Title: Frontal lobe functioning and self-evaluation

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Abstract: 2.7

The frontal lobes have been shown to have a special role in self-awareness/self-evaluation/metacognition. In the present study, the relationship between frontal lobe functioning and self-evaluation in terms of confidence ratings on a face recognition task was evaluated. Seventeen traumatically brain-injured (TBI) patients were asked to discriminate their own performance on the Benton Face Recognition Test (BFRT). This task involves viewing a target face and choosing the same person from a set of faces situated below which may vary in terms of lighting and orientation. After each trial, the patients were asked to evaluate their own performance by rating their confidence about their accuracy on a scale of 1 (not very confident) to 3 (very confident). Participants were also administered the Wisconsin Card Sort Test (WCST), as an index of frontal lobe functioning. The participants were separated into groups of higher (3, 4, 5 categories on the WCST) and lower (0, 1, 2 categories) inferred frontal functioning. Correlations between accuracy on the Benton Face Recognition Test and confidence ratings indicated that the group with better frontal functioning showed the expected relationship between higher accuracy and greater confidence, whereas the group with poorer frontal functioning showed no notable relationship between these variables. The 2 groups did not differ on overall scores on the BFRT. These findings are important because face recognition is a skill typically done by posterior cortical areas, and does not necessarily require frontal lobe processing. These data add support to the idea that the frontal lobes do have a special role in metacognition/self-evaluation.