Author’s response to reviews

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

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Authors’ responses to Reviewer reports:

Eloísa Tudella (Reviewer 1): Overall, the manuscript remains important for an area. In this revised version, the authors responded to the requests that were not previously reviewed and therefore provided more consistent clarification. Therefore, I consider the manuscript suitable for publication.

Authors’ reply- thank you for reviewing our paper again.

Reviewer 2 (Reviewer 2): 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 minor issues
EXECUTION - Are the experiments and analyses performed with sufficient technical rigor to allow confidence in the results?

No - there are minor 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 minor 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?

Probably - with minor revisions

PEER REVIEWER COMMENTS:

GENERAL COMMENTS: The authors responded to every question that the reviewer raised and made changes to reflect their responses in the manuscript itself. Although the authors responded to every question, the statistical analysis is still unclear, and the summary of results does not accurately reflect what is listed in Table 1.

Authors’ reply- thank you for reviewing our paper again and helping us to ensure this paper is clear and accurate.

REQUESTED REVISIONS: The argument of static/active/reactive trunk control is not repeated measure (page 10, line 58 to page 11, line 12) is incorrect. By definition, repeated measures involves multiple measures of the same variable (e.g. trunk control) on the same subjects under different conditions (e.g. static/active/reactive). Please delete these statements. However, the authors can argue that they would like to know the relationship between gross motor development and different aspect of trunk control, therefore they examine correlation between gross motor and trunk control (e.g. static/active/reactive) separately. Suggested statement: Because we are interested in the relationships between different aspects of trunk control and gross motor development, we examined the relationship for each aspect of trunk control separately. Specifically, the SATCo scores and the sub- and total scores of the AIMS ....

Authors’ reply- the suggestions have been well taken and the paragraph has been revised accordingly.
The reviewer can't understand why p value is adjusted for 9 repeated measures per infant (page 11, line 24). There are 3 aspects of trunk control (static/active/reactive) and 4 sub-scores for AIMS (prone/supine/sit/stand, 5 if total score included in the adjustment). Isn't the adjustment should be based on 12 repeated measures?

Authors’ reply- the p-value has been adjusted to 0.004 (0.05/12) as suggested throughout the main text.

In the result section, the authors should specify what aspect(s) of trunk control (static/active/reactive) is(are) significantly associated with gross motor development. It seems that gross motor development is significantly associated mainly with active trunk control at 8 month old, while gross motor development is significantly associated mainly with static trunk control.

Authors’ reply- the section has been substantially revised based on the recommendations and the slightly different results from the newly adjusted p-value.

There are many statements like (all p ≤ 0.006, Table 1). These statements are confusing. If the authors are referring to those significant correlations, then the authors do not have to make this (all p ≤ 0.006, Table 1) statement again because it is already stated in your statistic method. One example that confuses the reviewer is page 12, line 14. …. Mainly seen from 8 months of age onwards (all p ≤ 0.006, Table 1). This reads like all correlations after 8 month are with p ≤ 0.006.

Authors’ reply- the Results section has been revised as suggested and also due to the change of the p-value.

In discussion, the authors stated "Our discussion on the correlation between the trunk control status and gross motor development focuses on the gross motor skills in each of the four testing positions in the AIMS, rather than referring to the total AIMS score. The total AIMS score, being the sum of the four sub-scores, is not a valid dependent variable." If the main objective is to examine trunk control and gross motor development in each testing position, then the reviewer suggests to state this upfront in the objective section, modify your statistical approach accordingly (i.e., 3 aspects of trunk control and 4 sub-scores of AIMS, with p value adjustment based on 12 repeated measures), and delete the results of total AIMS score from Table 1.

Authors’ reply- the objective has been revised as suggested. The discussion and Table 1 have been revised after adjusting the p-value to 0.004 and the parts mentioning about the total AIMS score have been deleted from both main text and Table 1.