Author’s response to reviews

Title: "The influence of gender and body mass index on the FPI-6 evaluated foot posture of 10- to 14-year-old school children in São Paulo, Brazil: A cross-sectional study

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Version: 2 Date: 30 Nov 2016

Author’s response to reviews:

São Paulo, November 30th, 2016

Dear reviewers

Peter Guy, Samantha Williams and Stephanie Messner

Editor and Editorial Board Members of the Journal of Foot and Ankle Research:

We, the authors, would like to resubmit the paper “The influence of gender and body mass index on the FPI-6 evaluated foot posture of 10- to 14-year-old school children in São Paulo, Brazil: A cross-sectional study” in a third revised form, as suggested. We are also sending a cover letter that responds to the reviewers’ comments on a point-by-point basis. Below, we outline how we have followed your comments and answered each one, also on a point-by-point basis. The authors would like to thank you for your careful revision and for your comments and suggestions regarding our manuscript. Your feedback has certainly contributed to a better version of the article. We hope that this new and revised version fulfills the editor’s expectations.
Specific Comments of Peter Guy (Reviewer 1)

Reviewer reports:

Reviewer #1: I am happy with changes to the revised article. I wish all the best to authors in their future endeavors.

Answer: We appreciate your contribution. The suggested corrections were excellent and made the paper clearer and more objective.

With kind regards,

The authors

Specific Comments of Samantha Williams (Reviewer 2)

Reviewer #2: Dear Research Team,

Thank you for resubmitting your paper and considering our comments in detail. I am very pleased to see the improvements that have been made to the paper; it now reads very well and will contribute to the evidence base on this subject. As a result I am happy to recommend your paper for publication.

With kind regards,

Samantha Williams

Answer: We appreciate your contribution. All corrections were constructive and helped to improve this final version.

With kind regards,

The authors
Reviewer #3: In my previous review I omitted the introductory statement as a result of a poorly executed cut and paste manoeuvre. I would therefore like to retrospectively thank the authors for submitting their manuscript for review. Furthermore, I am grateful for the opportunity to review the manuscript in question for a second time. I hope the authors find my comments useful in ameliorating the manuscript prior to publication.

Answer: We appreciate your detailed suggestions for corrections. We have been able to learn from your guidance and we believe the text is now improved.

With kind regards,

The authors

Page 5:

1. Line 5-7: Your hypothesis could be more clearly defined as you have more than one.

H1: you anticipate differences in FPI-6 values depending on age, gender and BMI.

H2: you anticipate a greater prevalence of pronated feet in male adolescents with a high BMI aged between 10 and 11. I am not sure how this hypothesis can be set based on your introductory argument. Your introduction doesn't seem to clearly pull this point out of the literary argument you portray. This hypothesis is not explored in your results nor is this being addressed in your discussion section. You comment on age ranges of 10-14 and specific differences found in 11 vs. 13 year olds.

Answer: We appreciate your comment, but we think that the introductory argument for the hypothesis is situated on page 3, lines 51-58 and page 4, lines 1-2.

We rewrote this part in an attempt to make it clearer.

The text now reads: “The main hypothesis of this study is that differences will be observed in the FPI-6 values, depending on age, gender, and BMI, and the highest score of FPI-6 will occur in male adolescents with a high BMI and younger age, because some studies in the literature [13,14] that used different methodologies have demonstrated that the pronated foot is more prevalent under these conditions.”

2. Perhaps "our hypotheses were only partially confirmed........." this section is a little vague page 9 6-9. The idea of hypothesizing a prevalence means that you would be interested in finding a % based on the sample population. % of pronated feet in males with a higher BMI in 10 year old and 11 year olds.
The text now reads: “Thus, our hypotheses were only partially confirmed. Although differences were apparent between gender, age, and BMI groups, the highest scores for FPI-6 (a greater tendency toward pronated feet) were not necessarily experienced by younger adolescents or by adolescents with higher body mass.

3. Line 20: change to "For BMI classification the Cole index was used [20,21]."

Answer: We appreciate your comment and have made the suggested change (highlighted part).

4. Page 6: Line 9: What did the authors base their sample size calculation on? "A number of combinations….." perhaps a more definitive sentence would be more appropriate.

Answer: The sample size was calculated on the basis a linear regression of previously-collected data (researchers’ database) were used to estimate the variance of the response (FPI-6 score) with an estimated value equal to 2.67. A number of combinations were three: age, gender and BMI, used to obtain the following sample size: 95% power with a type I error probability of 5% resulting in 1364 subjects.

