Author's response to reviews

Title: ADHD in girls and boys - gender differences in co-existing symptoms and executive function measures

Authors:

Erik W Skogli (erik.skogli@sykehuset-innlandet.no)
Martin H Teicher (Martin_teicher@hms.harvard.edu)
Per N Andersen (Per.normann.andersen@sykehuset-innlandet.no)
Kjell Tore Hovik (Kjell.tore.hovik@sykehuset-innlandet.no)
Merete Øie (Merete.Oie@sykehuset-innlandet.no)

Version: 3 Date: 9 April 2013

Author's response to reviews: see over
Erik Winther Skogli  
Innlandet Hospital Trust Lillehammer  
Division Mental Health Care  
Anders Sandvigsgt 17  
N-2609 Lillehammer  
Norway  
Lillehammer 8\textsuperscript{th} April 2013

Mr. Carlo Rye Chua (on behalf of Deesha)  
and  
Deesha Majithia  
Executive Editor  
BMC Psychiatry

\textbf{RE: "ADHD in girls and boys - gender differences in co-existing symptoms and executive function measures". MS: 1236938015841236.}

Thank you for your e-mail of 12 March 2013 and the enclosed reviews. We hereby re-submit the manuscript with revisions according to the reviewers’ suggestions. Questions posed by the reviewers are marked in \textit{italics} and our answers are in \textbf{bold}. We have also marked in yellow writing the changes that have been made to the manuscript. We hope that the reviewer’s request for changes have now been properly addressed, and look forward to hearing from you.

During a final check of the data set regarding the BRIEF scores, we discovered a few minor errors in the raw data. New analyses have shown that they have no effect on any of the findings or text in the article. The amended BRIEF results are now marked in yellow writing.

We appreciate your positive attitude toward a re-submission of our manuscript.

Sincerely,

Erik Winther Skogli, MA
Comments from Reviewer 1.

Minor Essential Revisions

1. As the abstract stands on its own, it is difficult to follow, particularly if one isn’t familiar with Random Forest Classification techniques. I think the conclusions of the abstract are also overstated. I think an additional comment needs to be made that these results will not aid in the diagnostic process and the results of the ANOVAs also need to be mentioned given that one of the aims was to do group comparisons. Ultimately, the ANOVA findings are similar to the findings of other researchers in that there are very few gender differences in ADHD.

RESPONSE: We have revised the abstract extensively. The result section is revised in order to make it easier to follow for the reader, and ANOVA findings are presented. We have emphasized the importance of multiple informants when assessing co-existing symptoms in boys and girls with ADHD as the main finding in the conclusion. It is further specified that our findings add primarily to the understanding of gender differences in children already diagnosed with ADHD.

2. In the introduction, the third hypothesis is not obvious as to why that prediction was made based on the literature review.

RESPONSE: To the best of our knowledge no studies have investigated potential gender effects on BRIEF profiles in children and adolescents with ADHD. We have however described in more detail existing litterature addressing gender and BRIEF profiles in normal developing children and adolescents on page 5. Hopefully this will clarify why we predicted that BRIEF-ratings would better distinguish subjects with ADHD from HC in boys compared to girls.
3. Methods – 4th line – I think the authors meant the ADHD participants.

RESPONSE: This is corrected for on page 6.

3. They also need to clarify whether forms were completed by the teachers.

RESPONSE: Information about school functioning was based on general teacher reports, describing academic and social problems. This is specified on page 7. Such school reports are mandatory on referral according to DSM-IV criteria specifying functional impairment in more than one context as a result of ADHD symptoms. However teachers did not complete any form or rating scales as part of the diagnostic evaluation.

4. On page 7, how many were excluded based on the exclusion criteria?

RESPONSE: On page 8 we have specified that one boy with ADHD was excluded due to estimated IQ below 70, and none were excluded due to history of stimulant treatment or any disease affecting the central nervous system.

4. Percentages with the various co-occurring disorders would also be helpful.

RESPONSE: Percentages with the various co-occurring disorders is now specified on page 7.

5. Table 1 – hyperactivity was spelled wrong.

RESPONSE: This is corrected for.
Major Compulsory Revisions

1. I really struggled with the term “predictor”. I assume this is how the approach is described but readers might get distracted by the term and think that causality might be being inferred when actually, all that is being looked at are associations. This needs to be very clearly mentioned and explained, both in the results and in the discussion section. I also think the abstract needs to be revised in light of this most sensitive issue. Perhaps distinguishing variable is a better term?

RESPONSE: In the abstract, results and discussion section we have specified that Random Forest Classification with cross-validation was carried out to investigate the relationship between ADHD status and the three measurement clusters in males and females. See pages 15, 16, 17 and 18. On pages 6, 16, 18, 19, 20 and 21 the term “predictor” have been replaced with the terms discriminating, categorizing, classifying or “distinguishing variable”. We agree with the reviewer that this may be more appropriate in the context of the subject and findings discussed in this paper.

2. I think the authors need to flesh out the clinical utility a bit more. How useful is this technique on an individual basis? How might these data be useful to the practising clinician?

RESPONSE: We have now outlined the clinical implications of our findings in more detail in the discussion section on pages 19 and 20.

Comments from Reviewer 2.

Discretionary revisions
It is not quite clear whether all patients are medication naïve?

RESPONSE: We have specified in more detail on page 8 and 20 that none of the participants used any types of psychopharmacological medication.

The period of inclusion of patients is not stated clearly. It is not described very well who performed the Kiddie-SADS-interviews, whether there were consensus ratings and how many raters were actually included in the study.

RESPONSE: All participants were included over a period of 1 year and 4 months (10.05.2009 - 14.09.2010) by thirteen experienced psychologists/educational therapists. The clinicians were trained and supervised by a child psychiatrist and a neuropsychologist (professor Merete Øie) specialized in ADHD diagnostic assessment and neuropsychological testing. All thirteen psychologists/educational therapists performed the Kiddie-SADS as part of the diagnostic evaluation. Diagnoses were set by each psychologist/educational therapist independently and then reviewed independently by the project manager/neuropsychologist specialized in ADHD (professor Merete Øie). The clinicians and the project manager met to discuss and reach consensus on diagnosis to arrive at a ‘best estimate’ DSM-IV consensus diagnosis (American Psychiatric Association, 2000) when the diagnostic assessment was inconclusive. The level of agreement was unfortunately not calculated.

The consensus is relevant specifically regarding comorbid conditions. The authors just state that interviewers were trained to high level of inter-rater reliability, was a reliability study made?

RESPONSE: All clinicians were trained to high levels of consensus for assessment of diagnosis with the Kiddie-SADS before project start. 100% agreement was reached when screening for depression in training sessions. As specified above the level of agreement was unfortunately not calculated for those included in the study.
Authors should include references by Lambek et al. which describe executive functioning correlated to ADHD and subtypes.

RESPONSE: Findings by Lambek and colleagues (2010) indicating that gender differences in hyperactive/impulsive and inattentive symptoms may be more evident in non-referred than in referred samples of boys and girls with ADHD related problems is discussed on page 21.