Reviewer's report

Title: Utility of eButton images for identifying food preparation behaviors and meal-related tasks in adolescents.

Version: 0 Date: 13 Dec 2017

Reviewer: Jacqueline Blissett

Reviewer's report:

This paper reports a pilot study of the utility of a new and potentially very useful method for examining adolescents' food-oriented behaviours, and this paper focuses on the method's utility for recording food preparation activity. The paper is generally clearly written, but I have a number of queries about the methodology and suggestions to improve the clarity of the manuscript.

Abstract: first sentence should be rephrased, I wasn't entirely clear on its meaning: 'Food preparation practices can be skills important to healthy eating.'

If there is space in the abstract, name the seven major categories of food preparation that were coded.

Introduction: whilst it is true that involvement in cooking, and home cooked meals, are associated with better nutrition and eating behaviour in children and adolescents, the introduction needs to do a better job of justifying its focus on food preparation activity per se in this sample, when the sample was not involved in an intervention or similar program focused on increasing meal preparation or involvement of children in cooking. For example, children in this study may not have engaged in much food preparation because parents were undertaking that responsibility. Given that this behaviour did not occur often spontaneously in this sample, I wonder how well the data can really support whether the method is a useful (and necessary) one for measurement of this behaviour. In other words, justify why 'more objective measures are needed' (line 90), when the frequency of the behaviour is low, and fairly easy to self/parent report.
Methods: participants are described as 8-13 (study 1) and 9-13 (study 2) but abstract refers only to 9-13 year olds- please clarify.

Line 127-30 seem to imply that it is now expected to amalgamate data from more than 1 day using such methods? If this is the case, please describe the limitations of 1 day collection in more depth. Please also describe how each day was selected within study 2, given that two days were recorded for these participants, and explain why consistency of coding was more important than (for example) comparing the two methods (using 1 day vs. an average of 2 days' data).

Please clarify line 138: 'This study utilized the activity categorization software to more easily identify food preparation events'. More easily than what? Does this mean that only sections where activity category fit the expected profile for food preparation were analyzed? If so what are the limitations of this? Were any recordings viewed from start to finish to determine whether this was a reliable way to identify these events?

Line 140: Much more background needs to be given to describe how and why the specific food preparation behaviours were chosen to be coded. This mentioned in 'data analysis' but only very briefly. Were there other behaviours that were evident that did not fit the coding scheme?

Line 148 did this behaviour only occur when served food by parents (i.e. not in cafes, etc?)

Line 151 and onwards: it was not clear to me how and why food media was classified as part of this study? For example watching a food show - how is this a food preparation behaviour? What about watching a food advert?

Line 163-4. It was not clear to me how classifying prep work and cooking identified adolescents' cooking skills unless all children were actually asked to cook something?

Why is Table 3 presented only as presence or absence of behaviour rather than frequency? Is it correct that a child who looks in the pantry 20 times in the day is only coded as showing that behaviour and is not recorded differently from a child who does it once? Please clarify when you are saying 'did three or fewer behaviors' etc ; does this mean any three, or three of the same behaviour? If the data are only really measuring whether the behaviour ever occurs in a day, doesn't this fail to exploit the potential of the method somewhat, and make the measure less sensitive? Is this really then significantly more effective that asking a parent or adolescent to report presence/absence of 7 behaviours across a day?

Results: clarify if n=31 is before or after excluding those for whom data could not be analyzed.
Lines 203-6. What kappa was reached for each subcategory? Were the disagreements mentioned in these lines resolved?
Lines 212-215. You state that food preparation activities were rare but for some of these you have recorded it for just under half the sample? This does not sound like 'rare' behaviour or 'low' as referred to in the early part of the discussion.
Lines 218-9 not clear where these analyses are, what they were, or what motivated them. The aim of the study did not mention examination of age differences. Please add the analyses to Table 3, or to a supplementary table. Phrasing of the interpretation of these analyses needs revision; it is stated that there are no significant differences but then the data are presented as is if differences have been shown. Please add a post hoc power analysis to justify the statement that small sample size drove the lack of significant differences in these analyses.

Discussion 249 and onwards: I was surprised not to see a major limitation with this study described: that of comparison of data generated by the ebutton method to another method (self report, parent report). Please add this.
Line 250 : Assuming that shopping is a weekly event and no specific bias towards recording/shopping on a specific day, one could estimate that 7x 6.5% (45.5%) of your participants might engage in assisting with shopping? So this study is in fact plausibly entirely in line with yours?
Line 258 clarify the study that the questionnaire data came from. I am not sure why you are focused on comparing your data to this study. You needed to collect similar data on the current sample if you want to compare measures in this way.
Lines 267-9 refer to gender analyses that are not present in the paper nor supplementary materials. If you wish to include these please add a rationale for gender analyses and add the data and the appropriate analyses to a supplementary or main table.

Level of interest
Please indicate how interesting you found the manuscript:
An article whose findings are important to those with closely related research interests
Quality of written English
Please indicate the quality of language in the manuscript:
Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?
4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?
5. Do you have any other financial competing interests?
6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

'I declare that I have no competing interests'

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.
I agree to the open peer review policy of the journal