Author's response to reviews

Title: Comparison of mechanical work and metabolic energy consumption during gait throughout pregnancy

Authors:

Zarko Krkeljas (zarkokrkeljas@gmail.com)
Sarah J Moss (hanlie.moss@nwu.ac.za)

Version: 4  Date: 22 October 2015

Author's response to reviews: see over
Dear Ms. Boodhun, Mr. Pepito, and the respected reviewers,

Thank you for the review of the article, and providing the comments and suggestions. Please find listed changes, and explanations.

I would also like to apologize for the technical errors that caused referencing issues, and the wrong figure attached as Figure 3 during the submission process. Although the documents were inspected prior to submission, I did make the type of technical error that should not be occurring at this stage of article submission.

Editorial Comments are addressed, followed by the response to reviewer comments.

Editorial Comments:

Has the HAPPY study on which this has been based been published? Please cite if so. This is the first article to be submitted for publication on the gait mechanics from the HAPPY-study. Data on the overarching study focusing on habitual activity patterns have been presented at the European College of Sport Science conference, Amsterdam 2014 and manuscripts are in drafting process.

Please add the details on informed consent to the main methods section, including whether this was written or verbal.

Informed consent details to the methods section were added (lines 110-116)

Reviewer: Jean McCrory

Major Compulsory Revisions:
I have no major compulsory revisions.

Discretionary Revisions:
The authors tend to over use commas. Specific places are:
Thank you. After reviewing the text I agree with the comments, hence all commas listed were deleted.

Table 1: Mass is in kg, Weight is in N. Please change Weight to Mass.

Thank you. This was also noted by the second reviewer, and has been corrected throughout the text where appropriate. (Line 72, 74, 179, 220, 233)

Minor Essential Revisions:
Title: I think your “aim” statement of your abstract more clearly describes the study than your title does. Please consider modifying the title to more closely match your purpose statement.

Thank you for the suggestion. The title has been subject to discussion several times prior to submission addressing exactly your point. Considering your comment, and after secondary consultation, the title has been modified to “Correlating mechanical work with energy consumption during gait throughout pregnancy” to better reflect the aim of the study.

The citation method seems incorrect. I am not sure of what the method of citing is. They are not in alphabetical order or in order of appearance. For example, in the background, the order of initial citation appearance is: 1, 2, 3, 4, 7, 8, 9, 6, 11, 12, 13, 14, etc. Where are #5 and 10? Why does 6 follow 9?

Thank you for noting this. The error was made during submission process, due to the use of referencing software. All references were corrected in accordance with the journal format.

Line 77, Background: do you mean “pre” pregnancy malnutrition or “early” pregnancy malnutrition? (i.e. Do you mean morning sickness?)

Pre-pregnancy malnutrition refers to the women who may not be well nourished prior to pregnancy, which will influence the consequent weight gain, and resulting metabolic adaptations during pregnancy.

Line 82, Background: When you say vertical excursions of the COG change, please describe the change. Increase? Decrease?

“Change” has been replaces with “decrease” in this case. (Line 82)
Methodology: Please include exclusion criteria for the study.

Exclusion criteria have been added (Line 109)

Results, and then line 225 (r2 = 0.63). In the results, you provide the r for the correlations, except for weight. For that, you provide an r2 value. The r would be 0.79? Please clarify this. It is confusing to be given all r values and then one r2 value.

Thank you for noting this technical error. You are correct, r = 0.79. This was corrected.

Figure 3: The axes labels appear to be incorrect for Figure 3. In the discussion section, you state that figure 3 demonstrates a significant relationship between velocity and energy recover, but there is no V on figure 3.

Thank you for pointing this error. During the submission process figures were accidentally re-named and submitted under the incorrect heading. This has been corrected.

Line 239, Discussion: you state “researchers would be able to determine…”. This is confusing. Should “would” be “should”? Or perhaps “are”? For clarity, please reword this sentence.

Thank you for addressing this issue. After consulting with an editor we agree that “would” and “should” are often used interchangeably, hence are very subjective to interpretation. As such, I do not have a preference to “would” or “should”, and will use “may be able” for clarity (line 247).

Reviewer: Wendy Gillear

“Major Compulsory Revisions

Line 140. Were pregnancy specific segment inertial characteristics used in the kinetic calculation. If yes please give details. If not then please re do the calculations using relevant segment inertial characteristics for pregnant worm. Data of Jensen et al will be useful for this.”

Yes, pregnancy specific calculations for segmental moments of inertia were used. Segment lengths and perimeters were used to predict moments of inertia using non-linear regression as described in Jensen et al. (1996). This method was preferred over the mass ratios, since we could not account for the changes in trunk (segment) density during pregnancy. Also, this method was used since it was validated for women at different stages of pregnancy, which we had in this study.
Line 272. Conclusions need to state the findings of the study relevant to the aims. Please add this statement of results to the section

The statement has been added to the conclusion (Line 283).

Minor Essential Revisions
The author can be trusted to make these. For example, missing labels on figures, the wrong use of a term, spelling mistakes.

Line 65. Reference 4 is a report on pregnant women with pelvic girdle pain. Given your paper is based on pain free subjects (I am assuming this as you have not stated) a better reference would be one that is for pain free participants. Suggestions might be another paper by the same author or Gillear.

Thank you. You are correct; I added a reference relating to pain free participants by Wu et al. (2004)

Line 140. On what basis was a one way ANOVA analysis chosen? This choice assumes the direction of change will one be in one direction. Either justify the choice or redo the analysis using a two way model.

Thank you for the comment. I agree with your statement that we assumed one way direction of change. Considering pregnancy is characterized by a continuous increase in weight, weight gain, and consequent increase in BMI, one-way ANOVA was a more appropriate analysis. While the same assumption cannot be stated for age and height, these parameters were not relevant to the data interpretation.

Line 212. The unit reported is kg. therefore the term is "mass". Please correct throughout the paper including the table.

Thank you. This was also noted by previous reviewer, and has been corrected throughout the text where appropriate. (Line 72, 74, 179, 220, 239)

Line 218. p cannot = 0. Correct to p<0.001 throughout the paper where applicable.

Thank you. It has been corrected throughout the results section. (lines 226, 227, 230,231,233,236,240)