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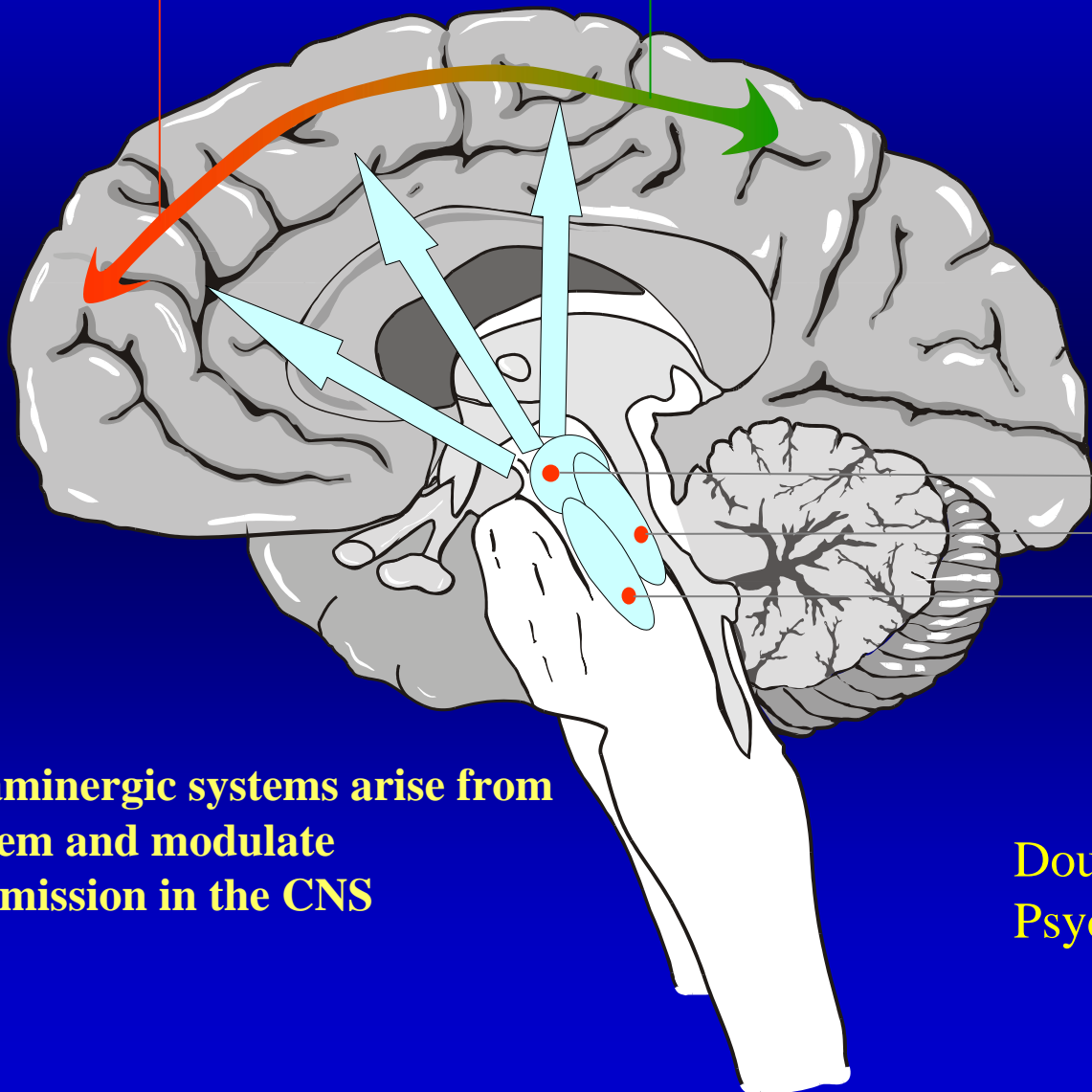


Dopamine D2 and mu-opiate receptors in the reward system of detoxified alcoholics

Heinz A, Gründer G, Wrase J, Braus DF, Reimold R, Bares
R, Machulla HJ, Siessmeier T, Bartenstein P, Mann K
Charité, Berlin, Central Institute of Mental Health, Mannheim
& PET Center Univ. Tübingen
& PET Center Univ. Mainz

Glutamate stimulates

GABA inhibits



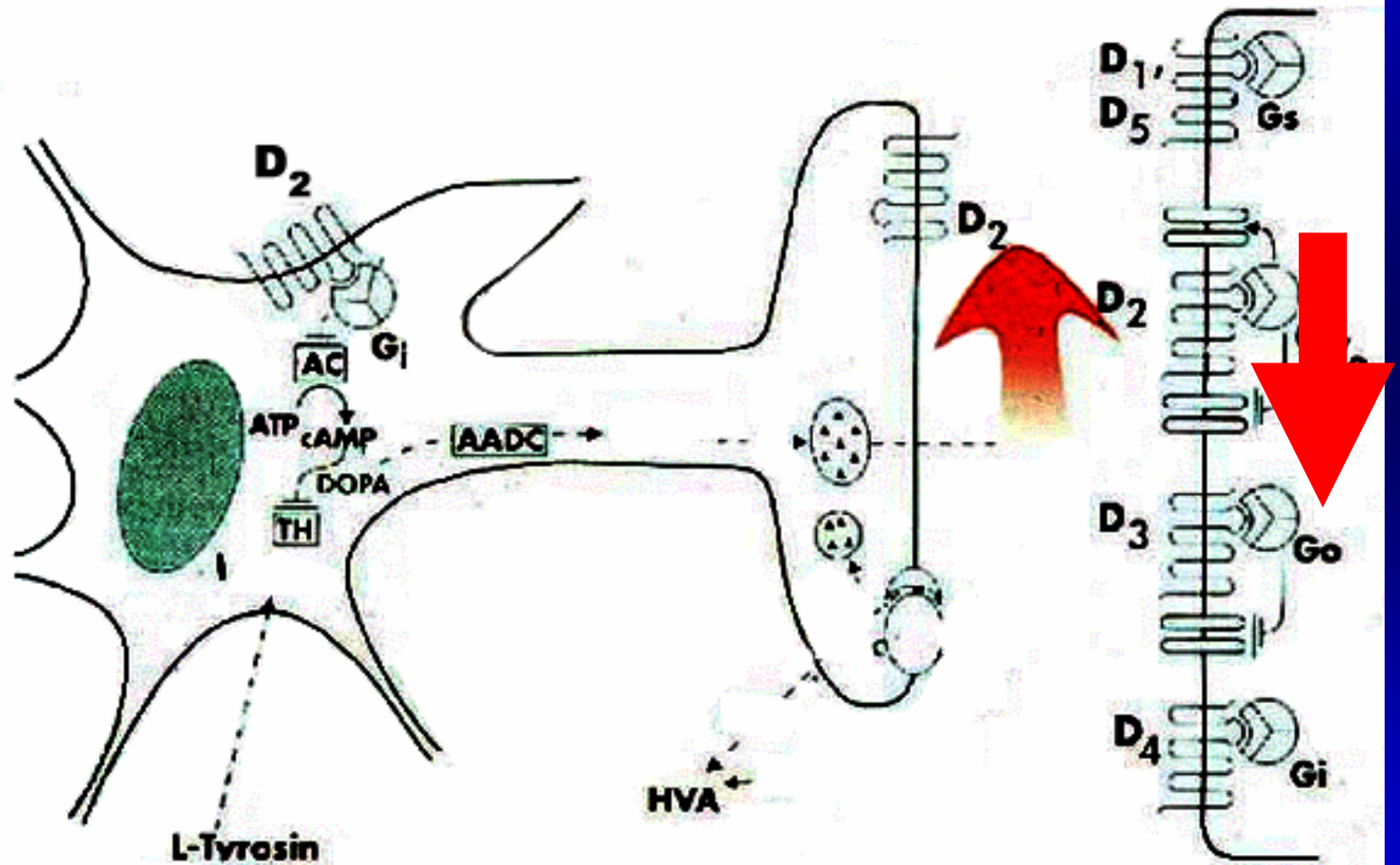
Substantia nigra (DA)
Locus coeruleus (NA)
Raphekerne (5-HT)

