Reviewer’s report

Title: Relationship between segmental trunk control and gross motor development in typically developing infants aged from 4 to 12 months: a pilot study

Version: 1 Date: 11 Apr 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses one or several testable research questions? (Brief or other article types: is there a clear objective?)

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

No - there are major issues

EXECUTION - Are the experiments and analyses performed with sufficient technical rigor to allow confidence in the results?

No - there are major issues

STATISTICS - Is the use of statistics in the manuscript appropriate?

No - there are issues with the statistics in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

No - there are major issues

OVERALL MANUSCRIPT POTENTIAL - Has the author addressed your concerns sufficiently for you to now recommend the work as a technically sound contribution? If not, can further revisions be made to make the work technically sound?

Maybe - with major revisions
PEER REVIEWER COMMENTS:

GENERAL COMMENTS: The authors did not respond adequately to reviewer's concerns.

The authors did not make changes to reflect their response in the manuscript.

My overall impression of the revision is that Table 1 is a significant improvement. However, statistical method is still very unclear.

REQUESTED REVISIONS:

Previously the reviewer asked the authors to discuss if Friedman test treat time of test as a repeated factor. The authors respond that Friedman test is a non-parametric counterpart of repeated measures of ANOVA taking time as a repeated factor. The authors did not add the response in the main text. Also, it is still not clear to the reviewer how they handle the fact that static/active/reactive scores are also repeated measures. They can't handle this in Friedman test because it is equivalent to one-way ANOVA with repeated measure. Or do they perform Friedman test for each static, active and reactive score? These statistics remain unclear to the reviewer.

Authors never provided any information about the distribution of SATCo scores. The reviewer understand that many typical developing children may have the same SATCo scores at specified ages, but it is really difficult to understand the data. For example, why the authors chose to present median SATCo values in Figure 1? Why not present the distribution of the SATCo? Also in Table 1, the authors presented single SATCo number for each age (and for each static/active/reactive score). It does not make sense to calculate correlation between a set of distributed score (how the authors presented AIMS scores) and a single score (how the authors presented SATCo scores). Also, SATCo reactive score at 9 month is 6.5 in Table 1, but it is 6 in Figure 1.

Previously the reviewer asked the authors to describe their overall statistical approach, especially how data dependency is handled. That is, scores for each AIMS subsections are dependent, 3 SATCo scores are also dependent. How is this handled? Did the authors just calculate correlation between each AIMS sub-score and one of the SATCo score? If so, then data dependency is not controlled for, and multiple comparisons should also be addressed. Because these statistical details are not presented, the reviewer can't understand why p=0.008 (the reviewer just took one example from Table 1, this p value is for correlation between total AIMS score and SATCo active at 10 month) is not statistically significant. Without sufficient description of statistical method, the reviewer can't judge if correlation results are believable or not. The request for clarification on statistical method is not satisfied. It is strongly recommended that the authors seek statistical consultation.
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.

No

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 am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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