Reviewer’s report

Title: Alertness and visuospatial attention in clinical depression

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Reviewer: Mario Liotti

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This paper extends previous research on attentional deficits in clinical depression by testing a group of 16 patients with clinical depression and 16 matched controls using four computerized tasks of visuo-spatial attention and alertness. While no differences where found in the main dependent variables, alertness performance and sad mood were found to predict more left hemifield omissions.

The hypotheses are clearly stated and the methods appear reasonably sound. However, I have a number of mostly analytical concerns I would like the authors to address before this paper should be accepted for publication.

1) In the light of previous findings reporting VF asymmetries in depression employing RT measures, it is not clear while the 3 visuo-spatial tasks only report omissions. This measure may be not sufficiently sensitive to pick up a mild deficit in spatial orienting/alertness caused by depression. At any rate, since these measures have been reported before, it would be instructive for the readership to see those data, and make sense of the results across RT and omissions. This also make sense in light of the significant RT effect for the alertness task. I would therefore encourage the authors to include their RT results if they have analyzed them.

2) The TAP subtest "visual scanning" does not seem to be suitable to pick up a deficit in attentional orienting, given the fact that there is no central fixation and the subjects were instructed to start their scanning always from the top left, which would in fact would compensate for a tendency to preferentially orient attention toward the right or away from the left. Therefore it seems that the present version of the task may be more useful for neglect rehabilitation (pulling attention to the neglected side) then to diagnose a left hemifield deficit.

3) In task 3 (WAF Extinction-Neglect) what was the stimulus duration and the interstimulus interval?

3) It is not clear whether the depressed group still met criteria for acute major depression episode at the moment of testing. Given that all patients were medicated at the time of testing, it would be important to know whether a number of patients were clinically remitted at the time of testing, or if they did not meet criteria for major depression episode. Do you have symptom ratings at the time of testing or Hamilton scores? Also, it would be important to report the medications the patients were on.

4) Given that previous studies have addressed a gender difference in the
manifestation of VF differences associated to depression or sad mood, it would be useful to run an additional set of analyses adding gender as a co-variate.

5) Page 2 (Background. It would be useful to include references of studies reporting visuospatial deficits in depression (e.g., Freeman et al, 1985; Kronfol et al, 1978, etc).

6) Page 3, line 6. Replace "approaches" with "interpretations".

7) Page 3, third paragraph. Prolonged RT and omissions in the LVF are observed in laboratory settings and are really not clinical manifestations of hemineglect.

   This sentence should more clearly describe the clinical symptoms of hemi-inattention and then introduce the evidence on laboratory measures of neglect/extinction.

8) Please specify if the neuropsychological measures used here are sensitive to detect neglect/extinction in clinical populations and whether normative data are published for control population. Since these measures are not particularly well-known -at least to an North American audience- it would be useful to add what components of the attentional system they are meant to tap into.

9) Check spelling of the word "extent" spelled a few times "extend".

10) In the Conclusion, I would say that depression leads to abnormal left-sided attention rather then more rightward attention (for which a different, less straightforward mechanism may need to be invoked).

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.