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Functional brain networks during picture encoding and recognition in different odor contexts

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Highlights

- successful picture encoding in congruent odor context involved olfactory activation
- subcortical networks were particularly recruited in an incongruent odor context
- picture recognition performance was not influenced by odor context

SUMMARY

Contextual odors can serve as retrieval cues when applied during encoding and recall/recognition of information. To investigate the neuronal basis of these observations, we collected functional MRI data while participants (n=51) performed an encoding and recognition memory task during which odors (congruent: CO or incongruent: IO) were presented as contextual cues. Recognition performance was not influenced by odor, but there was increased activation in the piriform cortex during successful encoding in the CO group, possibly indicating enhanced retrieval of information previously integrated