Reviewer’s report

Title: Effects of mental health self-efficacy on outcomes of a mobile phone and web intervention for mild-to-moderate depression, anxiety and stress: Secondary analysis of a randomised controlled trial

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Reviewer: Anne Kleinsasser

Reviewer’s report:

This paper contains two studies discussing a novel measure of mental health self-efficacy. The first describes the measure’s construction and validation while the second utilizes the validated measure in the examination of an online intervention for people with anxiety, depression, and stress. The paper clearly describes the two studies, providing support for the development of the measure and its subsequent use in the assessment of the online intervention. In this capacity, the studies contained in this paper are a contribution to the literature; however, several suggestions improvements of this manuscript may be made:

Major Compulsory Revisions:

1) In examination of the MHSE scale items, several concerns may be raised about the face validity of these items:
   - Items 1 and 6 appear to assess very similar things. What is the incremental utility of including both of them in the scale?
   - Item 2 is a double-barreled question and therefore may be endorsed by different subjects for different reasons. Is there potentially a way of assessing this without phrasing it in such a ways as to capture dissimilar respondents?
   - Item 5 could be interpreted to not assess behavioral self-efficacy but rather the subject’s belief that he/she will not experience stress, anxiety or depression due to factors other than his/her self-efficacy (e.g. personal circumstances improving). This difference may account for this item’s lower factor loading.

2) Despite the clarity of the contributions identified above, the authors’ justification for the studies is presented in the introduction as a case for the utility of online interventions. Because the ultimate focus of the manuscript is somewhat different, it would be clearer for readers if the introduction made an argument for the utility of examining the concept of mental health self-efficacy and its role in therapeutic interventions.

3) Related to this, it is not initially clear why the authors chose to examine only one mechanism of intervention action (i.e. MHSE) in the evaluation of the online intervention. Authors state, “Understanding how, why and for whom interventions affect symptom chance is critical for maximizing the clinical potency and cost effectiveness of online public health interventions for common mental disorders.” Yet only one such mechanism of action is examined in the paper. Were other
mechanisms of action investigated? If so, why were they not mentioned in this manuscript?

4) Authors present an argument that MHSE is related to the concept of general self-efficacy, identified by Bandura as an important factor for therapeutic outcomes of psychological interventions; however, no other measures of self-efficacy were used in the validation of the MHSE measure. Presumably, given the importance of self-efficacy to intervention outcome as identified by Bandura, other measures of self-efficacy exist and would be important to examine in the validation of a novel measure of this closely related construct.

5) Additionally, it is unclear why the authors chose to include the TIPI in the validation of the MHSE scale. More discussion of how personality may be related to MHSE in the introduction would provide the necessary support for the inclusion of this measure.

Minor Essential Revisions:

1) Grammatical errors (e.g. unnecessary commas in lines 59, 93, 130; unnecessary words such as “on” in line 92; and incorrect use of the word “less” in line 175) should be corrected.

Thus, while the authors present the development of the measure and its utility in the evaluation of an online intervention in a logical and coherent manner, given these concerns about the apparent validity of the scale items upon which both studies are based, it is difficult to recommend this manuscript for publication. While the first five suggestions for improvement listed above could be easily made, little can be done at this point to correct the apparent problems with the scale itself.

**Level of interest**: An article whose findings are important to those with closely related research interests

**Quality of written English**: Needs some language corrections before being published

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

**Declaration of competing interests**: I declare that I have no competing interests.