Title: Probing a Two-Threshold Model of Non-conscious Processing by Presenting Emotional Faces Under Continuous Flash Suppression

Presenting Author: Maximilian Bruchmann

Author(s): Maximilian Bruchmann, Institute of Medical Psychology and Systems Neuroscience, University of Muenster, Insa Schloßmacher, Institute of Medical Psychology and Systems Neuroscience, University of Muenster, Thomas Straube, Institute of Medical Psychology and Systems Neuroscience, University of Muenster

Abstract: 1.43

Consciously perceived facial expressions reliably elicit ERP effects such as the N170, the early posterior negativity (EPN) and the late positive potential (LPP). Several studies also found comparable effects with faces presented outside of conscious awareness. In a first study, we investigated whether facial expressions, either consciously perceived or rendered non-conscious by continuous flash suppression (CFS) modulate the above-mentioned components. While replicating established findings during conscious emotional processing, we obtained evidence for the absence of N170, EPN and LPP for nonconscious faces. Since other studies did find non-conscious effects using CFS, a tentative explanation for these conflicting results is a two-threshold model, which assumes a lower threshold above which emotional processing is possible and a higher threshold above which conscious perception occurs. According to this view, faces falling just below the higher threshold should produce emotion effects in the absence of awareness. To probe this hypothesis, we conducted a second study and created two different non-conscious conditions by manipulating the contrast level of stimuli during CFS. In addition to emotional processing, we also investigated face processing per se. ERP results indicated emotion and face effects that varied depending on contrast and CFS condition. Taken together our findings shed new light on the sufficient and necessary conditions of emotional processing during this strong type of suppression.