Drug addiction can be viewed as a cycle of spiraling dysregulation of the brain reward system that gets stronger after each use of the drug, ultimately resulting in the loss of control in taking abusive drugs. The development of addiction has been associated with several neurocircuitry changes that will be discussed more detailed in this review. All drugs of abuse are supposed to trigger an increased dopamine projection into the nucleus accumbens and thus express their reinforcing effects. Chronic administration of abusive drugs leads to altered dopaminergic pathways, especially the indirect pathway which is mediated through D2R seems to be important in drug seeking.

Higher prevalence of obesity in today’s science has led to increasingly more studies that further examined the concept of food addiction in the past years. In this review, we will shortly illustrate the connection between food addiction and the dopaminergic reward system.

Aline:

This review deals with the tasks of dopamine as a neurotransmitter in the central nervous system. Dopamine can transmit its signal via its various receptors and via the four major dopamine pathways out of this four, this review will mainly deal with the reward system. It will briefly discuss the original function of the reward system, but will also consider further applications and its relevance for addiction.