A face naming task is a type of cognitive test that assesses a person's ability to recognize and name faces. In this task, a person is presented with a series of faces, either in pictures or in person, and is asked to name each individual. The task measures various cognitive processes involved in face recognition and naming, such as visual perception, memory retrieval, and language production.

The face naming task is commonly used in clinical and research settings to evaluate language and memory function in individuals with neurological conditions such as stroke, dementia, or traumatic brain injury. It is also used in studies investigating the neural mechanisms underlying face processing and recognition in healthy individuals.

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Unsuccessful retrieval of proper names (PNs) is commonly observed in patients suffering from neurological conditions such as stroke or epilepsy. While a large body of works has suggested that PN retrieval relies on a cortical network centered on the left anterior temporal lobe (ATL), much less is known about the white matter connections underpinning this process. Sparse studies provided evidence for a possible role of the uncinate fasciculus, but the inferior longitudinal fasciculus (ILF) might also contribute, since it mainly projects into the ATL, interconnects it with the posterior lexical interface and is engaged in common name (CN) retrieval. To ascertain this hypothesis, Burkhardt et al. assessed 58 patients having undergone a neurosurgery for a left low-grade glioma by means of a famous face naming task. The behavioural data were processed following a multilevel lesion approach, including location-based analyses, voxel-based lesion-symptom mapping (VLSM) and disconnection-symptom mapping. Different statistical models were generated to control for sociodemographic data, familiarity, biographical knowledge and control cognitive performances (i.e., semantic and episodic memory and CN retrieval). Overall, VLSM analyses indicated that damage to the mid-to-anterior part of the ventro-basal temporal cortex was especially associated with PN retrieval deficits. As expected, tract-oriented analyses showed that the left ILF was the most strongly associated pathway. Our results provide evidence for the pivotal role of the ILF in the PN retrieval network. This novel finding paves the way for a better understanding of the pathophysiological bases underlying PN retrieval difficulties in the various neurological conditions marked by white matter abnormalities [1)].

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Burkhardt E, Zemmoura I, Hirsch F, Lemaitre AL, Deverdun J, Moritz-Gasser S, Duffau H, Herbet G. The central role of the left inferior longitudinal fasciculus in the face-name retrieval network. Hum Brain Mapp. 2023 Apr 13. doi: 10.1002/hbm.26279. Epub ahead of print. PMID: 37051699.