Author’s response to reviews

Title: Child assessments of vegetable preferences and cooking self-efficacy show predictive validity with targeted diet quality measures

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Author’s response to reviews:

We would like to thank the reviewer for their thoughtful review of our manuscript. We appreciate your time and the opportunity to strengthen our manuscript. In response to the reviewer’s comments, we have added information about the timing of the data collection, added additional footnotes to the tables, and other minor changes to improve the clarity of the manuscript. We hope that reviewers and editors remain interested in our manuscript and consider it appropriate for publication in BMC Nutrition.

Please find our item-by-item responses in the table below:

Reviewer or Technical Comment:
Authors Response:
Reviewer Comments

What does clinically significant for fruit and vegetable preference mean?

A clinically significant change for fruit and vegetable preference indicates the level of changes required for a noticeable impact on daily life. A 3 point change in fruit and vegetable preference corresponds to a 1-point preference change in three items or a 1-point change in one item coupled with a 2-point change in another item, suggesting a meaningful change in preference. This margin for clinical significance was supported in a 2011 Fuel for Fun survey validation study (doi: 10.1016/j.jneb.2009.12.006.), which showed that although there was essentially no change in preference mean score between test and re-test; there were three vegetables that did show some change indicating that there was some variability. Hence, the need to keep the significant change at 3 points or higher.
Authors should think about their use of "prediction" in interpreting results—2 measures at the same time should be described as associated. A baseline measure might "predict" a later measure. This reader didn't find the timing specified.

We agree that the timing of data collection was unclear. We have added information about the sequence of data collection in line 134. Since these data are the baseline measures for a cohort study, the year of data collection varies, but the Fuel for Fun survey was consistently collected prior to the diet assessment data that were used to derive the HEI scores.

We used the term prediction for two reasons. As stated in lines 97-100, we aim to assess the predictive validity of Fuel for Fun survey items (fruit and vegetable preference, cooking attitudes and cooking self-efficacy) to predict diet quality (HEI scores). Secondly, the regression methods that we used are appropriate to assess the ability of the independent variable to predict the dependent variable. This is not intended to be a causal analysis, and we frequently use the terms associated/association when interpreting our results. See lines 56, 58, 197, 199, 240-243, and 429.

Reviewer or Technical Comment:

Authors Response:

Reviewer Comments

It's predictable that higher fruit and vegetable consumption (or subscore) would predict higher HEI and for sure total Vegetable score in the HEI.

Although we do not directly assess the predictive validity of consumption in this paper, we identified several instances where we had inadvertently conflated consumption with dietary quality. Although a person's consumption behaviors determines how well their diet adhere to dietary guidelines (i.e. diet quality), we do not want to confuse readers by using consumption and diet quality interchangeably. We made changes to lines 207, 208, 211-213 and 242-243 to make it clear that we were predicting diet quality instead of consumption.

Higher fruit and vegetable intake would only result in higher total vegetable scores if those scores are below the max of five points, but this does not necessarily mean that total HEI score would increase. The change in total HEI would also depend upon whether there were any changes in scores other than the component scores for fruits and vegetables.

The language of using fp, total vegetables, cooking SE—without differentiating between consumption and score is awkward.

To further improve clarity, we have added the word score after “total vegetables” and any other HEI component score any time it is mentioned without the total HEI score. See lines: 189, 194, 195, 198, 199, 200, and 270.
As mentioned above, we tried to improve the clarity of the paper by not using consumption and diet quality interchangeably. Our independent variables are fruit and vegetable preference, cooking attitudes, and cooking self-efficacy. Our dependent variables are Total HEI Score and the following HEI component scores: whole fruit, total vegetables, greens and beans, and empty calories.

The reviewer understands that the Beta weights are units. The authors don't tell the readers what the units mean and what the units are in the tables.

We added additional footnotes each in Tables 2 and 3 to indicate the units (HEI Scores) and possible point ranges. See subscripts c-h in Table 2 and c-e in Table 3. In addition, more detail about the logistic regressions was added to the methods section. (See lines 168-169.)

In table 2 and 3 it isn't clear to the reader what the difference in model 1 and model 2. The use of odds ratio in the tables is awkward. The authors are demonstrating the likelihood in a higher score on one thing based on a higher score in the other.

As described in lines 169-171, sex and a categorical variable for race/ethnicity were included as a priori controls in each regression model (Model 1). Each model was run a second time (Model 2) with the inclusion of BMI z-score as a covariate because it was a confounder. In addition, each model is defined in the footnotes of Table 1 and Table 2.

Yes, we are demonstrating that a higher score in the independent variable predicts a higher score in the dependent variable. This is consistent with the predictive validity aim of the paper.

Reviewer or Technical Comment:

Authors Response:

Technical Comments

Please include a ‘Declarations’ header immediately after the list of abbreviations, to be followed by each of the declaration sub-headings and statements.

Declarations header was inserted in line 303.

Please indicate in the declaration the role of the funding body in: the design of the study; the collection, analysis, and interpretation of data; and the writing of the manuscript.

The funding body had no role in any of these activities. A statement was added to lines 313-315.

Ethics approval and consent to participate declaration Please document whether the consent from parents was verbal or written.

Consent from parents was written. This information was added to line 335.

The tables should not be in supplementary files, but instead should be included in the main manuscript file, immediately after the References list.
Edited as directed. The tables were inserted at Line 427.