The monoaminergic systems arise from the brainstem and modulate neurotransmission in the CNS

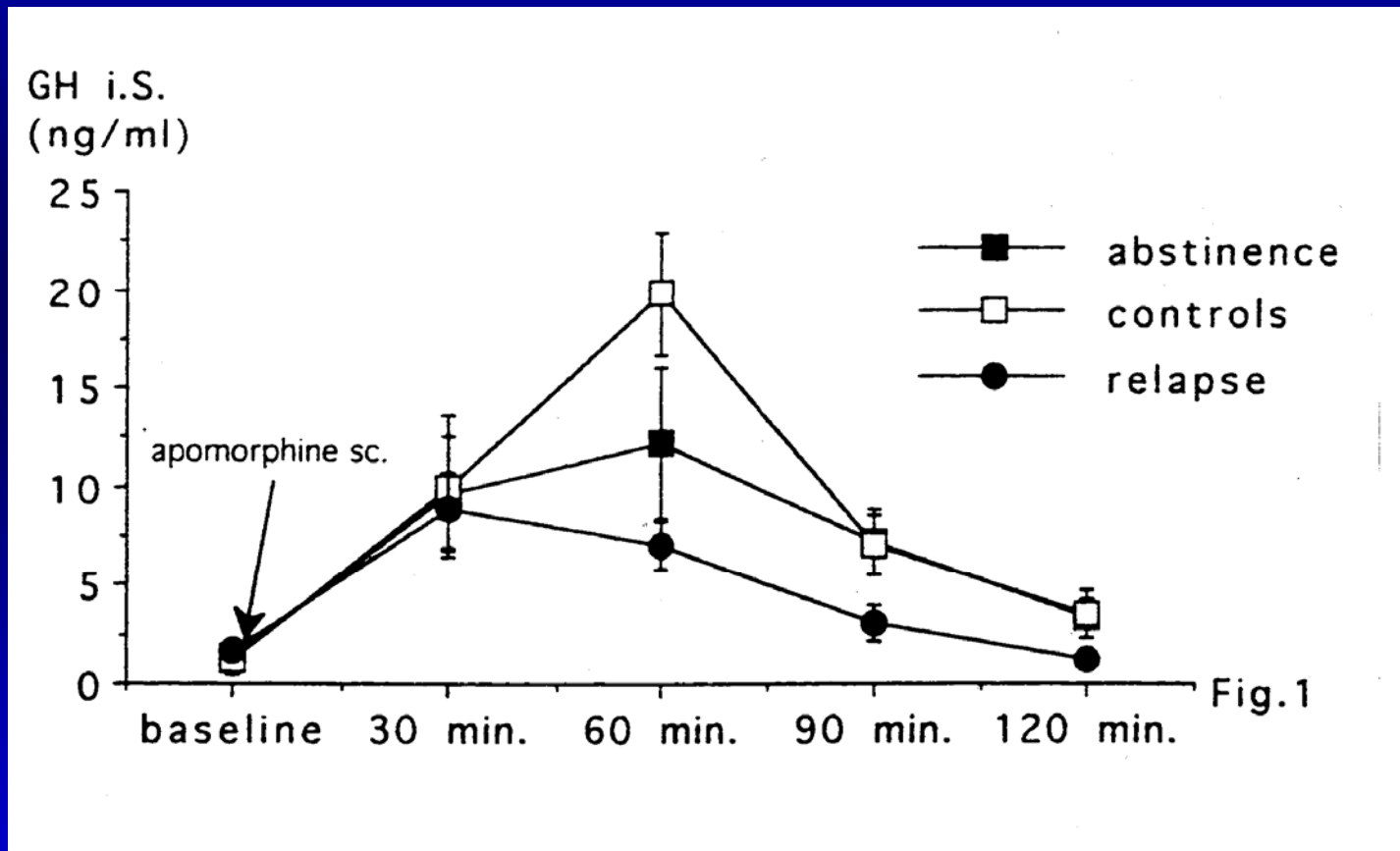
Doudet et al., Am. J. Psychiatr. 1995

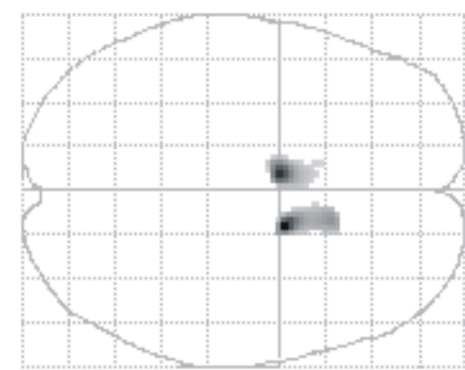
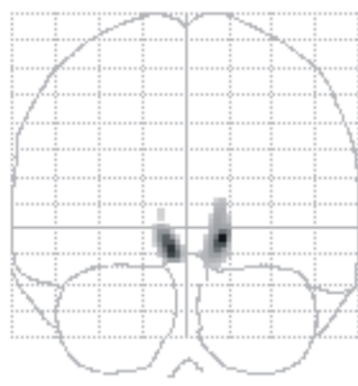
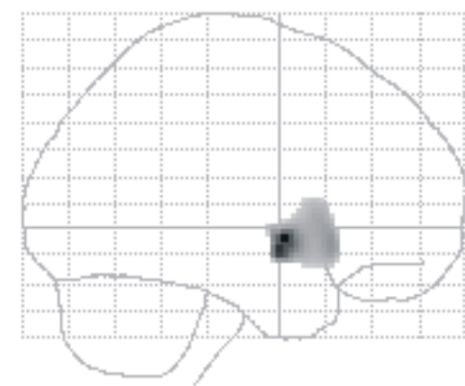


