Author's response to reviews

Title: Motor Function in Parkinson's Disease and Supranuclear Palsy: Simultaneous Factor Analysis of a Clinical Scale in Several Populations

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Author's response to reviews: see over
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Associate Editor, BMC-series Journals

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Subject Submission Revised Manuscript
Contact P.M. Kroonenberg

Dear Editor,

Please find attached the revised manuscript "Motor Function in Parkinson's Disease and Supranuclear Palsy: Simultaneous Factor Analysis of a Clinical Scale in Several Populations", which my co-authors and I hereby resubmit for publication in *BMC Medical Research Methodology*.

Below we have indicated the changes made to the original submission in response to the comments of the reviewers. As you can see from the two reviews, there is a clear difficulty in completely satisfying both reviewers as they express diametrically opposed opinions about parts of the manuscript. We have tried to be accommodating to both, but could not satisfy them both in an equal manner.

We have added an appendix that may be deleted if the editorial board finds this superfluous or too much like a page from a textbook. In this case the reference to this appendix in the text should be deleted as well. Finally, we have dropped the detailed overview of the Motor Examination of the UPDRS because we expect copyright difficulties if we would include this, but its inclusion has our preference.

Looking forward to your reaction,

Sincerely yours,

P.M. Kroonenberg
Comments on the Reviews

General

First of all we would like to thank both reviewers for their constructive comments and we believe they have led to substantial improvements of the paper. Below we have commented in detail on their reviews and remarks.

Reviewer Dr. Beckett

1. Add to references and discuss briefly this paper:
   How does the factor structure that emerges in this paper compare to yours, which focuses on later stages of disease and does not include pre-clinical? Do the two papers together shed any additional light on specifics of PD (systems affected, differentiation from other movement disorders in aging, etc.)?
   A special section has been included discussing the samples mentioned in the papers by Bennett et al. and Louis et al. In addition, a study by Štochl which only just now came to our attention is discussed as well and a preliminary analysis with his model has been included. A paragraph in the Substantive conclusions section has been expanded to provide some discussion on the consequences of the results as requested by the reviewer.

2. Paper needs careful reading for some scattered small diction, grammar, and punctuation errors.
   The paper has been checked by a professional with respect to the use of the English language and errors mentioned by the reviewer have been corrected.

Reviewer Dr. Weber

1. The abstract is not well-written. It is not clear which question the authors which to answer (from the background section I understand that they want to find out whether the UPDRS-III may be used to assess patients with diseases other than PD).
   The abstract Methods section is not clear: numbers of patients and the method by which the authors selected them should be mentioned.
   The abstract has been partially rewritten and the requested information is now included. Moreover a more explicit statement as to the goal of the research has been added.

2. The ref. are not formatted according to the BMC series of journals.
   In the text numbers have been added to references to authors and years of publication, and the references list has been rearranged according to their occurrence in the paper, rather than in alphabetical order.

3. The background section should be drastically shortened, and written more clearly for the "methodologically challenged".

4. The background section should be drastically shortened, and written more clearly for the "methodologically challenged".

5. The same applies to the discussion section.
   I am afraid that there is an "incompatibilité des humeurs". Dr. Beckett is very clear in her appreciation of the presentation, while Dr. Weber is not. We have operated under the assumption that given the title of the journal is "BM C Medical Research Methodology" a certain level of statistical sophistication is allowed in the paper. Dr. Beckett mentions in her review "The authors do a very good job of making the
complicated analyses approachable”. On the basis of this, we hope that the paper in its present form is acceptable. However, in certain places we have attempted to clarify explanations, but not in a major way. At the same time we have made an appendix in which we have tried to explain the general modelling framework employed in the paper, but we leave it up to the editor and the reviewers to decide whether such an addition is sufficiently helpful to include it in the published version of the paper.

6. The English should be improved, as there are lots of grammar and syntax errors. We have given the paper to a professional to correct the use of the English language.

Other changes made in the paper:

- The appendix listing the items of the Motor Examination of the UPDRS has been removed, because we were not sure whether we were allowed to reproduce this under the copyright rules.
- We have included a reference to the unpublished work of Štochl, which has certain parallels with ours.
- We have added a few subheadings to clarify the structure of the paper.