



The brain's reward system and addiction

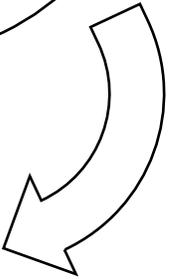
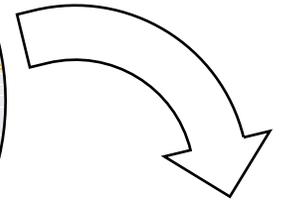
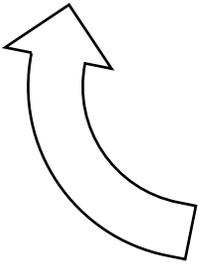
Presented by Michelle Doyle and
Selen Dirik



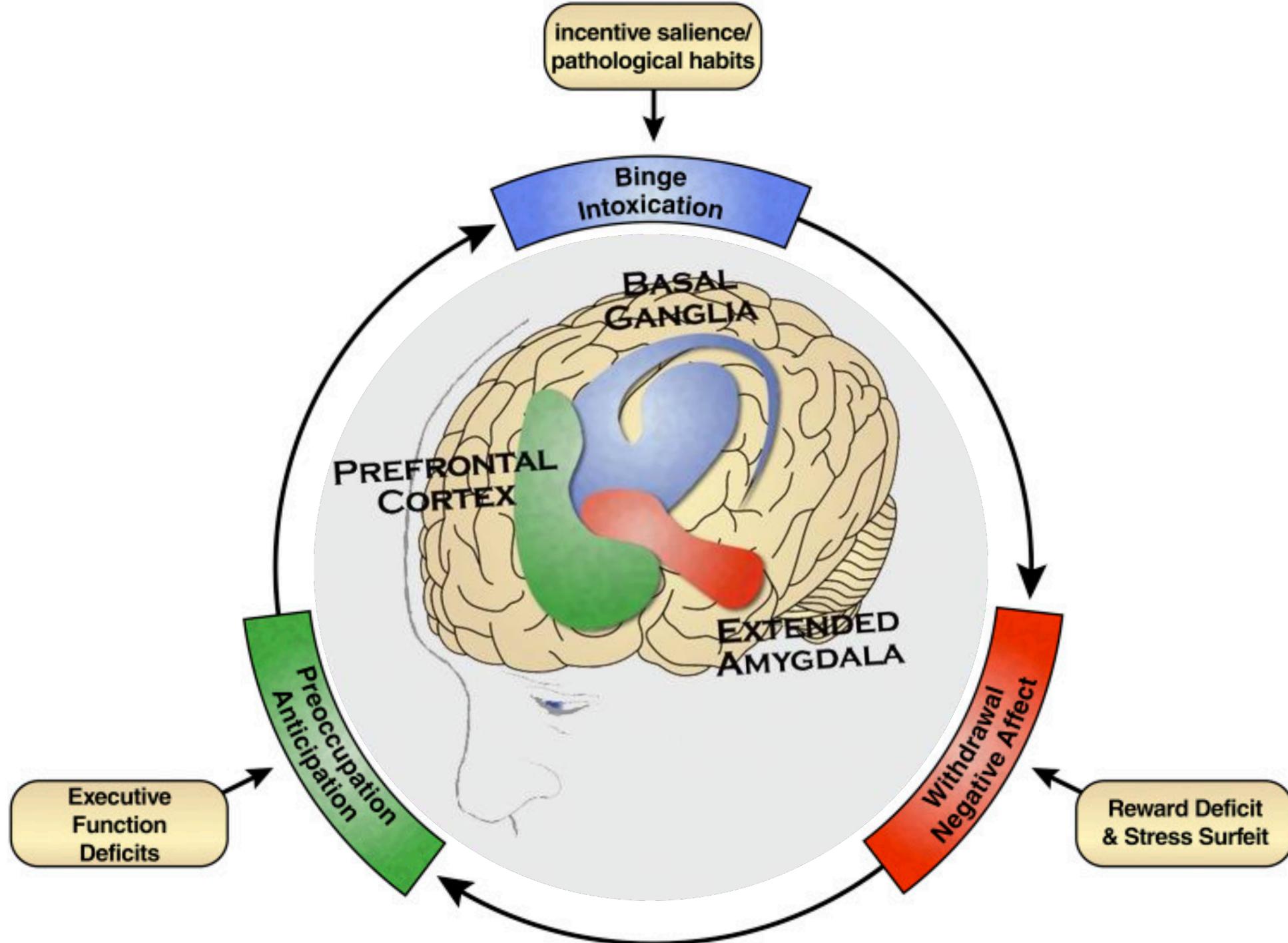


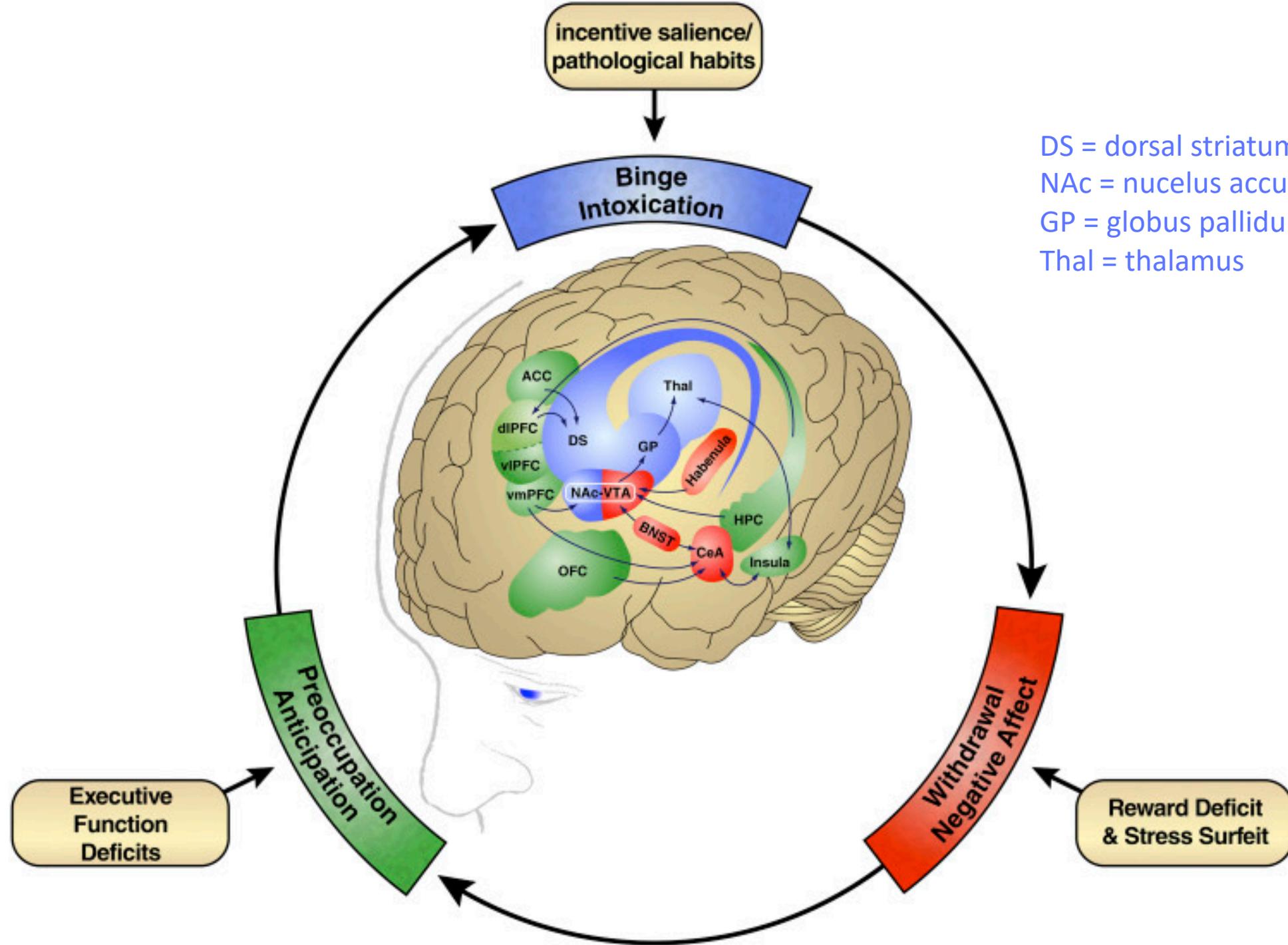
Hi!