Chronic alcohol intake

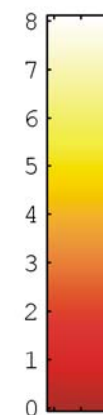
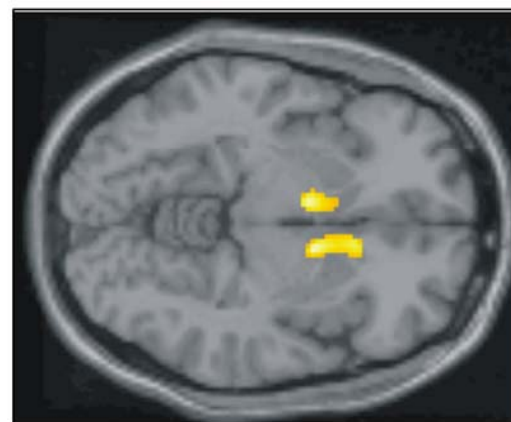
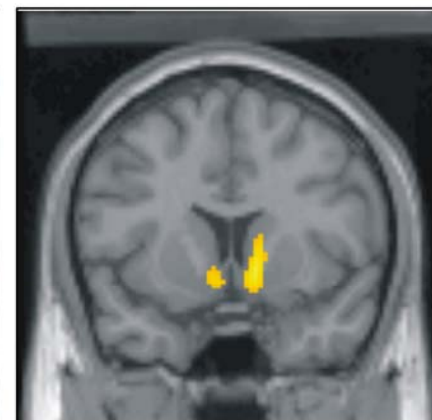


High relapse risk in alcoholics with prolonged recovery of central dopamine receptor sensitivity

