MDMA enhanced emotional empathy. LSD and alcohol enhanced emotional empathy similar to MDMA but only for positive stimuli. Methylphenidate had no effect. MDMA impaired recognition of sad, angry and fearful faces in the FERT [1]. Similarly, LSD impaired decoding of sad and fearful emotions. In contrast, high-dose methylphenidate enhanced recognition of sad and fearful faces, while alcohol facilitated recognition of happy faces. MDMA had no effect on sexual arousal in the SAT, while methylphenidate increased ratings of sexual arousal for explicit sexual stimuli [5]. MDMA and LSD but not the dopaminergic stimulant methylphenidate increased cortisol, prolactin, and oxytocin consistent with their serotonergic action. In conclusion, MDMA and LSD exert emotional and social cognitive effects that may be useful during psychotherapy.

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S.23.04 Bidirectional relations between MDMA and social context: crosstalk between drug response and social interaction

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Many drugs of abuse are used in social settings, i.e., in the presence of others. Yet, little is known about the effects of drugs in social contexts, including how they affect social interactions, or conversely, how social conditions affect responses to drugs. Ecstasy, or methylenedioxymethamphetamine (MDMA), in particular, is known for its prosocial effects, and it is typically used in groups. MDMA is thought to facilitate feelings of social connectedness. However, most controlled studies of the psychopharmacology of this and other abused drugs is that the effects of drugs are typically studied in a socially isolated setting, rather than in a social context. Thus, the full spectrum of drug effects may not be detected. To address this gap, we have conducted controlled, double blind laboratory studies to examine the effects of MDMA on measures of social function, including the ability to detect emotions in others, reactivity to positive and negative social images, and sensitivity to social rejection. We have also studied the effects of social context on responses to the drug, by testing participants in the presence of other subjects, including those who did or did not also receive the drug. Taken together, we have established that MDMA dampens reactivity to negative emotional expressions in others, that it reduces feelings of social rejection, and that its effects are enhanced in the presence of others. This line of research will help to understand the basis of recreational use of MDMA, as well as its potential therapeutic use.

S.25. Emotion recognition in neurodegeneration

S.25.01 Structural and functional brain changes underlying emotion perception in behavioural variant of fronto-temporal dementia

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Impairment in emotion perception is thought to underlie the early socio-emotional symptoms in behavioural variant fronto-temporal dementia (bvFTD). Deficits have mainly been documented through facial expression recognition assessments and are associated with regional atrophy in a distributed network including the amygdala, orbito-frontal cortex, temporal pole and insula.

Extending reports of facial, vocal and musical emotion recognition deficits, we present evidence for impaired recognition of bodily expressions. The absence of differential impairments regarding motion (static vs. dynamic) and category (body vs. face) as well as a significant correlation between bodily and facial expression recognition are in line with a supramodal emotion recognition deficit in bvFTD. Voxel-based morphometry analysis reveals that bodily emotion matching and categorization in bvFTD were positively associated with the inferior frontal gyrus (IFG) whereas emotion detection was associated with the anterior temporal lobe.

Event-related fMRI provides evidence for distant functional effects of anterior temporal atrophy in posterior structurally unaffected areas. In contrast with healthy controls there is no enhanced activation for passive viewing of emotional facial stimuli in ventral and superior temporal cortex in bvFTD, while amygdalar gray matter is positively associated with emotion-specific activation in fusiform face area in bvFTD. This correlation is driven by the superficial and basolateral amygdalar subnuclei consistent with reports of intrinsic amygdalar-cortical networks.

Taken together the data suggests anterior temporal atrophy contributes to a lack of awareness for emotionally relevant stimuli, while integrity of the IFG might contribute to a more detailed description of bodily expressions through involvement of the motor system.

S.25.04 Emotion recognition in Parkinson's disease

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Affective neuroscience is concerned with identifying the neural bases of emotion. For historical and methodological reasons, models describing the brain architecture that supports emotional processes in humans have tended to neglect the basal ganglia, focusing instead on cortical and amygdalar mechanisms. However, Parkinson's disease provides a useful model for studying the functional specialization and integration of the basal ganglia in human