Reviewer's report

Title: Event-related potentials when identifying or color-naming threatening schematic stimuli in spider phobic and non-phobic individuals

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Reviewer: Dominique Lamy

Reviewer's report:

General
Summary
This manuscript is a follow-up study on Kolassa et al. (2005). The two studies involve the same design, methodology and groups of participants, with the difference that instead of veridical pictures of spiders, birds and flowers, the present study includes schematic drawings of spiders and flowers matched for luminance, spatial frequency etc. The present study replicated some yet not all of the previous findings.

Evaluation
The topic of attentional biases in anxiety disorders is a very timely topic. The manuscript is well written and the methodology appears to be sound. The use of very similar spider and neutral stimuli is an important asset of the present study. The manuscript goes only a small step beyond the authors' previous publication. Moreover, several discrepancies exist between the findings of the two studies for which ad hoc explanations are suggested. Detailed comments follow.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. My main concern regarding the present work is that the comparison between the findings from the two studies should be stated in a more systematic fashion. Not all these differences are addressed which puts the burden of the comparison on the reader. This state of affairs also conveys the impression that the present study goes a step backwards by challenging some of the previous findings. If no satisfactory explanations can be brought forward by the authors to clarify the reasons why differences were observed between the two studies, publication of the present manuscript might be contingent on additional data aimed at such clarification.
   a. There is no mention of whether the ERP findings concerning P1 and P170 were also found in the previous study. Although these components were simply not analyzed in the previous article, a word should be said as to why not, and perhaps an informal description of the previous data on these components. If indeed the early component findings of the present study did not emerge in the previous study it would be important to address the question of why this might have happened.
   b. The findings concerning the P300 and P400 components were observed across tasks in the previous study but only in one task in the present study. This difference is not addressed.
   c. The authors do not relate to the fact that their present finding of overall faster identification in spider phobics relative to the control groups was not, as far as I could understand from the statistical analysis (but not from the means), replicated in their previous study.

2. The interpretation of the identification task as measuring hypervigilance to spiders is somewhat problematic. Indeed, only one object was presented at a time, such that no attentional selection or prioritization was needed. The results are thus just as likely to reflect response biases. Tasks more suited to tap attentional processes include the dot-probe procedure, visual search, etc. The authors should acknowledge the possibility that the identification task did not reflect attentional processes / hypervigilance.

3. Based on the results of their previous study, the authors were aware that even with veridical pictures, the emotional Stroop, effect could not be found. The authors brought up several methodological issues as potential accounts for this null effect (e.g., the use of only 2 colors). Yet, they did not attempt to handle these issues in the present paper. So it is not entirely clear why the Stroop task was included as is. The authors should justify this choice.

4. The authors' second suggestion regarding why non-phobic subjects were faster to identify spiders than flowers in the present study but not in their former study is not quite clear. They proposed that non-phobic
patients show a general bias towards animals and that such a bias did not emerge in the former study because control stimuli also included non-spider animals, namely, birds. However, controls in the previous study in fact showed faster RTs for birds and slower RTs for flowers and spiders. The logic of the argument should be clarified.

The present findings are potentially important to those with closely related research interests and would become worthy of publication if the authors address the above comments adequately.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

Declaration of competing interests:

I declare that I have no competing interests.