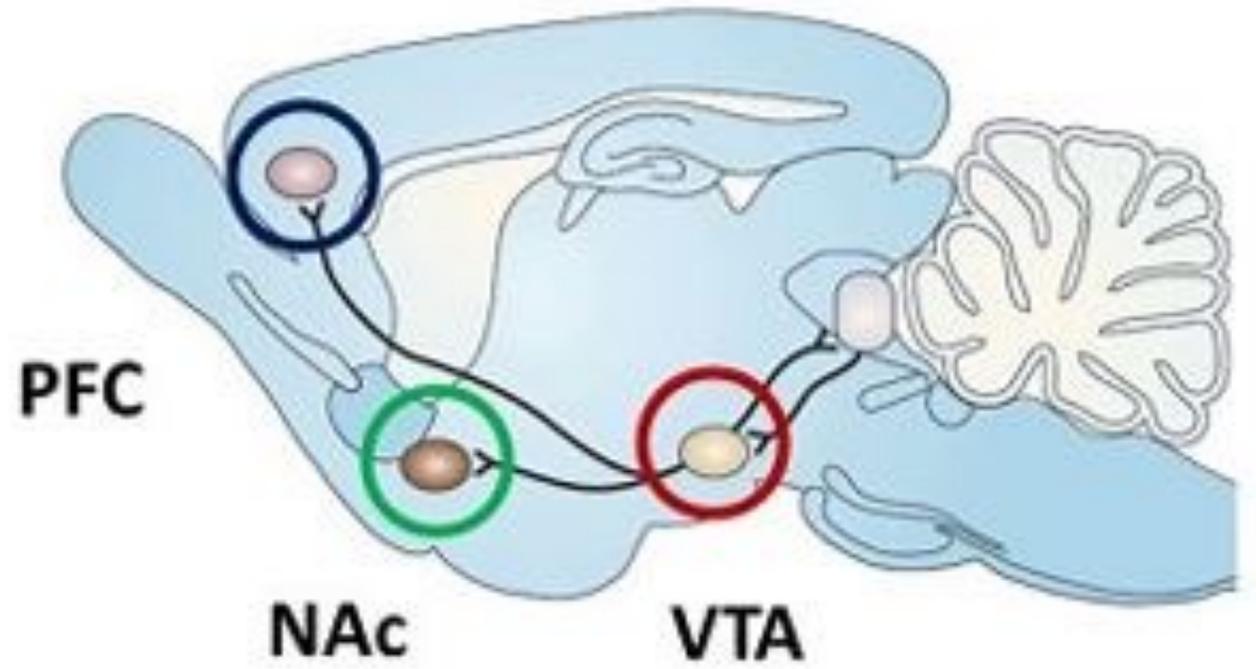
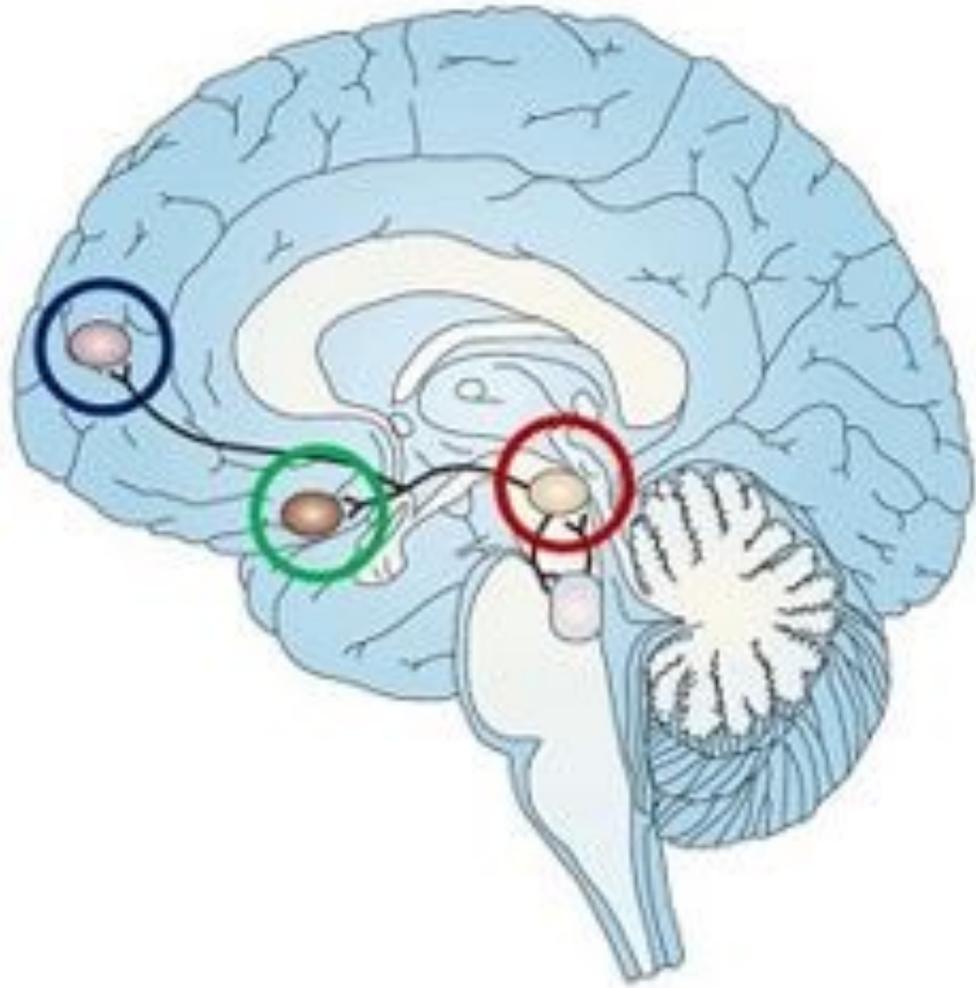
Michelle Doyle, PhD