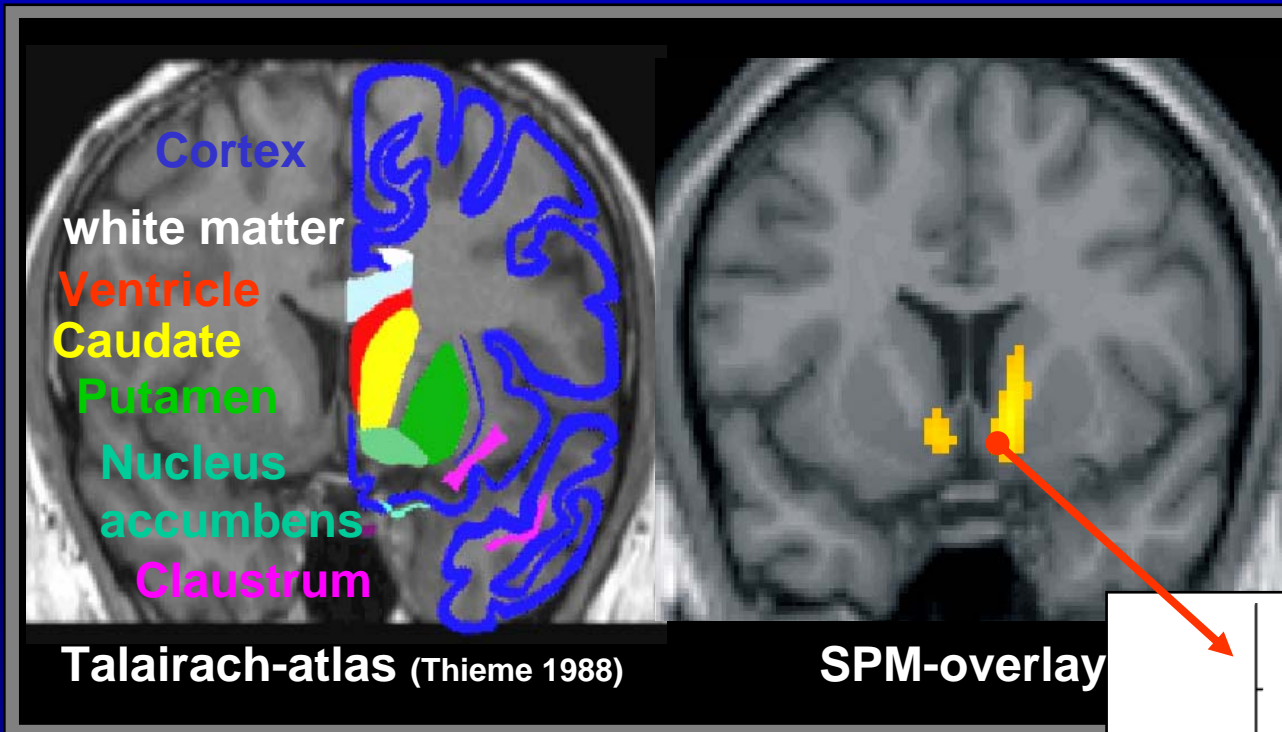




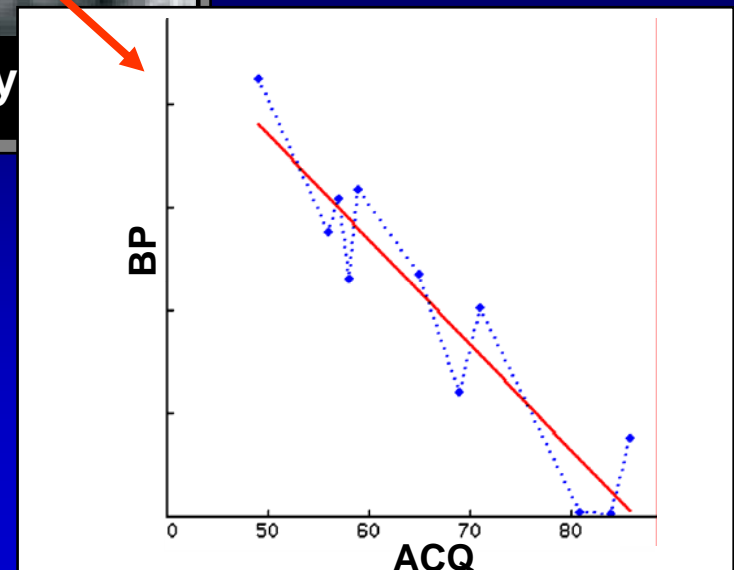
SPM{T₉}



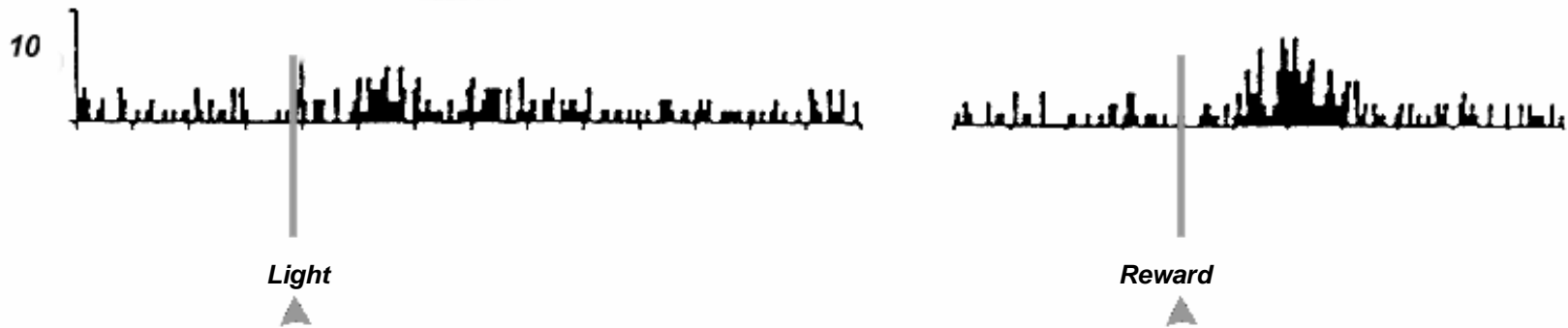
Dopamine D2-receptor availability and craving



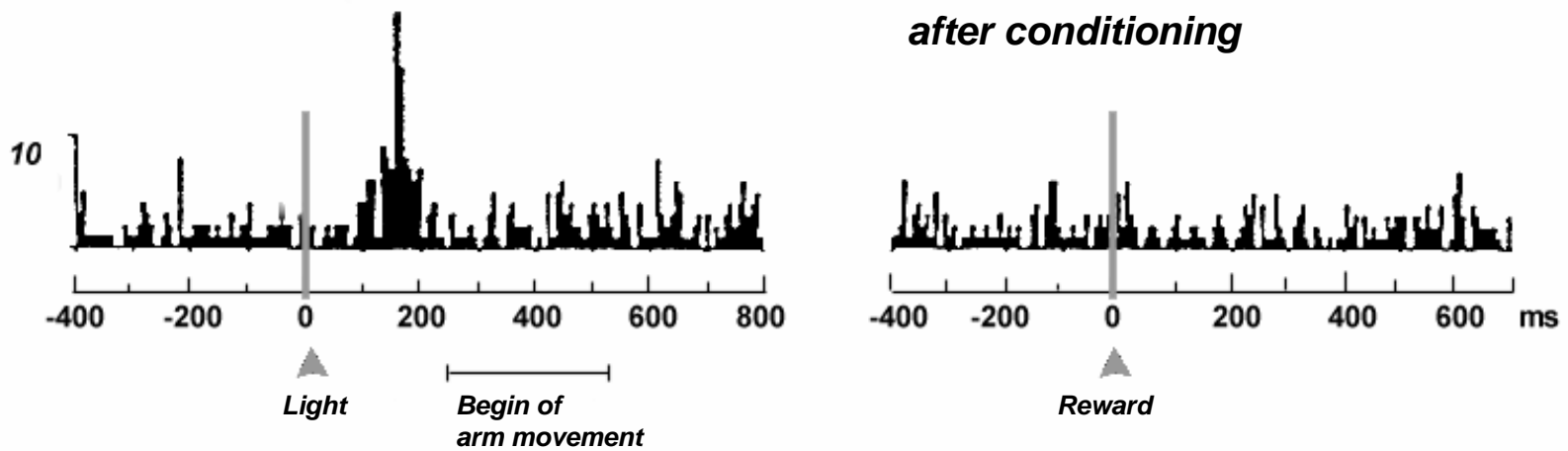
Plot of the correlation
at xyz 16 / 14 / -6



