

Self-awareness and processing of emotions in regular users of classic psychedelics

Psychedelics are psychoactive substances able to cause altered states of consciousness (gr. *psyche* - soul, mind; *delos* - to reveal, manifest). Classic psychedelics are psilocybin (found in some species of fungi), DMT (ingredient of ayahuasca), mescaline (found in peyote or San Pedro cacti), and LSD (lysergic acid diethylamide). Subjective effects of psychedelics intake include hallucinations, altered perception of reality, feeling of time, emotions, and one's own body. Psychedelics were and are thus used in many traditional cultures during religious and rites-of-passage ceremonies, as means of healing or spiritual development. Recent empirical studies confirm that using classic psychedelics might have a long-lasting and positive effect on mental functioning, at relatively low risk if necessary safety measures are included. Participants reported increased well-being, openness, and quality of life even after just one psychedelic session, and these effects remained for days, and even weeks. Studies conducted in a clinical context indicate that psychedelics reduce symptoms of depression or anxiety, which proves their therapeutic potential and encourages further research.

One of the most striking effects caused by psychedelics is the phenomenon of “ego” dissolution or disintegration, which includes loss of a feeling of control and autonomy, blurring of borders between oneself and the environment, and a feeling of transcendence and unity with the universe. These subjective experiences are reflected by results of neuroimaging studies, which show that psychedelics reduce activity of brain networks responsible for maintaining self-awareness. Another important effect of psychedelics are changes in emotionality. Also this aspect is confirmed by research, showing that after taking psychedelics in the laboratory context participants are less sensitive to negative emotions and more sensitive to positive emotions, which is reflected by attenuated activity of amygdala - brain structure responsible for processing of fear. While these laboratory studies provide important insights into the mechanisms of psychedelics action, it is still not known whether using psychedelics multiple times recreationally, outside of research context, is related to permanent changes in self-awareness and emotionality.

The described project aims to investigate self-awareness and processing of emotions in a group of regular users of classic psychedelics. The project is supported and conducted in collaboration with the [Polish Psychedelics Society](#). We will recruit participants who have had at least 15 intense experiences caused by classic psychedelics (users group), and appropriately matched in terms of demographics participants without any psychedelic experiences (control group). All participants will complete a survey comprising detailed questions regarding their history of use of psychoactive substances, including psychedelics, and several psychological questionnaires concerning self-awareness and emotionality. Next participants will be invited to take part in the lab experiments, during which they will watch visual stimuli presented on a computer screen, while their brain activity will be recorded using electroencephalography (EEG) or functional magnetic resonance imaging (fMRI). In the first experiment emotionally positive or negative images will be presented, while in the second experiment stimuli will be names, including participants' own name which is strongly associated with “self” and increases self-awareness when seen or heard. In the psychedelics users group we hypothesize to observe reduced brain activity in response to negative stimuli and to one's own name, in comparison to the control group. Confirming this hypothesis will mean that using psychedelics and experiencing ego-dissolution regularly is related to lower sensitivity to negative emotions and to information concerning oneself.

The present project will thus provide further insights into the relation between psychedelics, and self-awareness and emotionality. It will also allow for a better assessment of both benefits and risks of using psychedelics recreationally. Therefore, within the scientific context the project will broaden our knowledge of the mechanisms behind psychedelics-induced effects, while in the social context it might contribute to developing a knowledge-based drug policy.