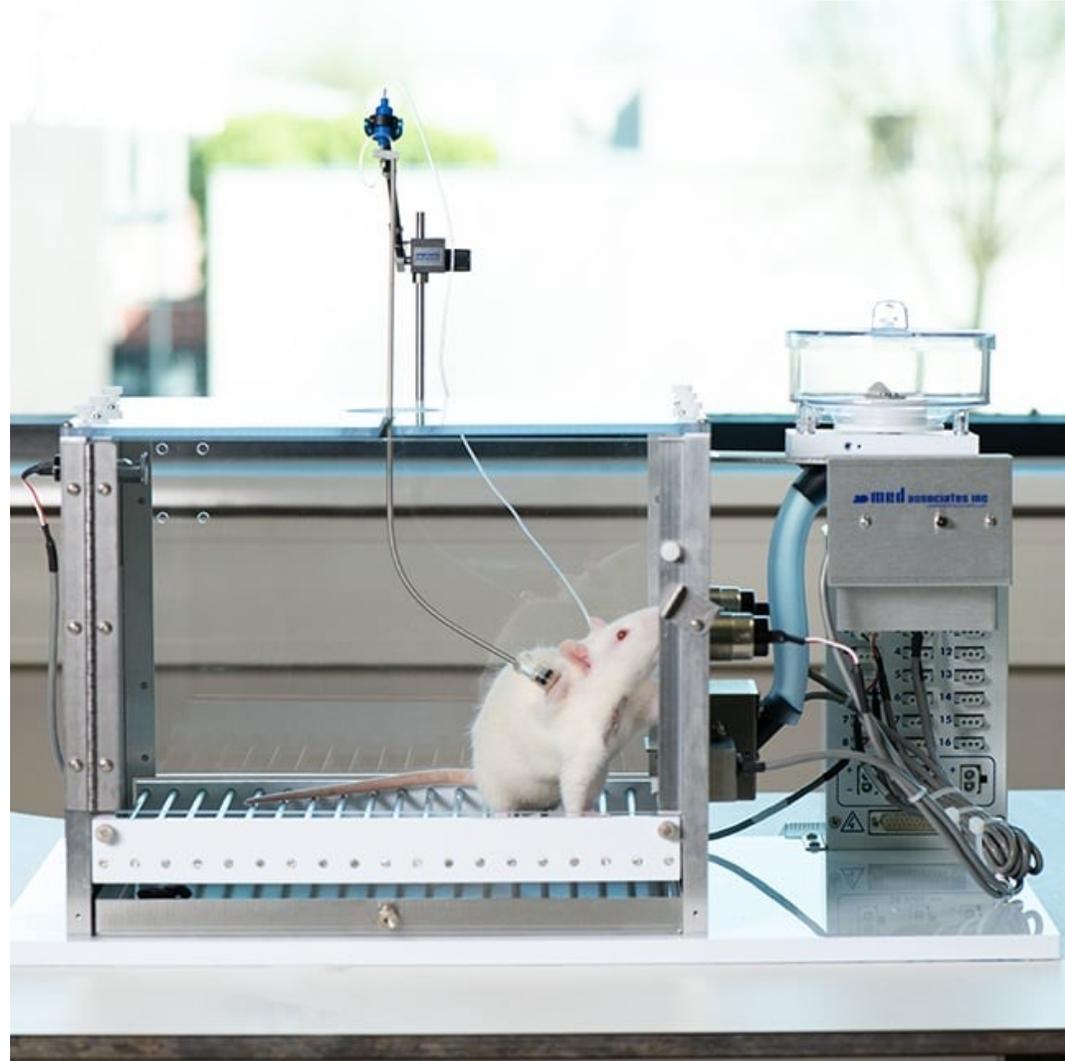




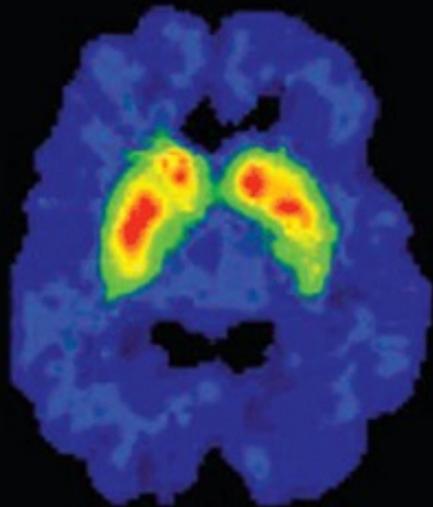




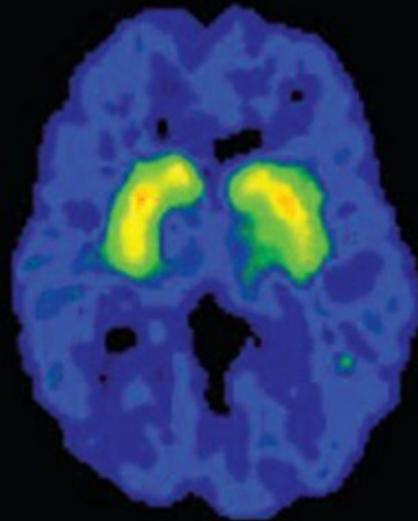
How do we study reward?



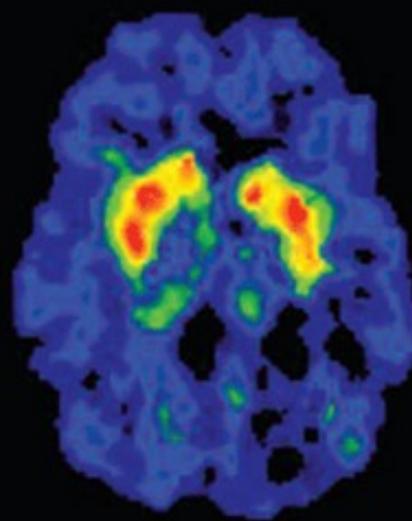
BRAIN RECOVERY WITH PROLONGED ABSTINENCE



