

Habitual Sleep Quality Moderated the Effects of Sleep Deprivation on Emotion Regulation by Third-Person Self Talk: Event-Related Potential (ERP) and Behavioral Findings

Yeuk Ching Lam

the Education University of Hong Kong, Hong Kong, Hong Kong

Esther Yuet Ying Lau

the Education University of Hong Kong, Hong Kong, Hong Kong

Janet Hsiao

University of Hong Kong, Hong Kong, Hong Kong

Cheng Li

the Education University of Hong Kong, Hong Kong, Hong Kong

Lydia Ting Sum Yee

the Education University of Hong Kong, Hong Kong, Hong Kong

Abstract

The current study investigated the impact of sleep deprivation (SD) on the use of third-person self-talk, a relatively effort-less strategy, to regulate emotion. Twenty-four participants (age = 22.75 ± 2.68, 54.17% male, 33.33% good sleepers) completed a cue-picture ERP paradigm after normal sleep and SD conditions, in which they viewed negative or neutral stimuli and reflected on their feelings using either the pronoun I or their name (third-person). We calculated post-instruction late positive potential (LPP) that has been found sensitive to emotion regulation strategies and closely related to amygdala activity. While poor sleepers showed greater LPP amplitudes overall, $F(1,7) = 17.50$, $p = .004$, SD only increased the LPP for negative picture trials among good sleepers but not poor sleepers, $F(1,7) = 5.37$, $p = .054$, suggesting that the effect of SD on emotion regulation using third-person self talk was moderated by habitual sleep quality.