

Brown Bag Lunchtime Seminar

Neural separability of emotion reactivity and emotion regulation

12:30 p.m. – 1:30 p.m. | September 10, 2021 (Friday)

Rm 813, 8/F, The Jockey Club Tower | Centennial Campus | The University of Hong Kong



Jinxiao ZHANG

Ph.D. student

Department of Psychology
Stanford University

Abstract

Psychological separability of emotion reactivity and emotion regulation has been useful for thinking about and studying emotion, but does psychological separability necessarily suggest neural separability? Prior research has suggested that one can distinguish between primarily emotion reactivity-related regions such as the amygdala, and emotion regulation-related regions such as lateral prefrontal regions. In this research, we study how separable these neural substrates of emotion reactivity and emotion regulation are. In two independent samples (sample 1: n=118; sample 2: n=150), we used functional Magnetic Resonance Imaging (fMRI) to scan participants' brains while they were instructed to react to emotional stimuli naturally or to regulate their emotion while viewing emotional stimuli. In both samples, as expected, previously-thought regulation regions' neural activation for emotion regulation was greater than 0. However, their neural activation for emotion reactivity, interestingly, was even greater than that for emotion regulation. Moreover, using a multivoxel pattern analysis (MVPA), we found that the neural signals in previously-thought regulation regions could be used to classify whether an individual is reacting to an emotional stimulus (vs. a neutral stimulus) with much higher accuracy than to classify whether an individual is regulating emotion (vs. just reacting naturally). These findings convergently challenge the separate view of the neural substrates of emotion reactivity and emotion regulation and support an integral view instead.

About the speaker

Jinxiao is a PhD student at the Department of Psychology, Stanford University, working with James Gross. In one track of his research program, he seeks to better understand the neural bases of how emotion arises (emotion reactivity) and how emotion is modulated (emotion regulation). In another track, he studies the relationship between sleep and emotional functioning including emotion reactivity and emotion regulation. Prior to joining Stanford, he obtained BSc and MPhil degrees from HKU.

Zoom (For participants who couldn't attend the Seminar in person)

<https://hku.zoom.us/j/3951550048?pwd=SncvL3RYakEycUtpL29vdDJEeDlEwdz09>

Meeting ID: 395 155 0048 | Password: psyc

~All are Welcome~

Enquiry: rpsyc@hku.hk