The text now reads:“ The sample-size calculation assumed a linear regression. Previously-collected data (researchers’ database) were used to estimate the variance of the response (FPI-6 score) with an estimated value equal to 2.67 A factorial design based on age, gender and BMI was used as a reference for the information, which aimed to detect a mean difference of 1 in the mean scores of the subpopulations in this study (i.e. gender, age and BMI). The possibilities of two types of error were controlled for: type I (rejecting that the population means these groups are the same) and type II (accepting that the average population of these groups are the same). The type II error probability was defined as power. A number of combinations were three: age, gender and BMI, used to obtain the following sample size: 95% power with a type I error probability of 5% resulting in 1364 subjects.”

5. Line 14: change sex with gender.

Answer: We appreciate your comment and have made the suggested change (highlighted part)

6. Line: 21: re-word to remove "their" academic prose

Answer: We appreciate your comment and have made the suggested change (highlighted part)
7. Page 7: Line 3: change "are" for "were"
Answer: We appreciate your comment and have made the suggested change (highlighted part).

8. Line 14: start with sentence with Inter and intra-rater reliability.
Answer: We appreciate your comment and have made the suggested change (highlighted part).

9. Line 19: change "have" for "had"
Answer: We appreciate your comment and have made the suggested change (highlighted part).

10. Page 8: Line 2: remove "for"
Answer: We appreciate your comment and have made the suggested change.

11. Page 11, Line 3: "a high BMI did not ……" clarify sentence as it currently does not mean what you want it to mean and change "more prone foot posture" to "pronated foot type".
Answer: We appreciate your comment and have made the suggested change (highlighted part).

The text now reads: “Interestingly, the subjects of this sample with higher BMI did not show the most pronated foot type’.

12. Tables:
I notice that you have included CI's in your tables. Are these confidence intervals set at 95%? As this is not indicated. Are they based on the mean or SD?

Could you elaborate on how these were calculated? As all the CI's seem rather large and perhaps incorrect. Also what is the purpose of including these if they are not discussed in any section of the paper?

Answer: Confidence intervals were added, as suggested by one of the reviewers: “It would be nice to see a summary table of the ANOVA results to better visually illustrate where the significance occurs between the groups. Furthermore, confidence intervals would also be of
interest in the tables”. The confidence interval was set at 95%. One objective of presenting the confidence intervals was to present the confidence intervals for calculating means and proportions. Calculations are provided on how to choose a sample of appropriate size for research and research with the intent of controlling the error range at confidence intervals. A confidence interval is a range of possible values of a parameter expressed with a specific degree of confidence. With a confidence interval, we take a point estimate and use knowledge about sampling distributions to project an interval of error around this point estimate. The purpose of a confidence interval is to provide an interval estimate of the value of an unknown population parameter and a precise expression of the confidence we have that the parameter falls within that interval.

13. Table 2 CI label missing, this is inconsistent.

Answer: We appreciate your comment and have added the CI (highlighted part).

General comment if "(n=…..)" is added at the end of the table title then only % can be included next to age categories within the table. This would make the table less busy. Readers can work out age group N based on % and total N

Answer: We appreciate your comment and have removed ‘n’ in brackets.


Referenced above, is an article that might be of value reporting on and referencing in the authors current manuscript, perhaps in the discussion section. The authors will find substantial similarities between their study and the study referenced above. The main difference is the age of the population which in the study above is 6-11 years. Gijon-Nogueron and the team aim at arriving at normative FPI values for the paediatric population in their chosen age bracket and make some suggestions as to cut off points.

Within your conclusion you state that your study will "contribute to current literature by reporting normative FPI-6 values for the school children population" yet no normative values are suggested within your paper.
You discuss inter and intra-rater reliability which is good to know, however this is a side step to the main aim of your study and illustrates validation of your raters skills.

Your statistical analysis uses parametric testing to identify statistical differences at p<0.05 within your paediatric population based on foot posture in relation to age, gender and BMI. You discuss any statistical findings within your 5 generated tables but do not comment on normative values.

The reference below may further inform your discussion with regards to your findings.


Answer: We removed the word normative and added this study. We thank you for these references, because we were not aware of these papers.

The text now reads: “Another study [24], developed in children (6-12 years-old) with similar objectives to those of the present study also found that the scores of FPI-6 were slightly higher in boys than in girls, with values of 3.93±2.99 versus 3.61±S2.86 for right foot and 4.00±2.96 and 3.74 ±2.87 for the left foot. However, direct comparison of the results is hindered by the fact that these authors analyzed a different age range. Foot posture is known to differ during the period of growth and maturation [25]; that is, children's feet differ from those of adolescents. Therefore, the two groups should not be compared. In this context, we emphasize the differential of this study, which evaluated only the period of adolescence.

“Interestingly, the subjects of this sample with higher BMI did not show the most pronated foot type and the foot becomes less pronated with increasing BMI, as observed by Gijon-Nogueron in children (6-12 years-old) [32].”

We removed the paragraph about reliability from the end of the discussion; now it is the antepenultimate (highlighted part).