Author's response to reviews

Title: A prospective study of weight development and behavior problems in toddlers: the Norwegian Mother and Child Cohort Study

Authors:

Susan Garthus-Niegel (susanniegel@gmail.com)
Knut A. Hagtvet (k.a.hagtvet@psykologi.uio.no)
Margarete E. Vollrath (margareteerika.vollrath@fhi.no)

Version: 4 Date: 28 September 2010

Author's response to reviews: see over
Dear Dr Pafitis and Reviewers,

Thank you for again dedicating so much attention and time to our revised paper. Please see below or point-by-point response.

Referee 2’s comment: The central problem with this study is the lack of convincing conceptual framing. There is no current theoretical support for the idea that being overweight in infancy starts a process that leads to behavior problems or vice versa. Neither is there any convincing empirical support for such a conjecture.

Our reply: In our first review, we presented a conceptual framework by presenting several mechanisms that may account for the relation between temperament and overweight. These mechanisms are in keeping with those cited in the relevant literature. What is more, in the meanwhile new studies have been published on that young age group (Anderson et al., 2010; Faith & Hittner, 2010; Wu et al., 2010), which we now incorporated in the new version of our manuscript (page 4, lines 79 – 81; page 5, lines 112 – 118; pages 5 – 6, lines 122 – 126).

One of those studies found indeed an association between externalizing behavior problems and higher BMI in children as young as age 24 months (Anderson et al., 2010). Another study did unfortunately not report when the association between behavioral variables and higher risk for increased weight gain and overweight first emerged (Faith & Hittner, 2010).

Referee 2’s comment: There is good reason to worry about the ability of parents to report accurately on children’s behavior problems when children are very young – despite the widespread use of measures like the CBCL. The patterns of association one sees from these measures typically does not comport with what the developers of CBCL envisioned. Again, there is evidence of this in the results reported in this manuscript. Most specifically, short of behavior that is clearly in an extreme range, parents frequently cannot discriminate between behaviors indicative of one type of problem and another. This problem is exacerbated in the current study when the number of indicators was reduced - better that it had been expanded.

As appropriate and wise as it was to enlist the assistance of clinical and developmental psychologists in picking items that would represent internalizing and externalizing behaviors, it was insufficient. More critically, the authors needed to establish the discriminant validity of each indicator. In effect, it is not surprising that the researchers found a “very high correlation between subscales” that supposedly represented different latent constructs. In effect, the scales do not work as intended: what psychologists may well be able to distinguish, parents often cannot.

Our reply: We believe we have addressed this issue in our previous revision already. We have acknowledged certain limitations but were able to demonstrate satisfactory psychometric properties of the short version of the CBCL. As stated earlier internal consistency proved to be satisfactory for all but one subscale, and the majority of the factor loadings were high.

We further note a new argument implying that parents are not able to reliably and validly rate their own child. This contradicts the literature. The Achenbach System of Empirically Based Assessment (ASEBA) has influenced the worldwide standard for multi-informant assessment of behavioral, emotional and social function across different age spans. The instruments have been used in some 6500 studies and translated into more than 80 languages. The instruments are designed to capture both similarities and differences in how children and youngsters behave and function under different conditions in different social settings. Achenbach and his co-workers developed the ASEBA instruments through decades of research and practical experience and described them in their early papers and in the manuals. The manuals present the validation and standardization procedures in large American samples. Also the ASEBA form for young children down to age 18 months
(CBCL/1½ - 5) has well-documented reliability and validity, and has been standardized and validated in numerous countries throughout the world. Crosscultural comparisons have also been made.

**Referee 4’s comment:** The conceptual framework should be presented. Whether children at this age have sufficient cognition and therefore validity of the study should be discussed in the introduction to the manuscript.

**Our reply:** We note, that the presentation of the conceptual framework could be improved even more. We have tried to rewrite the introduction in order to make the mechanisms at work more explicit (pages 3 - 4, lines 64 - 97). As mentioned above, we have integrated new findings of recent studies in the new version of our manuscript. These studies present the same mechanisms as we have done. Only one of the postulated mechanisms — negative feedback by peers and other adults -- is related to the children’s cognitive and social abilities. All other mechanisms do not require higher cognitive functioning.

**Referee 4’s comment:** The authors should rewrite the introduction focusing on the age group under study. At present it is all mixed up with all age groups making it difficult to follow the question and the hypothesis.

**Our reply:** We have now rewritten the introduction (pages 3 - 6), focusing on young children. By doing this, we hope it has become easier to follow the research questions.

**Referee 4’s comment:** The figures are not understandable to a person not involved in this kind of work. They require detailed and easily understandable legend explaining what is being presented. As such it is just left to guess work of interconnecting boxes!

**Our reply:** We have now changed the figure legends and added a more detailed text in order to make the figures easier to understand (page 22, lines 577 - 610).

As a result of the changes of the manuscript we have added a few more references. Like the other changes, they are highlighted with ‘tracked changes’ in the manuscript.

We thank the reviewers for their efforts and hope that this revised version is satisfactory.

Yours truly,

Susan Garthus-Niegel