

You are kindly invited to the public defense to obtain the degree of

DOCTOR OF PSYCHOLOGY

of Mrs. Yulin Wang

Which will take place **ONLINE** on **August 30, 2021 at 2 pm**
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**COMMON AND DISTINCT BEHAVIORAL AND
NEUROPHYSIOLOGICAL MECHANISMS IN EXPERIENTIAL
AND COGNITIVE EMOTION REGULATION**

JURY

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SUMMARY

Emotion regulation refers to the shaping of one's emotions when they arise, and how it influences one's experience or expression of these emotions (Gross, 1998). This Ph.D. research project focuses on validating the effectiveness of induced bottom-up experiential emotion regulation in comparison to top-down cognitive emotion regulation using behavioral (sleep), physiological, and neuroimaging (fMRI) measurements. The Ph.D. includes four inter-correlated studies. The first sleep study (Chapter II) addressed the effects of experiential emotion regulation versus cognitive reappraisal on the emotional experience and follow-up sleep physiology after stress. The physiological study (Chapter III) investigated the impact of single versus repeated instances of experiential emotion regulation and cognitive reappraisal on subjective emotional experience and objective physiological response. The third fMRI study (Chapter IV) examined the differential neural networks underlying experiential ER and cognitive defusion. The fourth fMRI study (Chapter V) further examined the behavioral and neurophysiological mechanisms underlying the impact of single versus repeated instances of experiential and cognitive emotion regulation. Altogether, these four empirical studies strived to elucidate the working mechanisms underpinning experiential emotion regulation, as a complementary emotion regulation strategy to cognitive emotion regulation. Based on the research findings, we observed that experiential emotion regulation does not act immediately but may require repeated processing of emotions to yield in-depth effects and become progressively effective. With regards to repeated processing, experiential emotion regulation resulted in 1) a steeper relative decrease of negative emotional experience; 2) an enhanced activation of the anterior insular cortex – a central area in affective and interoceptive awareness. Experiential emotion regulation also appeared to slow down respiratory activity, indicating a dampening effect on the autonomic system. In comparison, cognitive reappraisal became more immediately effective with no further recovery by repeated processing. Cognitive reappraisal enhanced positive facial expressivity and activations in the brain area involved in cognitive control. Moreover, cognitive emotion regulation, such as cognitive defusion, enhanced subjective negative emotion experience while decreasing the activation of subcortical areas such as the amygdala.

In summary, this Ph.D. dissertation revealed common and distinct behavioral and neurophysiological mechanisms in experiential and cognitive emotion regulation. Furthermore, this research reflects a first, in-depth, experimental validation of a crucial approach within experiential psychotherapy operationalized by 'experiential emotion regulation', providing new and innovative insights towards our understanding of the processes of emotion regulation in experiential, emotion focused, and client-centered psychotherapeutic approaches.

CURRICULUM VITAE

Yulin Wang was born in Anqing city, Anhui province of China on June 13th, 1990. Yulin Wang obtained the degree of Master of Education in 2015 at Southwest University (SWU) of China. During her master study, Yulin received the National Scholarship for Postgraduate Student awarded by the Ministry of Education of People's republic of China. Yulin's master study mainly focused on the cooperation and competition of resting-state brain networks. After being granted a PhD scholarship, Yulin started her PhD (joint PhD between Vrije Universiteit Brussel and Ghent University) under the supervision of Prof. Dr. Marie Vandekerckhove and Prof. dr. Daniele Marinazzo. During her PhD, Yulin focused on the common and distinct behavioral and neurophysiological mechanisms in experiential and cognitive emotion regulation. Yulin also successfully applied for Gustave Boël – Sofina Fellowships for a research stay at the University College London during the academic year: 2018-2019. In 2020, Yulin received the Chinese Government Award for Outstanding Self-finance Students Abroad in 2020. Yulin's work has been presented at several international conferences and has been published, or submitted in international peer-reviewed scientific journals.