HEALTHY CONTROL

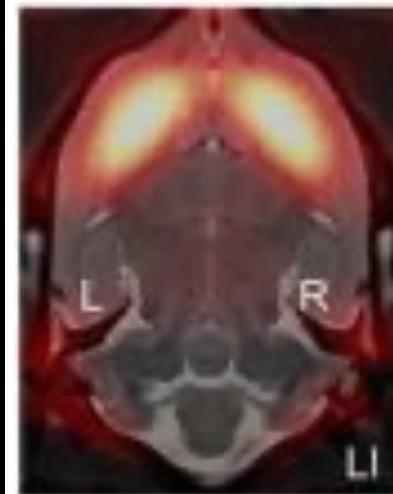


1 MONTH OF ABSTINENCE

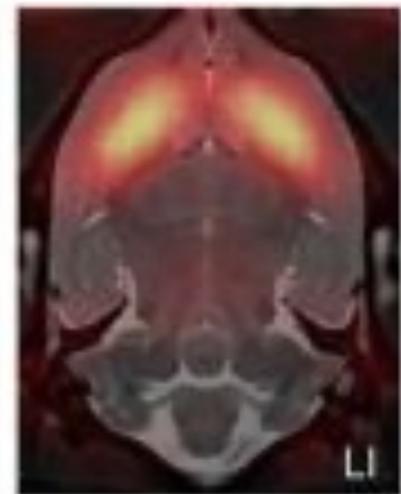


14 MONTHS OF ABSTINENCE

PATIENT WITH METHAMPHETAMINE USE DISORDER



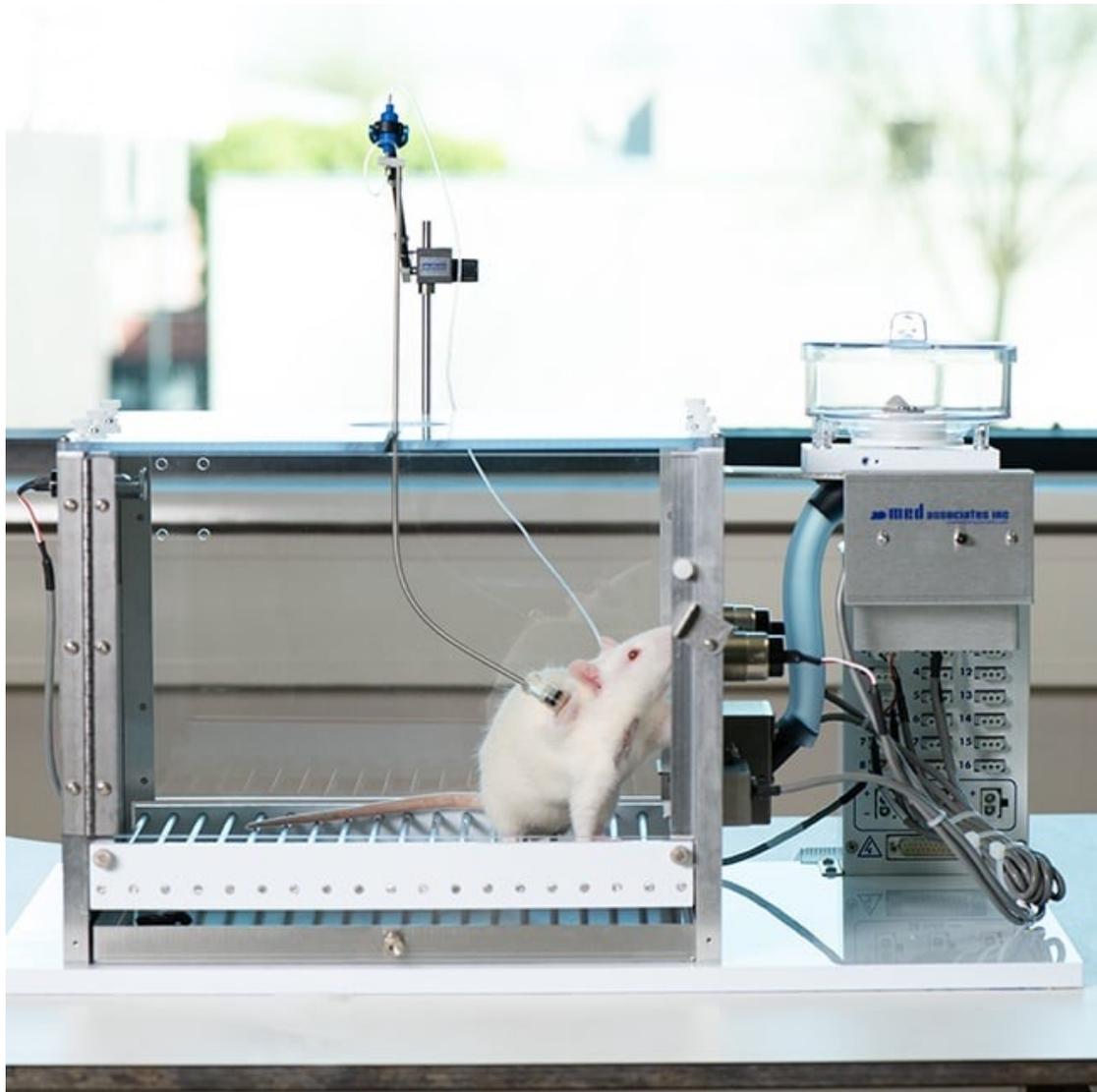
