Can't say what I feel: Cognitive and neural basis of alexithymia and relevance for schizophrenia

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Abstract

Having difficulties in identifying and verbalizing one's emotions are characteristic of the personality trait of alexithymia. Schizophrenia is associated with higher levels of alexithymia. Here I present results from two recent studies in which we used event-related potentials (ERPs) and functional magnetic resonance imaging (fMRI) to investigate emotional processing in people with and without alexithymia. The results from functional neuroimaging suggest compromised activation of brain systems involved in emotional awareness. This was corroborated by an analysis of connectivity in the resting state. Twenty alexithymic and eighteen non-alexithymic healthy volunteers underwent a resting state fMRI scan. Independent component analysis was used to identify the deafult mode network (DMN). The alexithymic subjects showed lower connectivity within frontal areas of the DMN (medial frontal areas and medial temporal gyrus). In contrast, connectivity of this group was higher for the sensorimotor cortex, occipital areas and right lateral frontal cortex. These results suggest a diminished connectivity within the frontal DMN of alexithymic subjects, in brain areas that may also be involved in emotional awareness and self-referential processing. In contrast, alexithymia was associated with stronger functional connections of the DMN with brain areas involved in sensory input and control of emotion. The ERP study revealed reduced perceptual sensitivity to affective cues in emotional speech. With regard to schizophrenia, we suggest that, whereas subjective affect might be intact in schizophrenia, the more cognitive aspect (identifying, analyzing and verbalizing of emotion) is impaired. Evidence in favor of this assertion will be discussed.

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