
Automatic facial expression processing as function of Alexithymia: An fMRI Study

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Abstract

The personality trait of alexithymia, which literally means "no words for emotion", has been described as the inability to identify and describe feelings accompanied by an externally oriented cognitive style. Recent fMRI studies suggested that people scoring high on alexithymia have remarkable deficits in the controlled processing of emotional information. The main goal of the present study is to investigate the neurobiological mechanisms underlying automatic emotion processing as function of alexithymia. For that reason an innovative paradigm, combining an affective priming task with the implicit positive affect negative affect test (IPANAT) will be tested. The IPANAT has been shown to be a valid measure of implicit affect by asking subjects to judge to what extent artificial words express different moods. In order to measure alexithymia, we applied a multi method approach combining self-report (Toronto Alexithymia Scale), interview (Toronto Structured Interview for Alexithymia) and performance task (Levels of Emotional Awareness Scale). ROI-based analysis conducted on 25 participants and thresholded at $p = 0.005$ (uncorrected) revealed significantly more brain activation in the emotional (i.e., angry, afraid, happy) than the neutral conditions in the insula, fusiform gyrus, middle frontal gyrus and superior temporal gyrus. Furthermore, decreased brain activation in amygdala, insula and fusiform gyrus as function of emotional awareness (i.e. LEAS) in the angry vs. neutral condition was observed. There were no significant results as a function of the self-report measures. The findings so far speak in favor of the validity of this paradigm. Future steps include the evaluation of behavioral and interview data.

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