Table S1. Overview of type, dose, and medication intake for each anxiety patient.

|  |  |  |  |
| --- | --- | --- | --- |
| Patient group | Type of antidepressant medication | Dose | Medication intake since (month/year) |
| GAD | Citalopram | 40 mg | 12/2010 |
| GAD | Cipralex | 20 mg | 05/2014 |
| GAD | Citalopram | 40 mg | 02/2014 |
| GAD | Venlafaxin | 75 mg | 12/2013 |
| GAD | Fluoxetin | 20 mg | 11/2014 |
| GAD | MirtazapinCitalopram | 30 mg40 mg | 01/201401/2014 |
| PD | Citalopram | 30 mg | 11/2014 |
| PD | Fluoxetin | 20 mg | 08/2014 |
| PD | Citalopram | 20 mg | 01/2015 |
| PTSD | Fluoxetin | 20 mg | 09/2014 |
| PTSD | Elontril | 300 mg | 09/2014 |
| PTSD | Paroxetin | 30 mg | 01/2013 |

Note. GAD – Generalized anxiety disorder, PD – Panic disorder, PTSD – Posttraumatic stress disorder, mg – milligram.

Notes S1. Methods description: Whole brain analysis.

For statistical analysis, we conducted a small volume correction analysis using a whole brain mask. The anatomical assignment of the observed activation patterns were verified using TalairachClient (Version 2.4.3; Lancaster et al., 1997, 2000). Based on a regression model for each patient, we calculated an overall 2 (within; conscious/unconscious condition) x 2 (within; fearful/neutral face) x 2 (between; PAT/HC) rANOVA. Furthermore, a differential 2 (within; conscious/unconscious condition) x 2 (within; fearful/neutral face) x 3 (between; PD/GAD/PTSD) rANOVA was calculated to further investigate interaction effects of emotion by anxiety-related group (PD, GAD vs. PTSD). Initial voxel threshold was set at *p* < .001 uncorrected. Using the whole brain mask, thresholded maps were submitted to a correction criterion for multiple comparisons based on the estimate of the map’s spatial smoothness and on an iterative procedure (Monte Carlo simulation as implemented in BrainVoyager), which do not use the Gaussian random-field (GRF) approach for cluster-size thresholding. After 1000 iterations, the minimum cluster size threshold that yielded a cluster-level false-positive rate of 5% was applied to the statistical maps. For significant group effects, post-hoc group comparisons were calculated by Duncan (homogeneity of variance) or Games-Howell (inhomogeneity of variance) tests.

Notes S2. Results: Whole brain analysis.

Results for the whole brain analysis for the overall analysis revealed several emotion x condition interaction effects. Several brain regions were found to by hyperactivated during fearful vs. neutral face processing, these effects were driven by emotional face processing in the conscious condition. All significant clusters are listed in Table S2.

Results for the whole brain analysis for the differential analysis revealed emotion x condition and emotion x group interaction effects. All significant clusters are listed in Table S3. The emotion x group effects were found in several brain regions, leading to hyperactivation for fearful vs. neutral face processing, these effects were driven by emotional face processing in the conscious condition. Concerning the emotion x group interaction effects for several brain regions, group differences for fearful vs. neutral face processing is presented in Table S3.

Table S2. Whole brain analyses of main and interaction effects for the overall analysis for anxiety patients vs. healthy controls (*p* < .05 corrected).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Region of interest | Lat. | Talairach coord. of peak voxel | Cluster size (mm³) | *F*-value maximum(df = 118) | Effect |
| x | y | z |
| Overall analysis |
| Main effect: Emotion | - | - | - | - | - | - | - | - |
| Interaction effect:Emotion x Group | - | - | - | - | - | - | - | - |
| Interaction effect:Emotion x Condition | IPL | R | 57 | -26 | 29 | 2000 | 25.71 | fearful vs. neutral face processing,driven by the conscious condition |
| IFG | R | 52 | 37 | 6 | 72 | 14.85 |
| IFG | R | 46 | 13 | -1 | 168 | 15.55 |
| MFG | R | 45 | 39 | 15 | 136 | 15.14 |
| SFG | R | 35 | 52 | 17 | 144 | 12.94 |
| SFG | R | 30 | 51 | 30 | 1024 | 22.76 |
| Precentral gyrus | R | 34 | -13 | 28 | 296 | 21.36 |
| FG | R | 45 | -53 | -16 | 128 | 13.19 |
| FG | R | 41 | -42 | -18 | 336 | 19.49 |
| SG | R | 36 | -39 | 32 | 208 | 15.48 |
| STG | R | 47 | -37 | 16 | 176 | 17.55 |
| STG/MTG | L | -39 | 3 | -22 | 104 | 16.92 |
| OG | L | -16 | -93 | -1 | 584 | 17.06 |
| OG | R | 28 | -69 | -4 | 88 | 16.12 |
| MOG | R | 17 | -91 | 10 | 96 | 14.53 |
| Thalamus | R | 11 | -19 | -1 | 80 | 15.73 |
| Brainstem (Pons) | R | 9 | -19 | -27 | 256 | 20.01 |
| Brainstem (Culmen) | R | 7 | -27 | -17 | 168 | 17.30 |
| BA24 | R | 6 | 9 | 33 | 376 | 18.37 |
| BA24 | L | -8 | -19 | 41 | 120 | 16.00 |
| BA24 | L | -13 | 4 | 32 | 184 | 17.50 |
| BA32 | R | 8 | 23 | 39 | 512 | 19.54 |
| BA47 | R | 21 | 29 | -9 | 200 | 15.92 |
| Insula/claustrum | R | 34 | 8 | -5 | 224 | 15.06 |
| PG/ Amygdala | L | -19 | -5 | -12 | 160 | 14.00 |
| PG | L | -33 | -51 | 2 | 104 | 14.71 |
| PG | L | -40 | -36 | -10 | 120 | 15.73 |
| Hippocampus | L | -35 | -9 | -16 | 184 | 18.99 |
| Interaction effect:Emotion x Group x Condition | - | - | - | - | - | - | - | - |