before conditioning



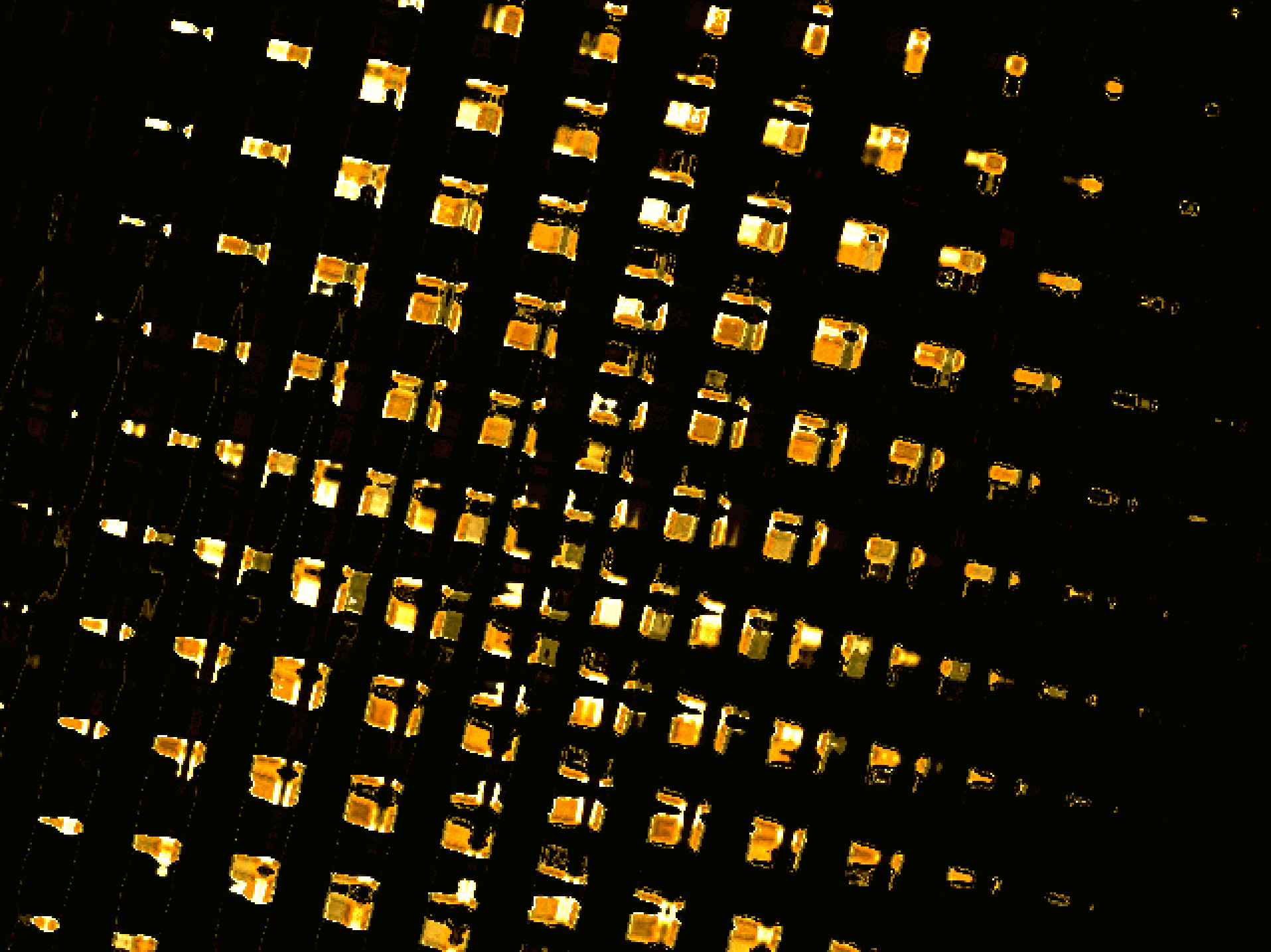
after conditioning



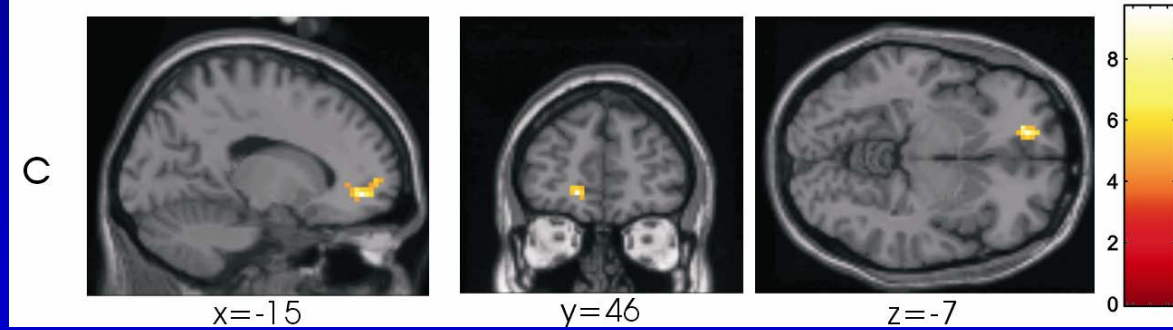
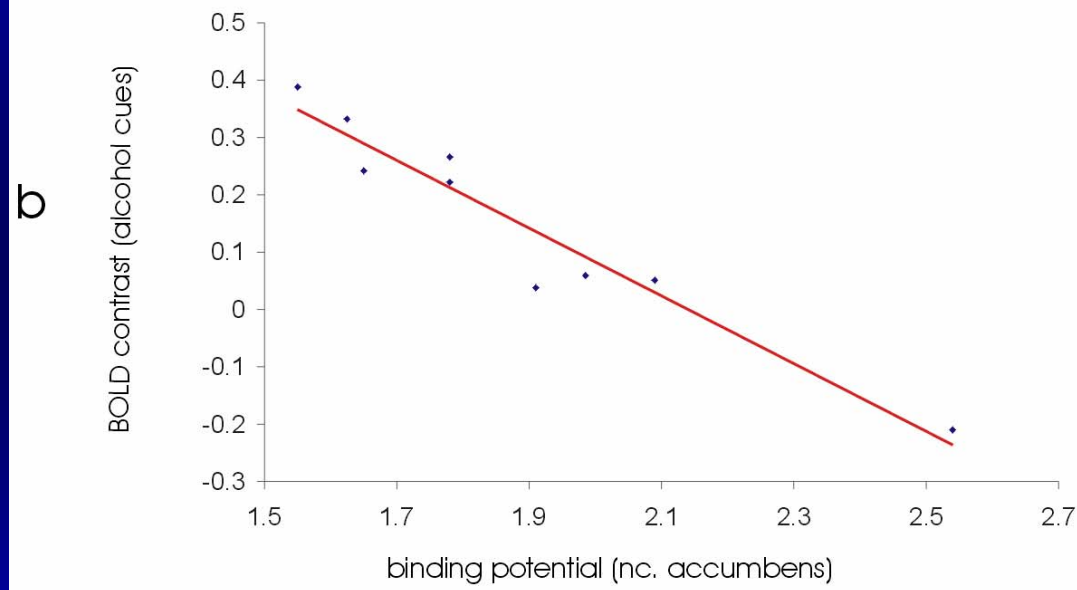
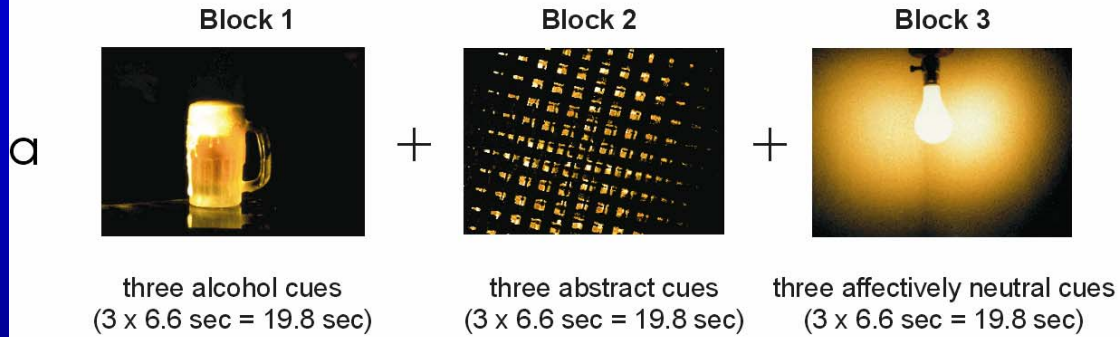
Schultz et al., 1993

