Psychophysiological detection of feigned memory complaint

ABSTRACT:

Background
Detecting malingering in cognitive performance is an important clinical challenge in neuropsychological assessment.

Aims
To explore behavioral and oculomotor responses during the performance of a computerized version of the Test of Memory Malingering (TOMM-C) under normal vs. feigning conditions.

Method
TOMM-C with eye-tracking recording was performed by 60 healthy individuals (31 under normal effort – NE; and 29 were instructed to feign memory impairment: 21 Naïve Malingerers – NM and 8 Coached Malingerers – CM) and 14 patients with Multiple Sclerosis (MS) and memory complaints performed. Number of correct responses, response time, number of fixations, and fixation time in old vs. new stimuli were recorded. Nonparametric tests were applied for group comparison.

Results
NM produced fewer correct responses and had longer response times in comparison to NE on all three trials. NE showed more fixations and longer fixation time on previously presented stimuli (i.e., familiarity preference) specially on Trial 1, whereas NM had more fixations and longer fixation time on new stimuli (i.e., novelty preference) specially in the Retention trial. MS patients produced longer response time and had a different fixation pattern than NE subjects. No behavioral or oculomotor difference was observed between NM and CM.

Conclusions
Healthy malingerers have a distinct behavioral and oculomotor response pattern, reflecting an increased effort to inhibit a natural response. Oculomotor measures may be useful to detect exaggeration or fabrication of cognitive dysfunction. Though, its application in clinical populations may be limited.

Keywords
Malingering, Novelty preference, Eye-tracking, Performance validity tests

Published Work:

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