

## Emotional processing and response times in Parkinson's disease

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*Introduction:* Emotional processing has been shown to be able to influence motor behaviour in healthy and in pathological population [1–3]. In Parkinson's disease (PD) emotional processing is thought to be potentially impaired, particularly toward negative emotions [4].

*Objective:* The aim of this behavioural study was to test whether motor response in PD is mainly driven by the emotional content of a picture or if it is influenced by motor resonance by using different sets of emotional pictures representing emotional body language [5] (EBL), emotional scenes [6] (IAPS) and facial expressions [7] (FACS).

*Methods:* 24 PD patients (H&Y:  $1.91 \pm 0.47$ ) and 14 age matched healthy subjects (HS) were enrolled for the experiment. All participants were asked to complete a two-alternative forced choice discrimination task in which they had to press as fast as possible the key corresponding to the emotional (fearful/ happy) visual stimulus respect to the non-emotional (neutral), in order to estimate response times (RTs).

*Results:* Results showed increased RTs in PD with respect to HS for fearful IAPS pictures but not for EBL and FACS. Happy stimuli showed significant longer RTs for PD compared to HS in all emotional stimuli. Fearful EBL showed reduced RTs for both PD and HS compared to happy stimuli, while the opposite was found for IAPS pictures. No significant differences in PD's RTs were found for fearful FACS, but higher RTs were retrieved for fear in HS compared to happy.

*Conclusion:* These preliminary results show that emotional processing of aversive information conveyed by human bodies acts similarly in PDs and healthy controls, while more complex visual stimuli, such as IAPS, shows a different behaviour. Furthermore, fearful EBL showed to be more easily processed compared to happy stimuli in both groups, but the opposite was observed in IAPS stimuli for all participants and in FACS only for HSs.

## References

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