Note. BA – Brodmann area; FG – fusiform gyrus; IFG – inferior frontal gyrus; IPL – inferior parietal lobule; MFG – middle frontal gyrus; MOG – middle occipital gyrus; MTG – superior temporal gyrus/ middle temporal gyrus; OG – occipital gyrus; PG – parahippocampal gyrus; ; SFG – superior frontal gyrus; SG – supramarginal gyrus; STG – superior temporal gyrus

The anatomical assignment of the observed activation patterns were verified using TalairachClient 2.4.3 (Lancaster et al., 1997, 2000).

Table S3. Whole brain analyses of interaction effects for the differential analysis across anxiety patients (*p* < .05 corrected).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Region of interest | Lat. | Talairach coord. of peak voxel | Cluster size (mm³) | *F*-value maximum(df = 57) | Effect |
| x | y | z |
| Differential analysis |
| Interaction effect: Emotion x Group | IFG | L | -46 | 21 | -6 | 192 | 12.03 | GAD > PD = PTSD |
| MFG | L | -37 | 13 | 50 | 56 | 9.18 | GAD > PD = PTSD |
| STG | L | -39 | 9 | -30 | 48 | 9.43 | GAD > PD = PTSD |
| MTG | L | -43 | -1 | -34 | 208 | 10.41 | PD = GAD > PTSD |
| OTG | L | -44 | -47 | -7 | 144 | 12.29 | PD = GAD > PTSD |
| OG | R | 12 | -95 | -9 | 256 | 12.10 | PD = GAD > PTSD |
| Precuneus | L | -21 | -55 | 35 | 232 | 12.26 | GAD > PD > PTSD |
| Interaction effect: Emotion x Condition | IPL | R | 45 | -48 | 38 | 64 | 13.34 | fearful vs. neutral face processing,driven by the conscious condition |
| IPL | R | 56 | -26 | 30 | 248 | 17.74 |
| MFG | R | 14 | 65 | 4 | 136 | 17.21 |
| SFG | R | 28 | 51 | 30 | 104 | 14.93 |
| SFG | L | -22 | 13 | 42 | 40 | 15.09 |
| ACG | R | 4 | 10 | 24 | 360 | 17.33 |
| BA23 | R | 8 | -21 | 33 | 80 | 16.64 |
| BA24 | L | -8 | -19 | 42 | 128 | 18.99 |
| BA31 | R | 23 | -39 | 37 | 64 | 13.67 |
| LL (Uncus) | R | 20 | -1 | -29 | 112 | 21.73 |
| Brainstem (Pons) | R | 8 | -20 | -26 | 256 | 20.01 |
| Precuneus | R | 5 | -51 | 49 | 352 | 18.01 |
| Putamen | R | 25 | 7 | 8 | 64 | 14.79 |
| PG/ Amygdala | L | -20 | -6 | -12 | 160 | 14.00 |
| Interaction effect: Emotion x Group x Condition | - | - | - | - | - | - | - | - |

Note. BA – Brodmann area; IFG – inferior frontal gyrus; IPL – inferior parietal lobule; LL – limbic lobe; MFG – middle frontal gyrus; MTG – middle temporal gyrus; OG – occipital gyrus; OTG – occipital temporal gyrus; PG – parahippocampal gyrus; SFG – superior frontal gyrus; STG – superior temporal gyrus

The anatomical assignment of the observed activation patterns were verified using TalairachClient 2.4.3 (Lancaster et al., 1997, 2000).

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