

Moral emotions, a diagnostic tool for frontotemporal dementia?

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A study conducted by Marc Teichmann and Carole Azuar at the Brain and Spine Institute in Paris (France) and at the Pitié-Salpêtrière Hospital shows a particularly marked impairment of moral emotions in patients

with frontotemporal dementia (FTD). The results, published in the *Journal of Alzheimer's Disease*, open a new approach for early, sensitive and specific diagnosis of FTD.

Frontotemporal dementia is a cognitive and behavioral disease caused by degenerative alteration of anterior regions of the brain. The disease is characterized by behavioral disorders such as a progressive apathy, loss of interest, social withdrawal, loss of inhibition and the processing of emotions.

We have known for a long time that these patients demonstrate impairment of emotion recognition and of theory of mind i.e. the ability to figure out the mental states of others: what they think, what they feel, what they like... But does this [emotional](#) blunting also affect a specific kind of emotions called moral emotions, which are crucial for [human interactions](#)? " asks Marc Teichmann, coordinator of the study.

Moral emotions can be defined as « affective experiences promoting cooperation and group cohesion " including emotions such as admiration, shame or pity. They are distinct from other emotions in that they are strongly linked to the [cultural context](#), [moral rules](#) and innate moral representations. In the context of FTD, which are primarily characterized by an impairment of behavior and social interactions, studying these particular set of emotions is a major issue to better understand the disease and to refine diagnostic accuracy.

In the present study, researchers and clinicians from the ICM—Brain and Spine Institute and the Pitié-Salpêtrière Hospital developed a test to assess moral emotions. It is composed of 42 scenarios for which the subject has to select, out of 4 response possibilities, the feeling s/he has in the scenario situation. La performance des patients FTD (N=22) are compared to the performance of 45 healthy subjects and to 15 patients with Alzheimer's disease. To evaluate the specificity of the impairment

of moral emotions in FTD the researchers contrasted the 42 moral scenarios involving an inter-human context and eliciting moral emotions with scenarios eliciting similar emotions without any moral valence. For example, it is possible to feel admiration for both an altruistic act and the architecture of a building. In both cases, the emotion is identified as admiration but the context is entirely different (moral versus extra-moral).

The results show that moral emotions are much more impaired than emotions without moral valence. In contrast, patients with Alzheimer's disease had no impairment as compared to healthy subjects and they had similar performance with moral and extra-moral emotions.

Our findings confirm that emotions in general are impaired in FTD and they reveal a particularly profound alteration of moral emotions. Our novel test tool appears to provide an early, sensitive and specific marker for FTD diagnosis while reliably distinguishing FTD from Alzheimer's disease [patients](#). It could also be a marker for other diseases involving the breakdown of moral emotions as for example in the case of psychopathic individuals. " concludes Marc Teichmann.

More information: Marc Teichmann et al, Moral Emotions in Frontotemporal Dementia, *Journal of Alzheimer's Disease* (2019). [DOI: 10.3233/JAD-180991](https://doi.org/10.3233/JAD-180991)

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