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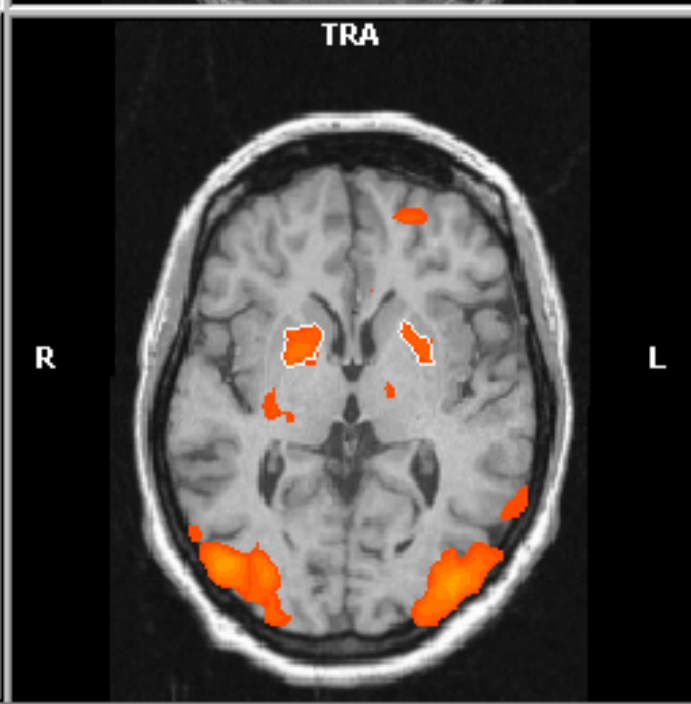
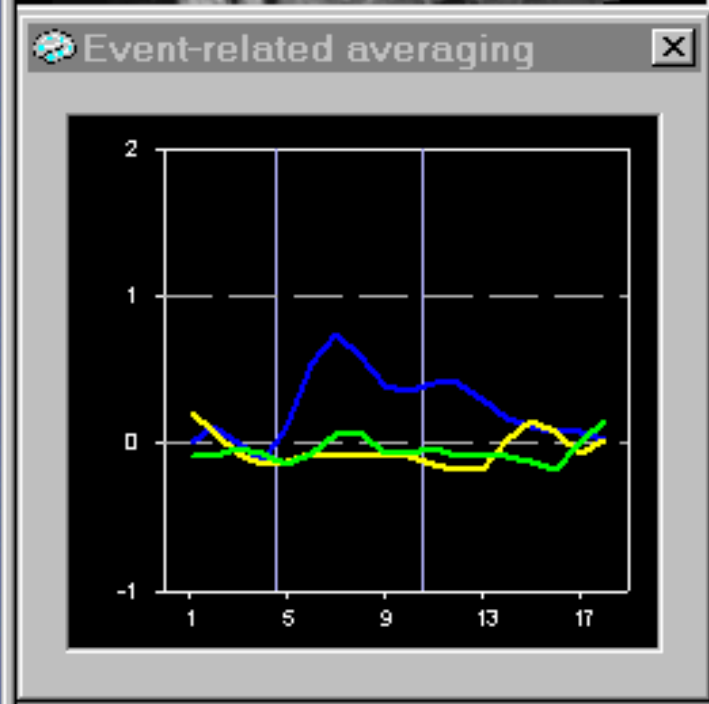
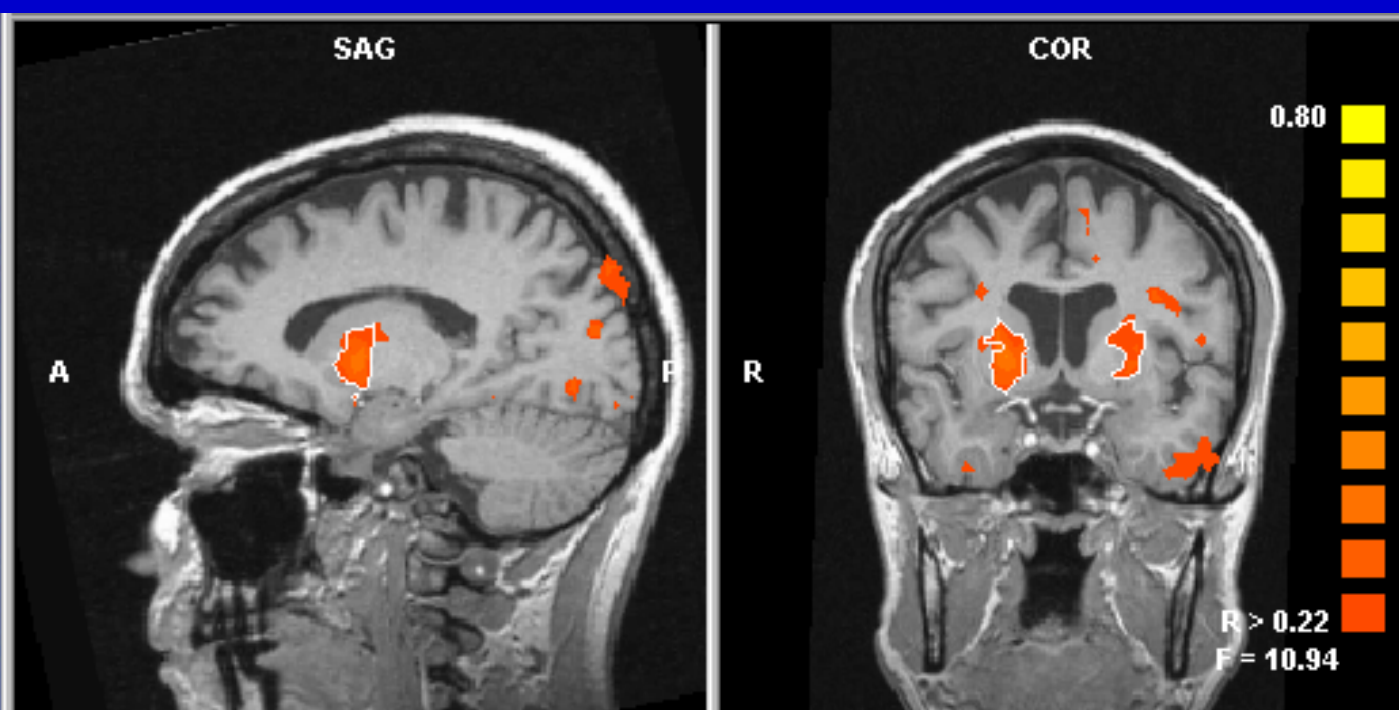