pre-MPH

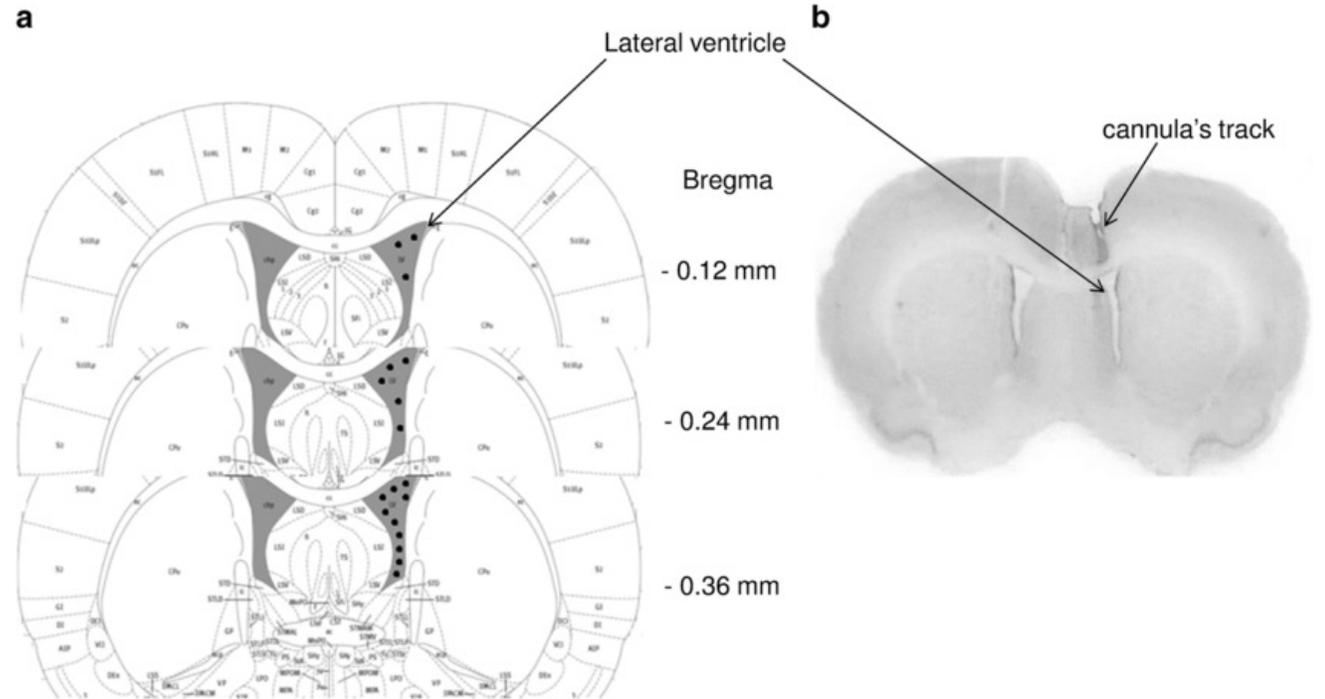


post-MPH



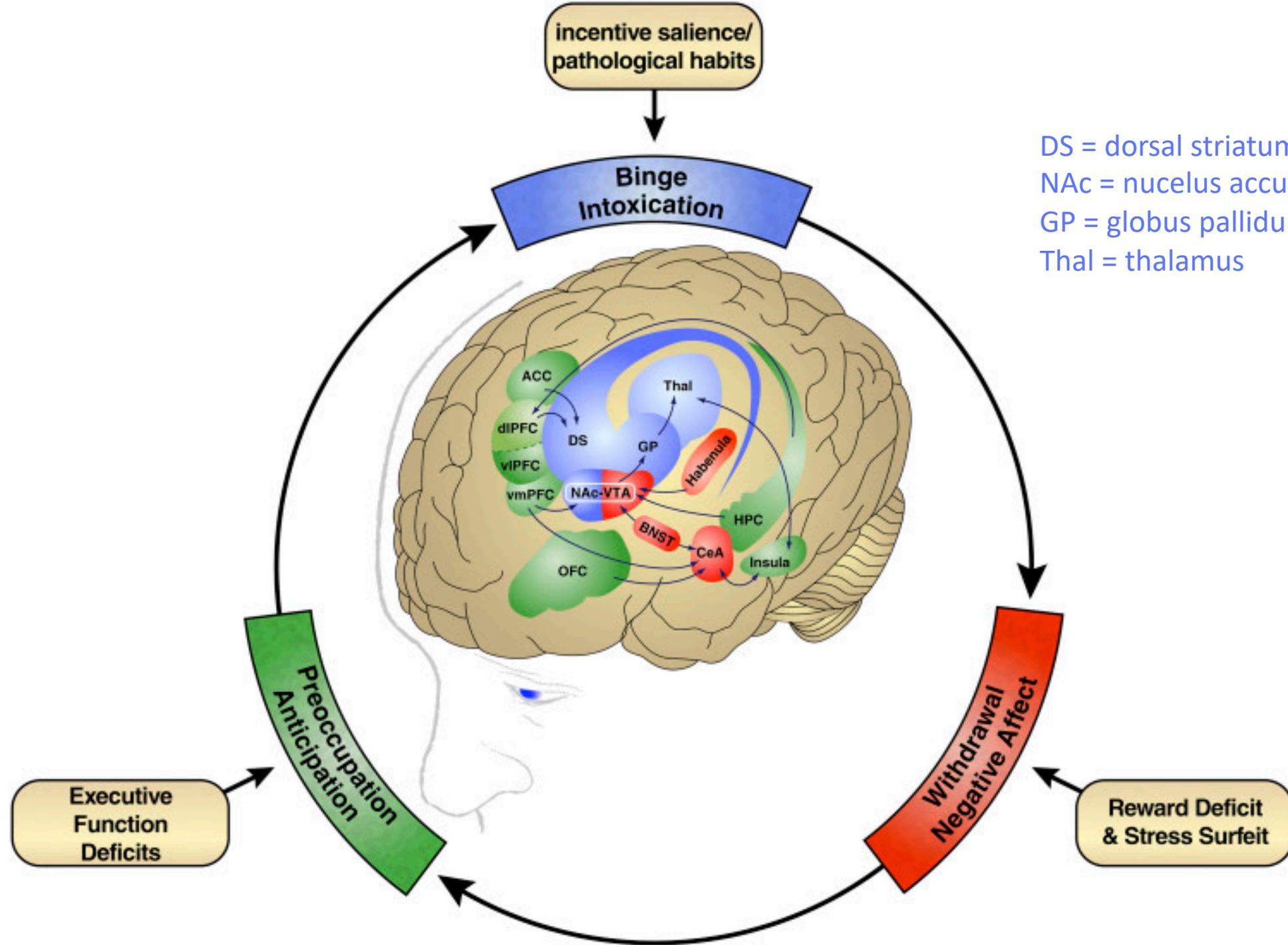
Self-administration





- Intracranial self-stimulation
- Microinjections into ventricles (to get to all of the brain)
- Microinjections into specific brain regions
- “Viruses” containing receptors activated by special drugs or light





DS = dorsal striatum
NAc = nucleus accumbens
GP = globus pallidum
Thal = thalamus

