

GETTING OUR BRAIN AROUND ADDICTION: THE EXAMPLE OF CANNABIS AND NICOTINE

Styliani Vlachou

**Behavioural Neuroscience Laboratory, School of Psychology, Faculty of Science and Health,
Dublin City University, Glasnevin, Dublin 9, Ireland**

Email correspondence: stella.vlachou@dcu.ie

There appears to be an enormous impact of drug addiction on humanity. Addiction is a compulsive interplay between drugs, cues and habits; distinct behavioural traits, such as impulsivity, and psychological processes seem to influence the pathway to addiction in different ways through the corticostriatal circuitry including the brain reward system. Two drugs of abuse have received a lot of attention over the past few years, cannabis with its medicinal properties and its psychoactive ingredients, and nicotine with the use of the electronic cigarettes. The endocannabinoid system is thought to modulate the motivational processes and reward-seeking behaviours associated with the (ab)use of cannabis. On the other hand, tobacco smoking, mainly attributed to the addictive properties of nicotine, constitutes a worldwide drug abuse problem with devastating health consequences.

This plenary talk will present a summary of findings from studies on cannabinoid compounds and nicotine, many of which using behavioural paradigms/animal models of drug addiction (i.e., the intracranial self-stimulation (ICSS), the conditioned place preference (CPP), the intravenous self-administration (IVSA) and the reinstatement of drug seeking procedures) and coming from early work by Vlachou and colleagues. Current progress, challenges and future directions on cannabinoid and nicotine research will also be discussed.

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