Reviewer's report

Title: Prospective associations of appetitive traits at 3 and 12 months of age with body mass index and weight gain in the first 2 years of life.

Version: 2 Date: 3 June 2015

Reviewer: Ingibjorg Gunnarsdottir

Reviewer's report:

The paper describes results from a longitudinal study assessing the association between appetitive traits in infancy and weight gain up to 2 years. The data and methodology seem sound, but there are few things that need further clarification.

Major comments

1. One of my main concerns is that the authors seem to be very focused on arguing that the increased growth rate is a response of increased food responsiveness or lack of slowness in eating and satiety responsiveness rather than the opposite. The authors mention this possibility in the discussion section, but instead of highlighting that more studies are needed (and what kind of data would be needed to answer this interesting question) they chose to refer to one study suggesting that the influence of appetite on weight is stronger than the reverse influence of weight on appetite (page 17, lines 367-370).

2. Please address the clinical relevance, i.e., how could the results be of use in clinical practise? Are we there yet? Please comment on the difference seen in the BMI z-scores. It seems like you have a quite normal population. Is the difference in the mothers responses to the questionnaires of clinical relevance?

Minor comments and questions

1. Please include information about the participation rate in the GUSTO study (i.e. how many mothers were invited into the study)?

2. How detailed was the data on infant milk feeding? Please provide information. How many children where exclusively breastfed at each time point? How many exclusively formula fed?

3. The infant milk feeding seems to be a major determinant in your analysis. Did you analyse the data in groups depending on milk feeding? (For example only including excl. bf. infants or excl. formula fed infants). I think that this might be very important, partly due to the fact that it might be speculated that mothers of formula fed infant’s perception of the infant’s appetite might be different from the breastfed. Formula contains more protein than breast milk, and higher protein intake has been shown to stimulate growth rate of the children.

4. (Page 11, line235). The analysis is adjusted for potential confounding factors, including infant milk feeding. How was this done exactly?

5. What was the main reason for low response in completing the questionnaires?
And why was the CEBQs administered in English?
6. Please refer to Table 3 in the text.

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

'I declare that I have no competing interests'