Reviewer's report

Title: Configural frequency analysis as a method of determining patients' preferred decision-making roles in dialysis

Version: 2 Date: 19 March 2010

Reviewer: Jan Florin

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Major Compulsory Revisions
1. Background, page 7-8: The authors provide a rather long description of the statistical method Configural frequency analysis. The section could be shortened a bit, and some of the content could be part of the discussion section instead. Further, it ought to be described that the method identifies both higher frequencies than expected (types) as well as lower frequencies (antitypes), even though only types are in focus in this study.

2. The study aim could be stated more clearly. Make a precise statement of the aim. The use of the term “attempt” makes it quite vague. “The present study will attempt to predict the preferred decision-making roles of German patients with end-stage renal disease (ESRD) through the comprehensive application of sociodemographic and psychosocial factors”. The fact that only types are investigated and not antitypes could perhaps be stressed.

3. The methods section could be structured more clearly and perhaps more logically. Description of the study design should precede sample and setting, followed by instrument/measures, data collection and data analyses. Now, the headings are used in a bit confusing order, and sometimes blended, e.g. sampling and data collection.

4. Study design: the section describes more about data analyses and how the data material was handled than about the design of the study. As I see it, a cross sectional design was used. It could be discussed whether a cross sectional design could be used to identify predictors and predict a specific outcome. However, I realize that the attempt to divide the material in two parts is a way to try to overcome that barrier. The method discussion section lacks a discussion concerning this.

5. Study design: Figure 1 does not show any textual information, just squares and arrows, at least in the version that I have been reviewing.

6. The sample selection is somewhat unclear to me and the description in the manuscript makes me confused. To me, it is unclear how “the patients of the exploratory and the confirmatory samples (n=1969; n=1914)” were selected from the group of 6318 responses?

7. The text under the heading “Sampling and data collection” comprises information regarding other things, e.g. the instrument and ethical issues. Example: “In the fourth quarter of 2005, questions concerning participation in
treatment decision-making were included in the QiN health-related quality of life survey. Ethical approval for this survey was obtained by the Ethical Committee Board of the University Hospital of Cologne.”

8. Predictor variables, page 11: motivation for the use of median for dichotomization of values for desire of information, and mean values for trust? Why not the same method? Distribution of the variable?

9. Predictor variable, page 11: Unclear description of how the third predictor variable, perceived involvement by the physician, was dichotomized. Two, out of three items, measured on a 5 point Likert scale should be answered in the same direction to identify either positive or negative. How did you decide whether it was positive or negative direction? Where did the mid alternative fall on the dichotomized scale?

10. Configural frequency analysis, page 12: A very good description of the Configure frequency analysis. However, I think the section could be shortened a bit. I understand the authors wish to give incentives for their choice of statistical method, but the reader do not need all these detailed information.

11. Results page 14: Lack of statistical measurements to back up the statements that the patients in the exploratory and the confirmatory groups differed from the overall sample regarding age, educational level, need for information, and regarding gender? Further, it is unclear to me how the exploratory and the confirmatory groups were selected and I do not understand the comparison of them with the overall study sample. They must be a part of the overall sample, but apparently not half of the sample (1969 + 1914 = 3383).

12. Results, page 14: How come there is a difference between groups of 7% regarding need for information if the division of the sample were done randomly?

13. Results, page 15: You could give a description in the text, apart from in table 1, of the patients’ participation preferences.

14. Results, page 16: It would be of interest to know how many patients constituting type I, II, III, and IV. You could see it in table 4 in the appendix, but it should deserve to be visible in the article.

15. Results, page 16: “Furthermore, it is predicted that patients with a high desire for information prefer to play an active role………”. The result is that information, in combination with other attributes, is a predictor, but not in itself. The section is in need of re-wording.

16. Discussion, page 17: The conclusion stated at the end of page 17, that a physician can have a direct influence on the treatment results of his patients by making simple changes in his behavior is not supported by the result of this study.

17. Discussion, page 18: how come only one variable was described here as “marginally higher” in the subsamples? In the beginning of the result several variables were mentioned. However, without measures to support the statement of a significant difference. The text on the middle section of page 18 is more like a result, than a discussion of the study findings in the light of previous knowledge in the field.
18. Discussion: It would be good to have a clearer discussion section about the method, e.g., regarding the sampling procedure, choice of cross-sectional design in relation to prediction. Some of the content under the heading Conclusion is more about methodological issues.

19. Conclusion: the section lacks a clear conclusion. The text is more a discussion about methodological issues, and future studies.

20. Table 1, page 30: unclear to me how the groups low and high information seeking preferences can be about 39% and 61% respectively—As I understood it, a median dichotomization was used. How come such differences? (this goes for the variable trust in the physician as well). This question is connected with the problems of understanding how the subgroups exploratory and confirmatory samples.

Minor Essential Revisions

1. Background page 7-8: The rather long list of previous areas of studies using CFA could be summarized and shortened.

2. The last section on page 9 describing types of decision making seems to be misplaced.

3. Predictor variables, page 11: in this section the terms “variables” and “attributes” are used. Should benefit from a unified use of terms.

4. page 14 at the bottom: “However, because of their minimal occurrence, these characteristics are not regarded as restrictive to the validity of the samples”. Do you mean representativity?

5. The use of the term confirmatory sample is changed to inferential sample in table 2 and 4.

6. Discussion section, page 16: the description of “passive types” and “active types” could be better described as patients preferring a passive role or an active role. It sounds better than “passive types”.

7. Why be so imprecise in the text regarding figures of the sample of 6318 patients, e.g. page 18 line 3: 6000; page 14 line 15: 6000. That counts also for the figure 15 000 patients described on page 8 which is

8. Why is not table 4 part of the result section? Isn’t it of interest to know the proportions of the subgroups, at least for the groups that constitutes the types. The frequencies of the types could be added in the head of table 3.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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 in relation to this manuscript.