Oral Presentation: *#O4*
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The study of resting-state networks through musical mood induction: Exploring the effects of sad mood on mood congruency and recovery in the general population

Major Depressive Disorder (MDD) is characterized by the misrepresentation and dysregulation of emotion, difficulties disengaging from self-focused attention, rumination, and negative mood-congruent thinking. Its local prevalence has doubled from 10.7% in 2014 to 19.8% in 2020, pointing towards a worrying upward trajectory. Although this has called for the examination of brain organization through network approaches to understand the neural underpinnings of MDD, the role of altered brain circuitry has yet to reach a consensus. To this end, we propose a fMRI study predicated on the *triple network model* which has gained popularity in its synthesis of the core neural networks purported to play a role in the psychopathology of psychiatric disorders (Menon, 2011). In which, the *default mode*- (DMN), *central executive*- (CEN) and *salience network* (SN) are networks which respectively subserve crucial brain functions during rest, cognitive and emotional processes. Since the literature has largely focused on current, chronic, and remitted MDD population; also with emerging evidence suggesting that psychiatric disorders are the resultant of aberrations in normal functioning, studying the natural variation in the vulnerability to depression alongside other idiosyncratic factors could be a valuable research avenue towards the detection of this debilitating disorder within the general population.

Against this background, our objective is to understand the alteration of *functional networks* by employing the *musical mood induction procedure* (MMIP; (Västfjäll, 2001), a method developed to experimentally manipulate the affective states of individuals through music listening. We aim to induce sad (vs. neutral) emotional state in participants recruited from the general population to explore how the variation in networks alteration (as correspond to variation in the vulnerability to depression) may modulate mood alteration in a mood induction paradigm. Specifically, we will investigate the functional connectivity of networks subserving 1) rest, 2) mood induction, 3) task, and 4) recovery period by comparing the connectivity between these phases, and scrutinize if the differences in connectivity are related to variances in the vulnerability to depression, among other individual differences. We hope to examine the modulating effect of affective state on networks in the context of natural variation in depression as this could elucidate the extent to which sad music is capable of triggering specific emotional and cognitive processes as a function of depressive symptoms, and whether these are related to MDD associated aberrations in brain circuitry.

References

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