Reviewer’s report

Title: Technology-based functional assessment in early intervention: A pilot study

Version: 0 Date: 06 Dec 2017

Reviewer: Gareth McCray

Reviewer’s report:

General comments. Thank you for a well written and interesting paper. I have a few general comments and then some specific comments:

1) Please can you make your discussion link better with the background. You make a nice argument for the need for this study in the background, but I can't see how it is picked up and rounded off in the discussion.

2) Please remember not all your readers will from the USA. Sometimes you might have to explain what might be country specific terminology a little more than you currently do (e.g., early intervention, early intervention provider, early intervention programme, etc.).

3) It looks like you have cut the number of words down dramatically. One result of this is the loss of many definite articles, i.e. "the". Please could you put them back in, as they make the paper much easier to read.

4) If you give a little more "background" (i.e. in the background section) about the PROs used in this study, it will make it much easier for the reader to follow the paper.

Specific comments:

L90 "input" into what?

L95 What specifically is an "Early Intervention Provider"? Is it a clinic, is it a person? It isn't entirely clear. What kind of things to they do?

L102 "enrolled" into what, the study?

L105 No need to report to 1 decimal place with a sample size of 37. Just say 60%.

L135 In which country? (it is good to be clear upfront)

L139 Specify the year that the $1,258 refers to in this text. Just makes it easier on the reader.

L160 - 170 I think you should briefly mention somewhere in this paragraph that you will describe the PROs in more detail in the methods section.
I'm afraid I cannot follow your justification for your study you make in this paragraph. It is very dense. Would it be possible to expand and provide some clarifying examples?

Please could you spell out what kinds of support early intervention programmes provide in the background section?

What is an early intervention programme? Is it something a provider implements? It is unclear.

Which country? I think many people reading this will know you mean Denver in the USA, but it is good to specify the country.

"the feasibility of"

"conducted by"

I don't know what the "10" in superscript refers to. I can't find any footnotes.

I don't know what the "16" in superscript refers to. I can't find any footnotes.

The sentence starting "PEDI-CAT domains have…". I would just delete this and say something more general along the lines of how the measure has been found to be both valid and reliable in specific contexts. It isn't really your job to provide the reliability evidence in your paper, just cite the reference for the tool. I think mentioning the ICCs is a little too specific, and makes no mention of the validity of the tool. It doesn't matter if the toll is perfectly reliable if it is not measuring what it is supposed to be measuring.

Perhaps don't use square brackets to signify the number assigned to specific frequencies, as readers may confuse these with references.

Why mix medians and means? Non-normal distribution on "home frequency"? If so, maybe say.

Again, I think you can be a little more general here. Talk about the reliability and validity of the measure in specific contexts as expounded by the reference.

This line belongs in the results. Also, do you not need to report this for the PEDI-CAT, if you are going to report it for the YC-PEM?

Replace "study decline" with "non-participation"?

Do you mean "audio-recorded" or did you really use tapes?

Inter "item" correlations between which "items"?
L267 What "model" you haven't mentioned a model yet. I'm assuming a regression model. Maybe mention you are going to do regression models before this.

L295 I'm confused as to why n=34 but you collected data on 37 caregivers.

L310-316 This is really interesting!

L310 I think verbs are missing from the clauses in this line, i.e. "???? a lay summary ...."

L318-323 I don't understand what the point of this paragraph is. please could you make its purpose clearer? Do you not have a table of the full regression model I am guessing you are referencing in line 323? If so please can you present it? Also, what is the relevance of the result that 0-6 year olds were less independent than 12-23 month olds? Isn't that obvious?

L336 Do you think you need to make these adjustments on a sample size of 37 (or 34, I'm not sure which)? I'm not sure that you do. Although, you could argue this away as "pilot testing" the eventual analyses on a larger sample.

L343 I am unclear on what "unadjusted" means. Are the unadjusted betas regression coefficient while the adjusted betas multiple regression coefficients? If so, please state this. If not, please explain what the "unadjusted" coefficients are. You could perhaps pop in the regression equations for each of the model that were fitted, to make it crystal clear what was fitted.

L356 Your uptake was only 44%, please can you comment on how you interpret this as providing evidence that the data collection method is feasible? I think you need to make this clearer.

L357 Participation in what?

L368 What is a "coaching model"?

L382 - 384 I don't understand this sentence. You might be missing a comma, but I don't know as I'm not sure what you are trying to say.

L389 "We were not able to replicate...". You shouldn't be expecting to find this in a pilot study with such low power. This isn't what pilot studies are for.

L407-410 This is not a limitation! This is a pilot study; you were not even trying to do this. You should put these two sentences before the discussion of the quantitative results in order to make this clear to the reader up front.

L424 You say "we have applied these results to inform significant revisions of our sampling and methodology ...". I am unclear on exactly what these were, please could you elucidate them more clearly. Perhaps in a table with three columns, i.e. Situation before, evidence for change, changes made, or something along those lines.
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