

The University of Hong Kong  
Department of Psychology

*Departmental Seminar*

*Neuropsychological Underpinnings of  
Social Dysfunction in People with Schizophrenia-spectrum Disorders*

Date: August 14, 2014 (Friday)  
Time: 11:30 a.m. – 12:30 p.m.  
Venue: CPD-3.15, Centennial Podium Level, Centennial Campus, HKU  
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Schizophrenia-spectrum disorders including schizophrenia, schizotypal personality disorder and other psychotic disorders are often affiliated with pathological concepts such as being violent and socially incompetent. For instance, prior studies have established the associations of schizophrenia with social dysfunction such as antisocial behaviour. However, it is unclear what specific neuropsychological factors underlie these relationships. Besides, whether such linkage can transcend to the subclinical group, i.e. those with schizotypal personality traits (schizotypy), remains questionable. In view of the fact that schizotypy shares a similar genetic and neurobiological basis with schizophrenia-spectrum disorders, the issue of whether people with schizotypy are more prone to exhibiting social dysfunction, specifically antisocial behaviour, commands

investigation. Yet, previous studies that investigated social dysfunction in schizotypy are scarce. Therefore, this thesis takes a broader perspective in studying schizotypy in order to better understand antisocial behaviour in schizophrenia-spectrum disorders.

Two studies were conducted to investigate the neural and psychological underpinnings of antisocial behaviour in schizotypy. Study 1 examined the relationship between schizotypy, peer victimization, theory of mind (ToM) and antisocial behaviour (indexed by reactive-proactive aggression) in university students. To add to the prior finding that peer victimization mediates the association between schizotypy and antisocial behaviour in children and adolescents, ToM was found to be a significant moderator in such a mediated relationship in the university students in Study 1. These findings suggest that schizotypy-peer victimization-aggression also applies to young adults, and that the ability to understand the mental state and intention of the others mitigates the effect of schizotypy and peer victimization on the antisocial propensity.

To further investigate the underpinnings of social dysfunction in schizotypy, Study 2 examined the relationship between schizotypy, sub-regional prefrontal gray and antisocial behaviour. The results showed that there was a positive association between schizotypy and antisocial behaviour while they were both negatively related to total gray matter volume (GMV) in the sub-regional prefrontal cortex (PFC), specifically the orbitofrontal cortex (OFC). Furthermore, the OFC gray mediated the association between schizotypy and antisocial behaviour. These findings are the first that document a neural mediator of the schizotypy-antisocial behaviour relationship suggesting that functions sub-served by the OFC may help explain this comorbidity.

Taken together, the findings of these two studies enable us to identify the specific psychological (peer victimization and ToM) and neural factors (sub-regional prefrontal

gray) that account for the psychological impairment and antisocial behaviour in schizotypy. Besides, the current thesis has extended the scope of prior literature in schizophrenia-spectrum disorders to its sub-clinical group, schizotypy. Based on these findings, we are able to design more cost-effective treatments for preventing and intervening in schizotypal symptomatology as well as the propensity for antisocial behaviour in the community. Last but not least, teasing out the underlying mechanisms of the schizotypy-social dysfunction relationship potentially helps reduce the stigma towards schizophrenia-spectrum disorders.

