

Conclusions: The current findings suggest that volumetric characteristics of amygdalar complex are unaffected in the CHR state. The results have some inconsistency with our previous findings (Tomyshev *et al.* Psychiatry Res Neuroimaging. 2019; 289 26-36), which revealed only a decrease in cortical thickness in CHR individuals. However, the cross-sectional design of the current study and the lack of correlations between cortical thickness and clinical symptoms do not allow to conclude definitely whether the revealed higher cortical thickness can represent some resilience mechanisms, which will be elucidated via further research.

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EPP0874

Voxel-based morphometric imaging in first-episode psychosis: interrogating the role of familial liability

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Introduction: Neuroanatomical abnormalities are reported in psychotic disorders compared to healthy controls; nevertheless, less is known about the role of familial liability to psychosis in morphological brain changes.

Objectives: Using an exploratory voxel-based morphometry (VBM) analyses of the whole brain, we evaluated differences on GMVs across the whole brain among first-episode psychosis (FEP) patients, community-controls, and healthy siblings of patients to interrogate the role of familial liability.

Methods: Data were retrieved from a study (STREAM) conducted in Ribeirão Preto/SP Brazil. We included 71 first-episode psychosis patients (67.6% males, mean age±SD: 18.7±10.8), 24 unaffected siblings of patients (37.5% males, mean age±SD 30.8±10), and 36 controls (71.9% males, mean age±SD: 10±10.5). All magnetic resonance imaging (MRI) scans were acquired on a 3T Philips scanner. VBM data were processed using Statistical Parametric Mapping (SPM) software in MATLAB the MNI coordinate system. We performed exploratory voxel-wise comparisons of GMVs among the three groups using an analysis of covariance (ANCOVA) model in SPM. Results were considered significant if they retained significance after family-wise error (FWE) correction for multiple comparisons ($p < 0.05$). All the analyses were adjusted for age, sex, education in years, and total brain GMV.

Results: The whole-brain exploratory analyses revealed no significant findings at the $p < 0.05$ level (FWE-corrected). However, pairwise comparisons revealed significant changes between FEP patients and their unaffected siblings. In particular, FEP patients had decreased volumes in the right side of the following regions (FEW = 0.047): superior temporal cortex, Rolandic operculum, insula, Heschel's gyrus, supramarginal gyrus, superior temporal pole, hippocampus, parahippocampal gyrus, fusiform gyrus,

amygdala, olfactory, inferior frontal operculum, cerebellum, posterior and medial orbital frontal cortex, rectus, medial temporal, medial frontal, and putamen. FEP patients also showed decreased volumes on the left side of the following regions (FWE 0.049): frontal superior medial gyrus, superior frontal gyrus, frontal middle part, caudate, anterior cingulate cortex, thalamus, and pallidum. Patients also showed widespread reduced GMV in various GMVs regions compared to controls at FWE < 0.05. However, no difference was found between siblings and controls (FWE: > 0.05).

Conclusions: The study of healthy siblings of patients with heritable illnesses could help in the understanding of the contribution of genetic background and environmental factors to illness state and predisposition. Differences between patients and their siblings could be attributed to the disease state, considering that the unaffected sibling group and unrelated healthy control group did not differ. We will next evaluate biological and environmental contributors to the reported differences.

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EPP0875

Global signal topography of the depressive syndrome in bipolar disorder

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Introduction: Previous findings show that the depressive state is characterized by a peculiar suppression of the resting state functional connectivity (rsFC) anti-correlation between resting-state networks (e.g., Default Mode Network) and task-positive networks (e.g., Sensory-Motor Network) in favor of an abnormal positive rsFC pattern. This suggests a large-scale functional disbalance in adaptively switching the attentional focus from an internal-oriented cognitive modality to an external-oriented processing modality. Yet, according to further evidence, such a functional inversion is primarily driven by the global signal (GS) (i.e., by an abnormal large-scale topographical reconfiguration) in major depressive disorder (MDD). However, it is not clear if similar alterations may affect bipolar disorder (BD) in depressive phase.

Objectives: Investigation of the global topography of the depressive syndrome as a potential transnosographic endophenotype and evaluation of the GS on generating differences between groups.

Methods: We compared large-scale rsFC patterns in a group of healthy controls (HC) (n=70) and a group of patients with BD (n=70) during a depressive episode. In order to investigate the impact of the GS, we further performed all analyses both with and without GS regression (GSR).