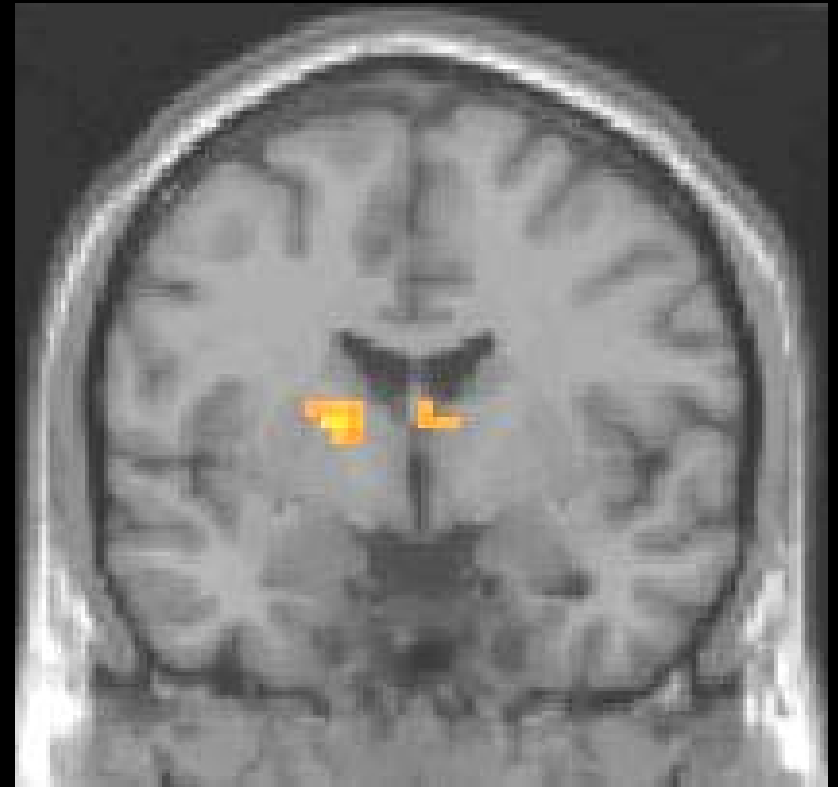
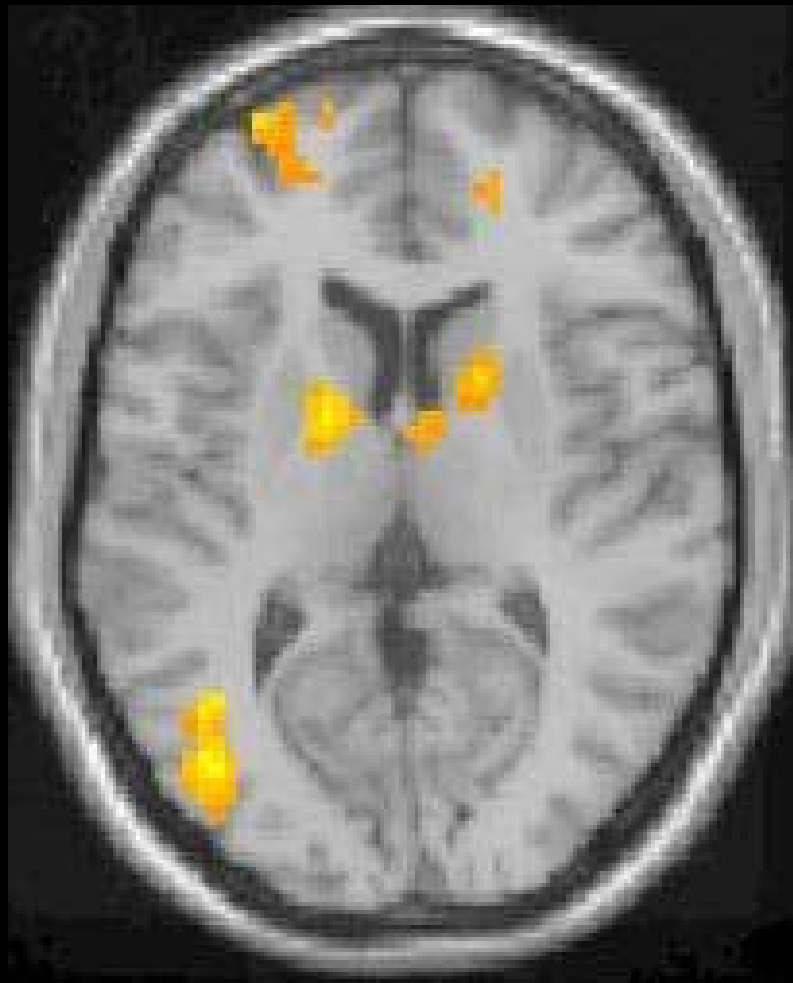
For
presentation
P<0.001
uncorrected





Braus et al.,
J. Neural
Transm.
2002

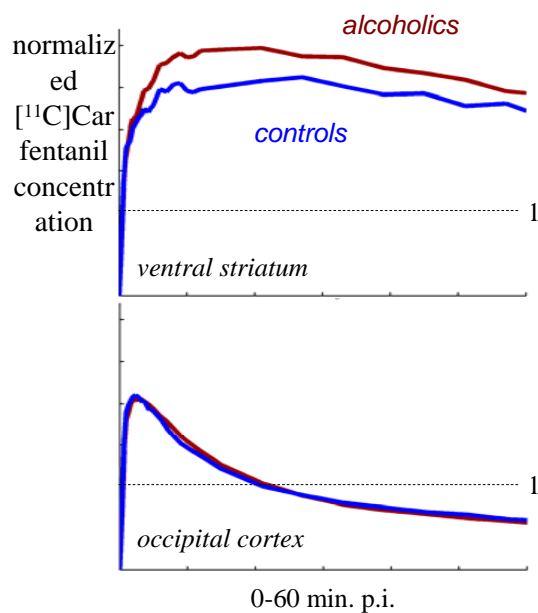
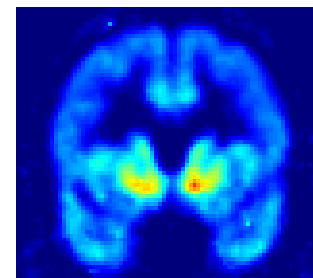
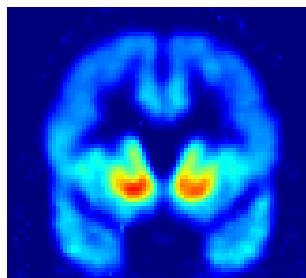
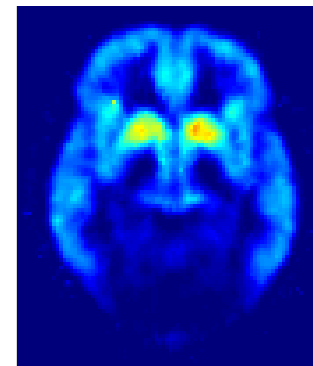
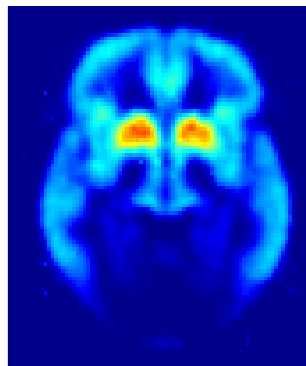




