

Borderline Personality Disorder (BPD) is one of the most common personality disorders, affecting around 2% of the general population. People with this disorder have problems with emotion regulation and are more sensitive to various emotional situations, which negatively influences their daily functioning. BPD is very difficult to treat, not only because it is a disorder of whole personality but also because it often co-occurs with other disorders, especially with Major Depressive Disorder (MDD). Both BPD and MDD share some symptoms, like heightened negative mood and difficulties with regulating emotions. Their profiles may also be different, for example depressive symptoms can be more severe in BPD. Because proper psychiatric diagnosis is crucial in order to propose effective treatment, detailed research is important to distinguish what is common and what is specific for those disorders.

Studies suggest that BPD and MDD may have similar difficulties with processing autobiographical memories – in both disorders people have problems with remembering specific and detailed events from their lifetime and in general remember more negative situations. Neuroimaging studies show that in BPD and MDD brain regions processing negative memories are more active than in healthy people, which suggests that those memories are more relevant and more arousing for the clinical groups. However we do not know how people with BPD react to positive memories and also no studies directly compared neuronal processing of autobiographical memory in BPD and MDD.

Another common ground for these two disorders is difficulty in emotion regulation. Available studies show, that this can be a dysfunction of particular network of brain regions - frontal regions involved in cognitive control are unable to regulate activation of regions processing emotions and therefore are unable to regulate emotional responses in daily situations. Unfortunately there are no studies, which directly compared BPD and MDD in the field of emotion regulation. We don't know if these processes are the same or different. Also the knowledge about abilities to use adaptive and effective strategies of regulation in these two groups is very limited.

The aim of this project is to investigate neuronal mechanisms underlying processing of autobiographical memory and abilities of emotion regulation in BPD, MDD and healthy control group, with the use of functional magnetic resonance imaging (fMRI) technique. For the memory task we will ask participants to describe positive and negative memories and recall them during the fMRI procedure. For the emotion regulation task we will briefly train participants in two adaptive strategies: 1) cognitive reappraisal which focus on changing interpretation of negative stimuli to positive one and 2) mindful acceptance, focused on noticing and accepting current thoughts and feelings. By thorough examination of autobiographical memory we will provide novel understanding of processing of memory and self-referential emotional stimuli. We will provide new knowledge about adaptive regulation strategies. Examining if one of the two strategies is more efficient in regulating affect in either of the groups may further influence improvement of current therapeutic interventions.