

Brown Bag Lunchtime Seminar
(Theme: Cognition and Neuroscience)

Promoting Social Conformity via Ingroup Social Influences and Memory Reactivation during Sleep

12:30 p.m. – 1:30 p.m. | June 16, 2023 (Friday)
Rm 813, 8/F, The Jockey Club Tower | Centennial Campus | The University of Hong Kong



Danni CHEN
PhD student
Department of Psychology
The University of Hong Kong

Abstract

People readily change their behaviors to comply with the public, but the extent to which they internalize such influences remains unclear. In Experiment 1, a pre-registered electroencephalogram (EEG) study, we aimed to investigate the impact of in-group vs out-group influences on human face attractiveness perception, including explicit ratings and neural representations. Our results showed that participants changed their explicit attractiveness ratings in response to both in-group and out-group influences, indicating public compliance. We next quantified the neural representation of facial attractiveness, when participants viewed faces without overt social influences and intentional evaluations, by calculating the multivariate neural representational similarities of learned faces and prototypical attractive faces. We found that the neural representation of facial attractiveness changed, indicating private acceptance, but only when participants learned from their in-group members, and among those who perceived tighter social norms.

Furthermore, we discovered that the 7-day delayed social conformity was modulated by the memory error of social influence. To further explore the role of memory in social conformity, we utilized targeted memory reactivation (TMR) during sleep in Experiment 2. Participants learned about peer evaluations of snacks, after which they slept in the lab with EEG brainwaves being recorded. During non-rapid eye movement sleep (NREM), we played auditory words associated with the snacks to reactivate the peer evaluation memories. Notably, we found that social conformity, as evidenced by the preference ratings updates, was even more pronounced after sleep. Moreover, the preference updates were predicted by the cue-elicited theta power during sleep.

In summary, our findings shed light on how group affiliations, individual differences in perceived social norms, and memory consolidation during sleep modulate the impact of social influence on behavior and neural representations. Our research contributes to the understanding of the relationship between memory and social conformity and has potential implications for influencing one's attitudes and behaviors.

About the speaker

Danni is a Ph.D. candidate supervised by Dr. Xiaoqing Hu. Her research primarily centers around affective and social cognitive neuroscience. Specifically, she is currently investigating how pre-existing social knowledge and attitudes can be updated through social learning, as well as the editing of memories during both waking and sleeping states. Another area of focus for her is exploring the transformation and updating of emotional memories, with a particular emphasis on how (pro)social behavior may interact with this process. She utilizes a variety of tools and methodologies, including EEG, eye-tracking, mouse-tracking, and behavioral modeling.

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