Reviewer's report

Title: Impact of physical activity on energy balance, food intake and choice in normal weight and obese children in the setting of acute social stress: A randomized controlled trial

Version: 2 Date: 6 July 2014

Reviewer: Jillon S Vander Wal

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Major Compulsory Revisions

1. Study design, first paragraph: Parents were advised to provide their children with a fruit snack at 3 pm (line 151). Please indicate whether the provision of a fruit snack was verified and if so, whether there were any differences among the groups. If not verified, please include as a study limitation.

2. Study design, second paragraph: Please add an explanatory sentence for the difference in target heart rates between the NW and OV/OB children (line 167). Also, please add an explanatory sentence or clarify how the PE specialist ensured that children’s perceived exertion was rated as “somewhat hard to hard” (line 168).

3. Study design, general comment: Please clarify whether children participated in each phase of the experiment individually or in groups.

4. Study design, TSST-C: Please comment on whether there was any type of manipulation check and if not, please mention as a study limitation.

5. Measures, food intake and choice: Please clarify whether these are common children’s foods in Switzerland (cherry tomatoes?); also, if there are other common international terms, please place these terms in parentheses, e.g., perhaps crisps are similar to potato chips; biscuits are similar to shortbread cookies, etc.

6. Measures, parents’ questionnaires: Perhaps add a parenthetical statement as to why migrant status is important to measure, particularly in terms of an association with obesity or physical activity. Also, with regard to the ascertainment of SES, please clarify how the two SES scores were combined to form a unitary metric.

7. Measures: For the Conners’ 3, please provide data on the use of the Conners’ 3 in Europe if available or list as a limitation. For the DEBQ, please clarify what is meant by the term “adapted.” For the APQ, please provide data on the use of the APQ in Europe if available or list as a study limitation.

8. Analyses: It would appear that a multivariate approach may be more favorable for some variables, such as the seven subscales of the APQ or the three
subscales of the DEBQ. Alternatively, a correction for multiple comparisons might be in order. As such, there exists the risk for a type I error.

9. Analyses/results: One analysis of interest was whether the effect of physical activity on food intake differed by weight status. However, there appears to be no mention of the analysis of interaction effects, nor does this study appear to have sufficient power in this regard. Please indicate if interaction effects were considered and if there was insufficient power, please discuss.

10. Results, first paragraph: Perhaps clarify the direction of the differences obtained in text (lines 272-273).

11. Discussion, fourth paragraph: Care should be exercised in the discussion of food choices as children’s food preferences may have affected their choices above and beyond the physical attributes of the foods (i.e., sweet/salty, low/high caloric density). That is, the use of different foods representing these combinations of taste and caloric density may have resulted in different food choices. This idea should be included in the discussion along with the limitation that children’s food preferences weren’t assessed a priori.

Minor Essential Revisions

1. line 48: Please reverse the order of “different” and “12.”
2. line 52 and ff: Please add a space after the numbers and before “kcal.”
3. lines 150, 152: Please add a space between the time and pm.
4. line 157: delete the word “a” after “using.”
5. line 160: Please add a space between “13” and “NW.”
6. lines 277, 278: Please change “amount” to “number.”
7. line 311: Please change 9 to 11 year old children to “9- to 11-year-old children.”
8. line 366: Please add a comma after i.e.
9. References: The titles of some of the references need to be placed in lower rather than in upper case: 4, 13, 31, & 38.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.