

Individuals with High Social Anhedonia Have Already Exhibited Altered Corticostriatal Functional Connectivity

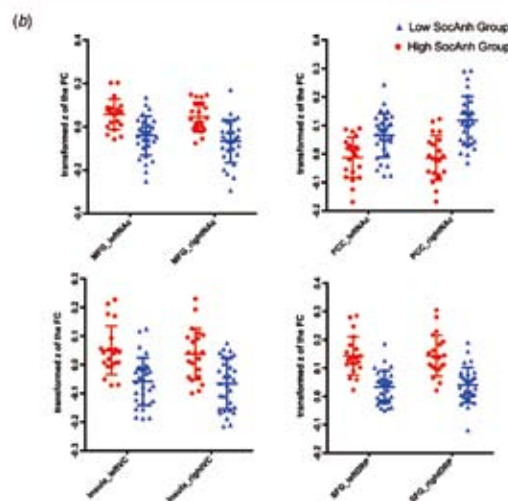
Schizotypy is conceptualized as an at-risk trait related to schizophrenia spectrum pathology. Empirical findings have suggested that social anhedonia, a reduced capacity to experience pleasure in social interaction, is one of the important predictors for psychosis. However, most of the previous studies were limited to behavioral findings and very few brain structural and functional studies have been conducted.

Dr. CHAN Raymond from the Institute of Psychology, Chinese Academy of Sciences has initiated the first large-scale longitudinal prospective program to specifically examine the underlying trajectory behavioral and neural changes in individuals with schizotypy in China. The program aims to identify the risk factors and protective factors for schizotypy and to formulate timely management and intervention for these individuals in the long-run. In the present study, Drs. WANG Yi and CHAN Raymond and their Australian collaborator have examined the corticostriatal functional connectivity in 21 individuals with social schizotypy and 30 healthy controls, and attempted to identify the associations between emotional processing and corticostriatal functional connectivity observed in individuals with social anhedonia.

Findings showed that individuals with social anhedonia exhibited hyper-connectivity between the ventral striatum and the anterior cingulate cortex and the insula, and between the dorsal striatum and the motor cortex. However, hypo-connectivity was observed between the ventral striatum and the posterior cingulate cortex in these individuals. More importantly, functional connectivity between the ventral striatum and the prefrontal cortex was also associated with anticipatory pleasure experience and emotional suppression.

These may be early changes in brain functional connectivity in the reward system associated with schizotypy, especially characterized with social anhedonia. Future studies on social anhedonia in high risk populations and first-episode schizophrenia patients could provide new evidence in the better understanding of the development of psychosis.

This study was supported by a grant from the “Strategic



Significant group effect of high and low social anhedonia on the functional connectivity (FC) of the striatum.

Priority Research Program (B)” of the Chinese Academy of Sciences, the National Natural Science Foundation of China, and the Beijing Training Project for the Learning Talents in S&T.