**Round 2**

Decision Reject

I am sorry that a more favourable outcome was not possible, but the changes offered in response to the reviewers' previous concerns did not sufficiently address the core problems identified with the reporting of the data. I hope that you will consider submitting other work to PeerJ in the future.

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Reviewer 1

**Basic reporting**

General Comments for the Author

**Experimental design**

General Comments for the Author

**Validity of the findings**

General Comments for the Author

**Comments for the author**

This is the second version of manuscript entitled "Head motion in children with ADHD during resting-state brain imaging" by Xiang-zhen Kong from Beijing Normal University. I already reviewed it when it was submitted in April of 2013.

I had noted as "Major issue" in my last review the following: "While these findings of group differences in terms of motion seem correct, relevance of these results to other researchers is limited because 1) each researcher working with this kind of data can and should do this analysis based on their own data and 2) the effects of head motion on rs-fMRI outcome measures were not investigated by the author of the present manuscript."

This question is now “addressed” by the author by stating that “In consideration of the rationale of this study (i.e., the group difference in head motion during scanning) and unclear causal relationship between head motion and fMRI metrics (head motion brings noises in fMRI signals or neural metrics cause different head motion during scanning), we haven’t include any fMRI metrics in this manuscript”. And the author added “In the future, we would like to show the results in a separate study”. This is not a sufficient response.

I commented earlier that only significant results were shown in scatterplots. As response to my comment the author states that that plot is now “discarded”. But seriously: that is not how it works; You cannot do that. The authors pulled a similar trick when another reviewer had noted that there were very clear inter-gender differences that were not addressed. The response of the author was to remove any traces of that effect rather than offering an explanation.

Taken together, the author’s response is not sufficient to convince me of the appropriateness of this manuscript for publication in any peer reviewed journal.

**Round 1**

Decision Major Revisions

Both reviewers have identified critical points which must be addressed. In particular, the rationale for the study will need to be clearly stated, and the data acquisition procedures clearly described. The appropriateness of the acquisition protocol and the statistical methods must also be related back to the rationale. You should strongly consider the point regarding inclusion of rs-fMRI data as well. If you elect to submit a revised version, please identify where in the revised manuscript these points and the other comments of the reviewers are addressed. Finally, It would be very helpful to have the revised manuscript carefully proofread and edited for grammar, spelling, and typography prior to resubmission. Please note that this manuscript will be returned to one or both reviewers before a final decision is made concerning publication. Thank you again for your submission.

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Reviewer 1

**Basic reporting**

This is a report on the measurement of head motion during functional MRI scanning. The head motion is measured rather indirectly (and at very low temporal resolution) using coregistration of each volume in the time series with the initial one. The author wanted to know whether there is a difference in the head motion of people with ADHD and healthy controls.The data acquisition is not properly described. Strangely, there are very clear inter-gender differences in the degree of motion. No tentative explanation is provided.

**Experimental design**

Clear question and reasonable sample size but the description of the methods is sketchy. Since there was no prior specific hypothesis, all stats should be corrected for multiple comparisons.

**Validity of the findings**

Questionable in view of the above.

**Comments for the author**

The text must be revised by a native English writer or professional translator.

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Reviewer 2

**Basic reporting**

The study is aimed at characterizing possible differences in head motion between children with ADHD and a healthy control group during a resting-state fMRI (rs-fMRI) scan. The results show the expected group difference (patients move more than controls) and the author points to the fact that motion is worse in some movement directions than others. I do not understand why the the effects of head motion on rs-fMRI outcome measures are not reported by the author. I believe that those results would make the paper a lot more relevant for many readers.

Figures could be more concise: For instance, the results of motion in 6 directions (fig 1A and B) and results of the RMS (fig 2) can easily be reported in one figure.

Asterisks are included to denote some significant results in figures, but not all.

There are many grammatical errors throughout the text.

**Experimental design**

Analysis steps and reported results do not always follow each other logically. For instance there is a section that reports on within group analysis of 3 variables (thus 2 groups and 3 variables means that there were 6 tests performed) but only two results are reported: "Among the translation parameters, motion along the x-axis (left-to-right) was significantly less than motion along the y- and z-axis for both groups (ADHD: t(66) > 8.40, p < 0.001; TDC: t(139) > 10.00, p < 0.001)" (section 3.1). If the rest was not significant it should be stated and supported with statistics as well (it is relevant, for instance, if non-significant p values were around 0.1 or 0.8).

There were initial groups of subjects but many were excluded due to not meeting inclusion criteria (medication use, excessive head motion). Demographics of the initial groups are reported but the demographics of the actually analyzed groups are not included. I believe the latter are much more relevant to report.

**Validity of the findings**

Strange that only scatter plots of the significant results of section 3.3 are shown but not of the non-significant results.