

Neuroadaptations in Addiction

Neuroadaptations in **brain reward, stress, habit formation, and executive function systems** drive continued alcohol/drug **intake** despite negative consequences

Neuroadaptation	Result
Decreased dopamine and GABA in ventral striatum	Decreased reward
Enhancement of corticotrophin-releasing factor (CRF) in the extended amygdala	Increased negative emotional state
Blunting of HPA axis	Decreased response to stress
Engagement of dorsal striatum	Solidified habitual behaviors
Prefrontal cortex damage/impairment	Poor inhibitory control Poor executive functioning Poor decision-making
Mesolimbic circuit (NAc, amygdala, hippocampus) adaptations	Enhanced saliency of drugs/drug stimuli Decreased sensitivity to natural reinforcers
Insula dysfunction	Impaired ability to evaluate internal states
Lateral habenula impairments	Compromised ability to process and learn from disappointment Disrupted mood