Impaired probabilistic learning and decision – making in Internalizing Psychopathology

Computational modelling has greatly advanced our understanding of human learning and decision-making. It enables us to formalize and understand how choice behaviours can be optimally adapted to different situations and the ways in which individuals may deviate from optimal behaviour. The latter has been central to the growing field of computational psychiatry which aims to identify alterations in the computations underlying human cognition and brain function associated with various forms of psychopathology. Within this field, my lab’s focus has been on anxiety and more recently, Internalizing Psychopathology in general. Anxiety and depression are highly comorbid. Determining whether deficits in the computations underlying probabilistic learning and decision-making are specific to anxiety, or more broadly linked to internalizing psychopathology, requires partitioning symptom variance into components that disentangle variance common to both anxiety and depression from that specific to anxiety or to depression. Bifactor analysis provides a principled method for achieving this goal. In this talk I will describe several studies across which we have used computational approaches to characterize deficits in probabilistic learning and decision-making linked to anxiety and to determine the extent to which these deficits generalize across domains (e.g., pursuit of reward versus avoidance of threat) and are specific to anxiety or common to both anxiety and depression.

Zoom Link:

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