Author's response to reviews

Title: Accuracy and Consistency of Weights Provided by Home Bathroom Scales
Working Title: Home Bathroom Scales

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Author's response to reviews: see over
Dear Editors:

Attached please find revisions for our manuscript, “Accuracy and Consistency of Weights Provided by Home Bathroom Scales.” As requested, we have provided a point-by-point response to the reviewers’ concerns below. In addition, we have updated the ethics statement in line 91 to include the full institutional name of the ethics committee that approved the study.

Please let us know if additional revisions are needed to make our manuscript acceptable for publication. Thank you for your consideration.

Sincerely,

Kim Spaccarotella, PhD
Reviewer:
Sarah Colby

Reviewer’s report:
Discretionary Revisions

Abstract
Can you briefly mention the participants age?
We did not collect data on participant age.

Since you mention that a reminder to zero scales would be good in the conclusion, could you also include something about what you found about zeroing in the results.
Please see line 36, where we clarified that the digital scales did not always display 0.

Background
57-63- When I was reading this I was initially thinking “why focus on children?” I think you can make the case for the importance of knowing the accuracy of home scales because they are the basis for many self-reported weights for adults and children, but it would be helpful to the reader if you clearly make this connection early on so they don’t have to come to that conclusion on their own or indirectly.
As suggested, we clarified that this study is relevant to researchers working with both adults and children (lines 55-56).

Line 69- You mention spring-type here but in your abstract you talk about dial. Are these the same things? If so, can you use a common term?
Throughout the manuscript we changed the term ‘spring-type’ to ‘dial-type’ for consistency.

Line 94- Can you very briefly describe the population that brought in the scale. I know it is likely not very pertinent to the study, but having some idea that they are “typical” community members would be helpful.
We added additional details about the study participants in lines 90 to 91.

Line 129- Please further explain improper functioning. I assume that you would not have categorized inaccurate scales as functioning improperly but it would be better to have it specifically defined for the scope of this study.
We added details to clarify that these scales did not register a weight when tested with the calibration weights (lines 131-133).

Line 131- This brings up an interesting potential issue. Do you think those in the community that had older scales or less reliable scales (especially
potential belonging to those with Lower SES) would have been less likely to participate out of embarrassment?
Unfortunately we did not assess SES, but we agree that this should be considered for future research. Please see lines 216 to 218 where we added this statement.

Line 141- Of those that reported calibrating the scale each time or most of the time, how many of those had dial scales?
This information has been added to line 145-146.

Line 174- Can you expand on this potential human error?
Please see lines 174-175, where we added further clarification.

Reviewer:
Melissa Colby

Minor Essential Revisions

1. line 37 - Abstract - no mention of floor surface results
As suggested this was added to the Abstract (lines 36-37).

2. line 84 - Although mentioned in line 55 and eluded to again in line 74 there is not mention of self-reported height challenges. This research did not strive to evaluate this but yet it does focus on BMI which self-reported weight is only part of the equation. Further this again will need to be addressed in the discussion as a possible next step...
The need for developing and validating instructions for reliable, self-measurement of height was added to the Conclusion (lines 214-216).

3. line 206 - Elaborate on 'training' of research participants which is the take home message the reader will gain other than recommending digital scales.
This information was added to the Conclusion (lines 212-213).

Discretionary Revisions

1. line 95 & line 130 - One has to question the role of moisture, steam, water that creates rust if we are looking at the environment of which a home bathroom monitor lives.
We did assess overall condition of the scales and did not notice excess rust. However, this point is well taken, and we believe this should be examined in future research (lines 212-216).

2. line 141 - It does seem reasonable and necessary to ask research participants to calibrate their scale as they participate. Is there evidence that this is done and done well?
To our knowledge, this has not been studied in the literature. We did not ask participants to demonstrate how they would calibrate the scale, but this could be examined in future research. Please see lines 212-216 where this was added).

3. line 174 - It may not be possible to further elaborate on 'human error'. Yes; the error was likely in the recording of the data. This information was added in lines 176-178.

4. line 189 - is there an age recommendation and possible reference to guide this technique? To our knowledge, the technique of having parents derive their young child's weight by standing on a scale while holding the child and subtracting their own weight from the value on the scale has not been studied. We included this as an area for future research (lines 193-196).