

## *Where there's a Will, there's a Way: The Changing Faces of Drug Addiction*

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Over the past few decades, our understanding of drug addiction has evolved dramatically as a direct result of scientific advances, specifically in the field of neuroscience. Owing largely to discoveries from animal models which have been translated into human studies using a variety of neuroimaging techniques, the concept of drug addiction has shifted considerably. What was previously understood as a personality problem characterised by a failure of the will is now widely regarded as a brain disorder characterised by compulsive behaviour. This conceptual shift has also influenced the treatment of addiction, which has shifted from initially punitive laws to discourage drug use, to a variety of medical, cognitive and behavioural interventions aimed at ameliorating dysfunctional brain systems. However, despite this progress, large parts of the general public still believe in the addictive personality concept, contributing to the widespread stigma attached to people who have become dependent on drugs of abuse.

One reason for the longevity of the addictive personality concept might be due to difficulties in understanding the far-reaching implications of disrupted self-regulatory mechanisms in drug addiction. Whilst most people understand that a pleasurable activity such as drug-taking can get out of hand because of the drugs' positive reinforcing effects, it is much more difficult to comprehend why drug-dependent individuals often behave against their own self-interests and are not deterred by the substantial harm that continued drug use involves for themselves and their loved ones. This lack of understanding might explain why addiction still carries a moral connotation that labels addicted individuals as selfish.

In my talk, I will revisit the notion of addiction as a failure of the will. By reviewing recent scientific evidence of impaired regulatory control mechanisms in stimulant drug addiction, I will try to elucidate the mechanisms that may underpin maladaptive behaviours frequently observed in these patients. The data I will present call into question whether drug counselling that aims to increase insight into the consequences of one's actions are actually sufficient to change patients' behaviour. Instead, treatment approaches that aim to improve the processes that mediate drug users' capacity for self-control may prove more promising.