


Study of The Interaction of Stress and Cocaine C on Cocaine Craving in Cocaine-Dependent Men

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Name some commonly abused drugs:

§ Hallucinogen






§ CNS stimulant








Introduction:

The treatment of cocaine dependence is difficult. As most users cycle between periods of heavy use, detoxification, abstinence, Relapse, and reinitiating of heavy use again.

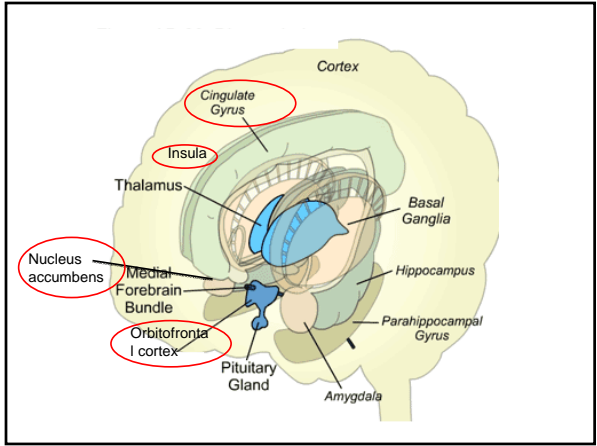

Most often stressful situations and experience of negative emotions are factors leading to relapse.

Recent attempts have emphasized on the role of the reward pathways and drug addiction, in response to acute Stress and ones feeling of negative emotions.



Brain Areas Involved in the Reward Pathway

- Nucleus Accumbens
- Prefrontal cortex
- Orbitofrontal cortex
- Insula
- Anterior and posterior cingulate

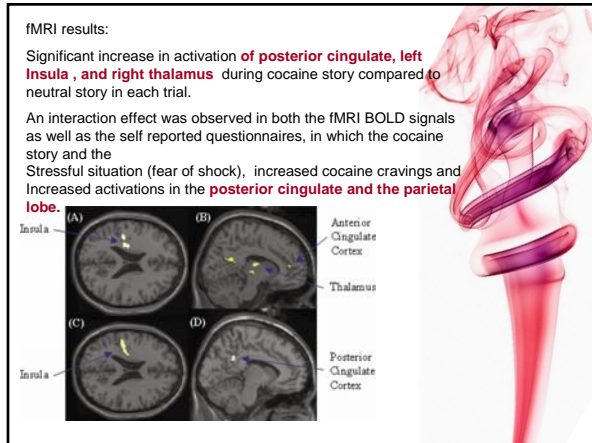
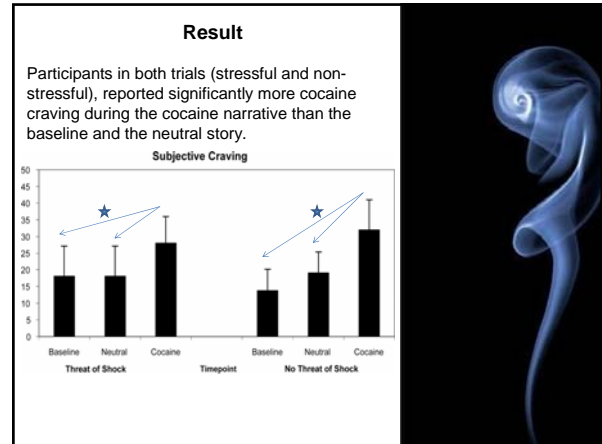
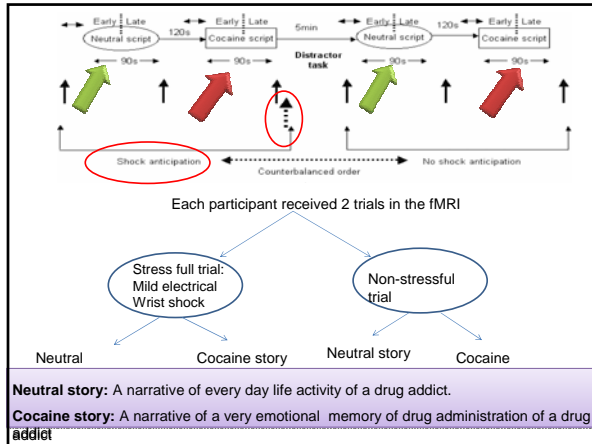



Methods

- 10 males with Cocaine dependence in an early stage of drug abstinence.
- Mean age: 43.6 years
- Mean years of use: 15.9 years
- Mean days clean: 8 days
- Mean cost per month: \$ 1,139.00

Experimental Procedures

- fMRI BOLD signals
- Self Rated Cocaine Craving
0 "not at all"
100 "the most I have ever felt"



- ### Discussion
- Brain Areas Involved in the Reward Pathway
- Nucleus Accumbens
 - Prefrontal cortex
 - Orbitofrontal cortex
 - **Insula**
 - **Posterior cingulate**
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Discussion

- ✓ Only elements of the reward pathway were activated

This could be due to the modest level of craving the subjects felt in baseline as well as through out the study.

- ✓ It can also be that psychological motivation for drug abuse involves other pathways than just the incentive and reward pathways.
- ✓ In summary cocaine craving provoked by cocaine cues activated areas related to the reward pathway and presence of a stressor (mild wrist shock) in the stressor trial, enhanced the associated brain area activations and the self reported level of craving in participants.

