DESCRIPTION FOR THE GENERAL PUBLIC (IN ENGLISH)

Development of the Internet and growing pornography industry leads to increasingly easy access Internet pornography, even for adolescents. For many regular pornography users it is a source of entertainment, but for others it is a cause of problematic behaviors of addictive nature and often a reason to seek for help. Specialists cannot operate on unequivocal model of this disorder though, as it is not considered as an addiction due to lack of scientific evidences. In studies of addiction usually *Incentive Salience Theory of Addiction* is used as a model, which states that reward circuit in brain is sensitizing for addiction stimulus (a reward) and condition stimulus (a cue) preluding it. This sensitization consists of increased *wanting* of the reward, which peaks when the cue occurs, and decreased *liking* of the actual reward. In the recent studies using functional magnetic resonance imaging (fMRI), which measures neural activity, it was showed that problematic pornography users did not differ from regular users in reactivity of the reward circuit in response to erotic stimuli, but to the cues preluding them. This result puts the role of the condition stimuli related to erotic rewards in the whole new light, in which it was not scientifically tackled yet.

The goal of the project is to examine the role of learning of cues preluding erotic rewards and of extinction of these cues in pornography users. We will also examine, whether reduced frequency of pornography consumption degreases sensitivity to erotic reward cues. Studying a group of males using online pornography in a regular or problematic manner will be done using repeated fMRI measurement. After the first examination participants using pornography in a problematic manner will be divided into two equal groups and asked to perform self-control training for a month, refraining from either pornography consumption or favorite web-based entertainment source. At the end of the training second fMRI examination will be conducted, verifying the role of pornography withdrawal on sensitivity to cues of erotic rewards.

The role of sensitivity of the brain to the neutral cues preluding addiction-related reward was studied mostly in substance addictions. Realization of this project will provide important answers for development of the further scientific research on problematic pornography use and will contribute to the effectiveness of therapeutic methods.