

**Brown Bag Lunchtime Seminar (Via Zoom)**  
**(Theme: Cognition and Neuroscience)**

**Emotional After-Effects of Memory Suppression: Evidence from EEG-based Decoding**

12:30 p.m. – 1:30 p.m. | October 15, 2021 (Friday)



**Mohith Mukund VARMA**

MPhil student  
Department of Psychology  
The University of Hong Kong

**Abstract**

Memory suppression is a central process of human cognition and is the ability to engage inhibitory control mechanisms to suppress unwanted memories from consciousness, especially when those undesired memories are attached with negative emotional experiences. Yet very little is known concerning the impact of memory suppression over the emotional processing of suppressed memories. The present research addresses this fundamental question by examining the role of memory suppression in modulating spontaneous/implicit and deliberative/explicit emotional reactivity towards suppressed emotional memories upon their re-exposure.

In a sample consisting of 37 healthy adult participants, we used electroencephalography (EEG) to record participants' brain activity during a memory suppression task involving emotionally negative and neutral materials, and subsequent spontaneous/implicit emotional reactivity task. We gauged participants' deliberative/explicit emotional reactivity towards suppressed memories using self-reported affect ratings. Our results indicate that during the suppression task, memory suppression dampened neural signals associated with emotional reactivity which persisted for suppressed memories during the spontaneous/implicit emotional reactivity task. Moreover, using multivariate EEG-based decoding, we found neural activity pattern was largely indistinguishable between suppressed negative and neutral memories during the suppression and implicit emotional reactivity tasks, suggesting that memory suppression disrupts the emotion-dependent neural representation of suppressed emotional memories. Interestingly, we also found evidence for amplified deliberative/explicit self-reported negative emotional reactivity towards suppressed negative memories upon their re-exposure. Taken together, our findings offer fine-grained insight into the dynamic role of memory suppression on mnemonic and emotional processing of suppressed memories.

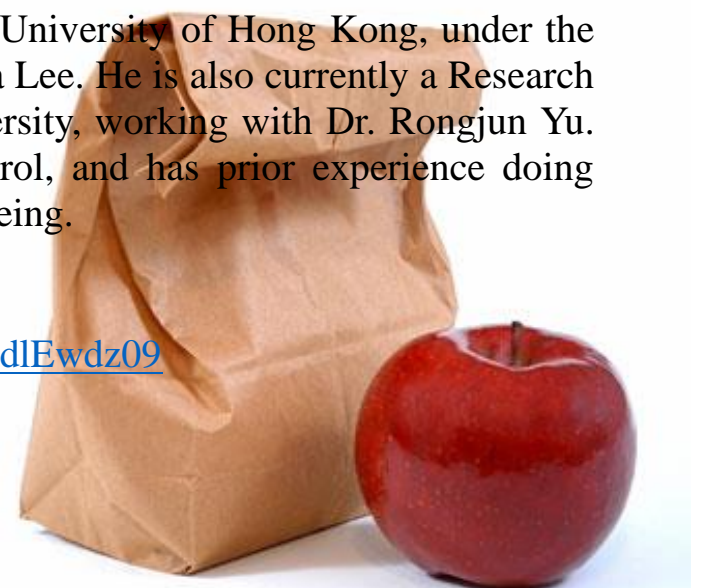
**About the speaker**

Mohith is a final-year MPhil student at the Department of Psychology, University of Hong Kong, under the primary supervision of Dr. Xiaoqing Hu and co-supervised by Prof. Tatia Lee. He is also currently a Research Assistant at the Department of Management, Hong Kong Baptist University, working with Dr. Rongjun Yu. His research interests include emotional memories and cognitive control, and has prior experience doing research related to fear, social decision-making and psychological well-being.

**Zoom**

<https://hku.zoom.us/j/3951550048?pwd=SncvL3RYakEycUtpL29vdDJEIdlEwdz09>

Meeting ID: 395 155 0048 | Password: psyc



**~All are Welcome~**

**Enquiry: [rpsyc@hku.hk](mailto:rpsyc@hku.hk)**