Results: Compared to HC, patients with an ongoing major depressive episode exhibit specific resting-state changes that are only observed when analysis is performed without regressing GS. Patients were found to exhibit an (i) abnormally strong GS contribution within an extended cluster comprising regions known to be part of highly interconnected hubs (i.e., *transmodal networks*) and showing functional relations' core along the cortical midline and a (ii) diminished influence of the GS in correspondence of

frontoparietal and occipitotemporal regions. Notably, no traces of such changes -differentiating the global topography of patients from HC- held when applying GSR.

Conclusions: Our results (i) suggest that rsFC alterations detected stem from a global rather than a local source and (ii) corroborate the impact GS can exert on generating within and between-networks differences. Hence, we underline the necessity that future investigations on groups with expected altered topographical distribution include GS within data-analysis and a proper evaluation of its involvement. Nonetheless, our results are in line with previous evidence of altered global topography in MDD. Hence, we interpreted this finding as a benchmark of a whole-brain functional disbalance toward self-oriented cognition characterizing the transnosographic depressive syndrome.

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EPP0876

Self-compassion is associated with the superior longitudinal fasciculus in the mirroring network in healthy individuals

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Introduction: Self-compassion (SC) describes an emotionally positive attitude extended toward ourselves when we suffer, consisting of three main components; self-kindness, common humanity, and mindfulness (Germer & Neff, 2013). SC entails being warm and understanding towards ourselves when encountering pain or personal shortcomings, rather than ignoring them or flagellating ourselves with self-criticism. SC also involves recognizing that suffering and failure are part of the shared human experience rather than isolating. In addition, SC requires taking a mindful approach to one's feelings and thoughts, without judgment of them.

Objectives: Self-compassion (SC) involves taking an emotionally positive attitude towards oneself when suffering. Although SC has positive effects on mental well-being as well as a protective role in preventing depression and anxiety in healthy individuals, few studies on white matter (WM) microstructures in neuroimaging studies of SC has been studied.

Methods: Magnetic resonance imaging data were acquired from 71 healthy participants with measured levels of SC and its six subscales. Mirroring network as WM regions of interest were analyzed using tract-based spatial statistics (TBSS). After the WM regions associated with SC were extracted, exploratory correlation analysis with the self-forgiveness scale, the coping scale, and the world health organization quality of life scale abbreviated version was performed.

Results: We found that self-compassion scale (SCS) total scores were negatively correlated with the fractional anisotropy (FA) values of the superior longitudinal fasciculus (SLF) in healthy individuals. The self-kindness and mindfulness subscale scores of SCS were also negatively correlated with FA values of the same

regions. The FA values of SLF related to SC were found to be negatively correlated with the total scores of self-forgiveness scale, and self-control coping strategy and confrontation coping strategy.

Conclusions: Our findings suggest that levels of SC and its self-kindness and mindfulness components may be negatively associated with DMN-related WM microstructures in healthy individuals. These less WM microstructures may be associated with positive personal attitudes, such as self-forgiveness, self-control and active confrontational strategies.

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EPP0877

Resting-state brain activity dysfunctions in schizophrenia and their associations with negative symptom domains

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Introduction: Negative symptoms represent a fundamental aspect of schizophrenia: they have a substantial impact on patients' real-life functioning and do not respond satisfactorily to currently available treatments. Therefore, a better understanding of the pathophysiological mechanisms underlying these symptoms could favor the development of new treatments.

To date, the most validated pathophysiological hypothesis indicates an association between the Motivational domain (consisting of avolition, anhedonia and asociality) and alterations in the neuronal circuits involved in motivation. The Expressive Deficit domain (consisting of blunted affect and alogia) would be subtended by widespread alterations of cortical connectivity and associated with impaired neurocognition, social cognition, and the presence of neurological soft signs.

Objectives: The aim of the present study is to examine the neurobiological correlates of the two domains of negative symptoms, starting from the brain areas that have been most commonly found in the literature to be associated with negative symptoms.

Methods: Resting-state (rs) fMRI data were acquired in 62 subjects with schizophrenia (SZ) and 46 healthy controls (HC). The two negative symptom domains were assessed using the Brief Negative Symptom Scale. In addition, the following assessment tools were used: the Positive and Negative Syndrome Scale for the assessment of positive symptoms and disorganization, the Calgary Depression Scale for Schizophrenia for depression and the St. Hans Rating Scale for extrapyramidal symptoms. The study of the possible relationships between rs-brain activity and the negative symptoms domains