Heinz et al., submitted

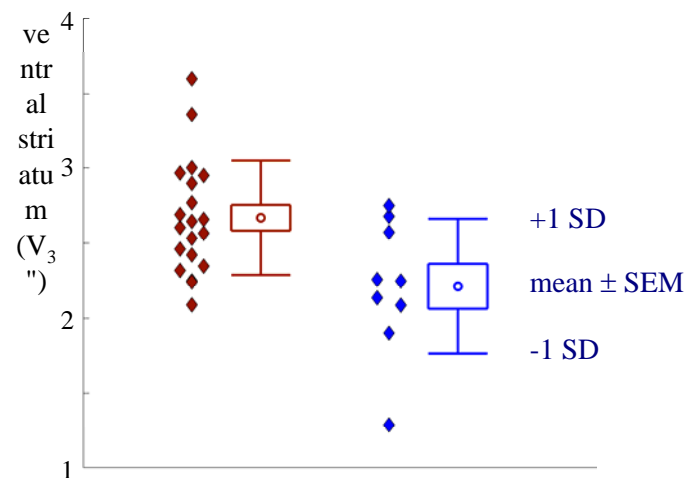


Heinz et al.,
submitted

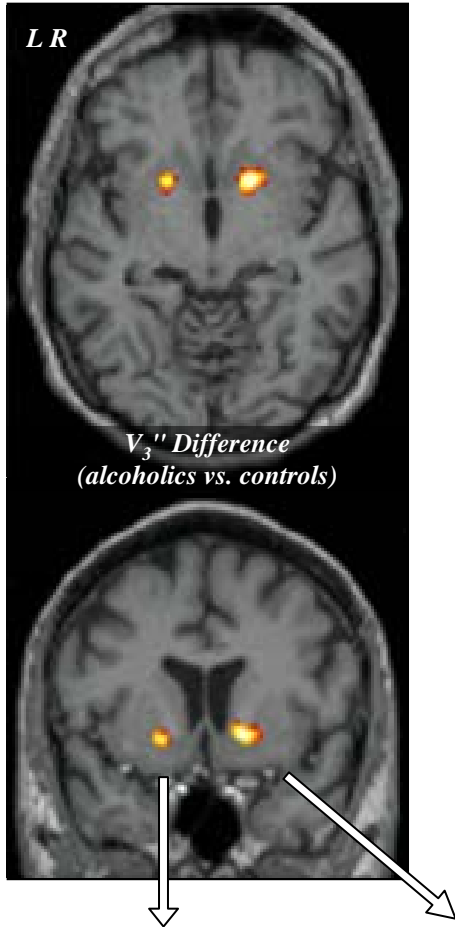


Alcoholics

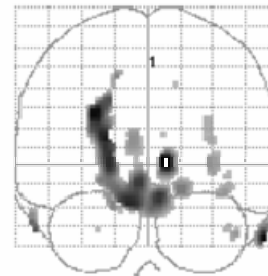
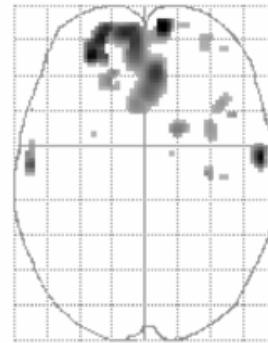
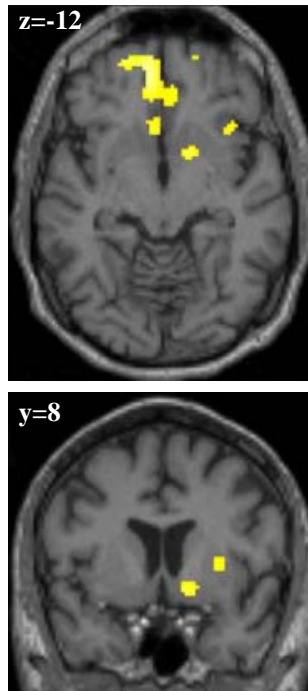
healthy controls



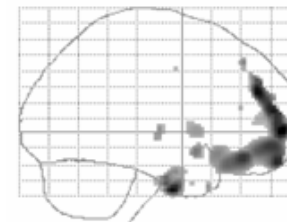
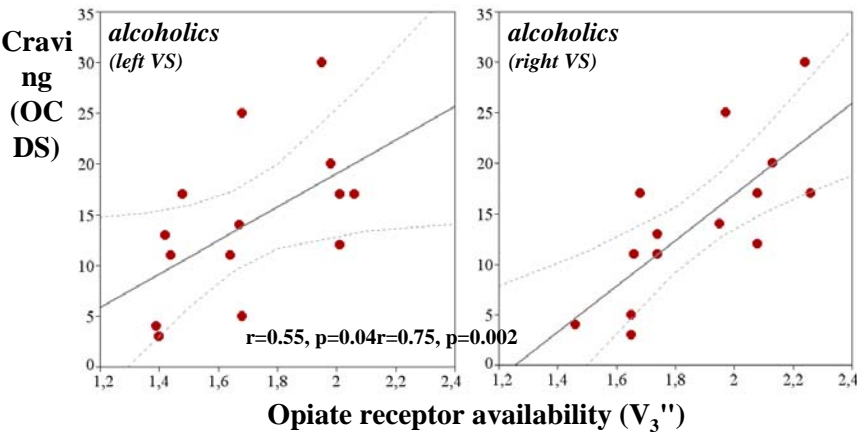
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SPM: V₃'' versus OCDS (alcoholics)



**μ-Opiat-
rezeptoren
& Craving
(OCDS)**



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Summary

- Chronic „obsessive“ alcohol craving associated with increased mu-opiate receptors in the ventral striatum
- Acute alcohol craving and increased mPFC activation by alcohol-associated cues associated with reduced D2 receptors in the ventral striatum

Wilhelm Griesinger



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