Reviewer's report

Title: Is the PANSS used correctly? A systematic review

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Reviewer: Laurie Lindamer

Reviewer's report:

SUMMARY

The authors presented a review of published papers reporting on the PANSS as an outcome measure to examine the proportion of studies that used a mathematical correction to calculate percent change. In a previous paper describing selected studies, the authors presented a mathematical correction (subtraction of 30 from the total score) to overcome a problem introduced by the scaling of the PANSS that renders it an interval scale rather than a ratio scale, which is required to determine percent change. The aim of this manuscript is to determine the prevalence (see comments below) of correcting the PANSS total before calculating the percent change in a more representative and complete selection of studies. They categorized 33 articles published between 1995-2010 that were selected from 10 of journals with the highest impact factor, excluding 3 that were unlikely to publish on the PANSS (e.g., Molecular Psychiatry), according to the use of the correction or not. They essentially found that about 62% did not use the correction and implied that this might have lead to erroneous conclusions in treatment studies. The authors suggest that at the very least, researchers should use the correction and that the field should considering rescaling the PANSS.

Major Compulsory Revisions

Abstract

1. Background section: “Even though there seems to be still unclarity in the psychiatric community about its correct statistical application.” Is a sentence fragment and “unclarity” does not seem to be a word.

2. Abstract Background: Punctuation errors and grammatical mistakes (“as e.g. the widely accepted response”)

3. Abstract Methods section and throughout the manuscript: “relevance” should be “prevalence” since the author are attempting to determine how widely spread the problem is. The relevance of the manuscript is clear; uncorrected scores introduce error in determining the percent change that may lead to invalid conclusions about the data.

Introduction

4. The authors comment that there is “profound confusion” about the “correct statistical application” of the PANSS when, in fact, it seems that they are
discussing its mathematical properties, scoring and interpretation, not statistical properties.

5. Inclusion of studies demonstrating the severity of not correcting the PANSS percent change or situations in which it is particularly problematic would be helpful. The problem may be prevalent but the magnitude of the effect in inconsequential.

Methods

6. It would be helpful to know how many articles were arbitrated by a third person.

Minor Revisions

Figures and Tables

7. Table 1. No impact factor is included for the journal “Neurpsychopharmacology”

8. Figure 1. Adds little to the manuscript. Stating the number and percent of studies in each category in the text would adequately convey the information.

9. Figure 1. It is not clear why the two studies with the unknown determination of percent change are included in the primary outcome column.

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

**Quality of written English:** Not suitable for publication unless extensively edited

**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’