⁵⁴ 2012 | 23 OCD 23 HC | not otherwise specified | amplitude of low-frequency fluctuation (ALFF) analysis | 3 T | 1. ALFF ↑ e.g. in bilateral OFC, ACC in OCD vs HC 2. ALFF ↓ e.g. in bilateral cerebellum & parietal cortex in OCD vs HC 3. positive correlation between ALFF values in bilateral OFC and OCD symptom severity |
| Jang et al. ⁵⁵ 2010 | 22 OCD 22 HC | OC personality disorder (n = 2) schizotypal personality disorder (n = 1) tic disorder (n = 1) | (ROI) - based functional connectivity analysis | 1.5 T | 1. CON ↑ in PCC seed and: right ACC, MFG, putamen in HC vs OCD 2. higher anxiety levels in OCD were correlated with less CON between PCC seed & right putamen 3. cleaning dimension scores pos correlated with s right MFG and cuneus within PCC-FC map in OCD 4. cleaning dimension scores neg correlated with left PCC and right superior orbital gyrus 5. obsession/checking scores corr with CON ↓ in bilateral MFG and right superior medial gyrus |
| Kang et al. ⁵⁶ 2013 | 18 OCD 18 HC | not otherwise specified | (ROI) - based functional connectivity analysis | 3 T | 1. CON ↑ between caudate nucleus & middle CC & precentral gyrus in OCD |
| Li et al. ⁵⁷ 2012 | 20 OCD 20 HC | not otherwise specified | (ROI) - based functional connectivity analysis | 3 T | 1. CON ↑ between right anterior PFC with right insula & middle CC in OCD |
| Stern et al. ⁵⁸ 2012 | 30 OCD 32 HC | lifetime MDD (n = 14) MDD NOS (n = 4) PD (n = 2) PD NOS (n = 1) | (ROI) - based functional connectivity analysis | 3 T | 1. CON ↑ in fronto-parietal & DM network in OCD vs HC, e.g. between left insula seed and: PCC, right parahippocampus, left posterior regions of inferior parietal lobe, left DMPFC |

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specific phobia (n = 5)
 eating disorder NOS (n = 2)
 anorexia nervosa (n = 3)
 trichotillomania (n = 1)
 chronic motor tic disorder (n = 1)
 bipolar disorder NOS (n = 1)

2. CON ↓ in DMN regions, e.g. between aMFG seed and:
 adjacent region of aMFC, DMPFC in OCD vs HC
 3. CON ↑ between FPN & outside DMN
 in OCD vs HC; e.g. between right insula seed and
 right thalamus, left DMPFC

Zhang et al.⁵⁹ 18 OCD
 2011 16 HC

not otherwise specified

(ROI) - based functional
 connectivity analysis &
 graph-theoretical approach

3 T

1. CON ↓ posterior temporal regions in OCD vs HC
 2. CON ↑ in cingulate, precuneus, thalamus, cerebellum
 in OCD vs HC
 3. higher local clustering in control network in OCD
 vs HC (= disbalanced)

PD

Pannekoek et al.⁶¹ 11 PD
 2013 11 HC

not otherwise specified

(ROI) - based functional
 connectivity analysis

3 T

1. CON ↑ between amygdala & bilateral precuneus in PD
 2. altered SN CON in PD

SP

no investigations

*HC = healthy controls; PTSD = posttraumatic stress disorder; MDD = major depression disorder; PD = panic disorder; GAD = generalized anxiety disorder;
 OCD = obsessive-compulsive disorder; SP = specific phobia; NOS = not otherwise specified; CON = connectivity; SN = Salience Network; DMN = Default Mode Network;
 CEN = Central Executive Network; ** 5-6 weeks post trauma*

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