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: 13 July 2014

Reviewer: Berit Heitmann

Reviewer's report:

The paper: 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 by Horsch et al. finds that physical activity may modify stress induced eating differentially among normal weight and obese children.

The paper is interesting and findings novel. Furthermore, the paper is well written. My major concern is the "over-selling" of the importance of the findings. The study is short term and compensation may occur later during the day, or the next day or week, and both the discussion and conclusion sections needs to clearly reflect this.

The authors somewhat mislead the reader making us think their results are representing causal relationships - for instance: 361-362 - the results do not confirm the "role" of... for "development of",

or: 398-399 - this study is not about "risk" of obesity, but a study including obese individuals with not information on change in weight. Please modify text

Also from the conclusion the sentence (411-412) ...positive parenting can act as a protective factor preventing... needs to be omitted.

In terms of generalizability we need more information on the selection criteria. We know that (in total) 82 children agreed to participate - but we don't know how many were recruited in total.

Some discussion is needed in regards to the differential participation among normal weight (26/30) and OW/OB (24/52) and how this may potentially influence results (inflate or attenuate) as well as generalizability.

Lines 385-386 and 387-389 we are informed about potential bias - but not on the way such bias may influence the present results (eg lead to attenuation or inflation). Please specify

Also, in a few places quotes or statements are unsupported by references - for instance line 326-328,

Miscellaneous:

Energy is reported with one decimal - a precision that is impossible - please
report without decimals

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

no competing interests