Reviewer’s report

Title: Attentional bias modification in reducing test anxiety vulnerability: A randomized controlled trial

Version: 3 Date: 12 Sep 2017

Reviewer: Brage Kraft

Reviewer's report:

General comments:

First, the language is improved. Wording and sentence structure is more appropriate. However additional language revision is needed. Some sentences are too intricate and needs restructuring for clarity. Moreover the structure of the text needs improvement. Consider rearranging paragraphs, increase coherence, etc..

Second, I really struggle to understand what role test anxiety is playing in this paper:

In the title, there is a expectation that the paper is about test anxiety. The abstract states that "The aim of this study is to examine whether attentional bias modification (ABM) can be used to modify high test-anxiety individuals' attention to emotional information". Then the concept of test anxiety is introduced. The discussion also refers to test anxiety, and the conclusion in the abstract is "Attentional bias modification can be used as an intervention to reduce test anxiety". However, there is nothing in the Method or Results section which justifies this focus on test anxiety. Yes, test anxiety is measured using Test Anxiety Scale (TAS). But there is no sampling based on TAS. There is no valid argument whatsoever that the current sample represent "high test-anxiety individuals". Further, test anxiety is not used as a variable in the analyses. The conclusion stating "In summary, the current study demonstrates that attentional bias modification away from a threat is effective for individuals preparing for an exam" is more appropriate. What could be interesting is to examine whether test anixiety is related to the ABM effect.

Third, I'm confused about the terms "vulnerability", "emotional vulnerability", "stress vulnerability", "anxiety vulnerability", etc. There is a need for a more self-explaining and simpler description of these variables. For example, what you term "stress vulnerability" is the change in salivary amylase (sAA) from pre to post eStroop. Thus, you examine changes in sAA reactivity from pre to post ABM. I would prefer to change the naming of the variable "stress vulnerability" to "sAA reactivity", or something similar. Likewise, what is termed "anxiety vulnerability" actually refers to changes in state anxiety levels. Therefore, I suggest using the term "state
anxiety reactivity", or something similar. Moreover, I think you should present more clearly that the eStroop is used both as a stress induction, and a measure of attention bias.

Specific sections:

Introduction:

- You must provide a more clear description of what the present study is about before the various methodological choices are presented. For example regarding the sentence "Therefore, a no-training blank group (waiting list group) was included in the current study to control for the placebo effects, positive expectations and demand effects". This sentence gives no meaning because the reader barely knows what the current study is about yet.

- The structure of the introduction needs more work.

Page 4, line 41: what is "TAI"?

Page 7, line 1: "the participants were informed via e-mails regarding their assigned group and the following programs". What does this mean? Where the participants informed about which experimental group they were assigned to, or not?

Results:

- Presentation of the results needs to be simpler. Consider presenting relevant results using graphs when appropriate. There are a lot of information in the tables, consider making them supplementary.

- Please give a short description of what the interaction between test and group actually means.

- The ANOVA Table 3 is not interesting. ANOVA tables can be relevant when using covariates.

- The authors should reconsider which analyses are presented, in what order. I suggest that the authors limit the number of analyses presented.

Method:

- Figure 2: the figure needs more details regarding the exact sequence of the procedure.
Discussion:

Page 13, line 43-49: consider whether this belongs in the introduction section.

- I don't understand the relevance of "Therefore, we proposed there were different levels of test anxiety in our participants who were preparing for the exam".

- What is "repeated concreteness training"?

- Describe exactly why it is "suggested that standardized exam related images be used in future research"

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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