Author's response to reviews

Title: German translation of the Alberta Context Tool and two measures of research use: methods, challenges and lessons learned

Authors:

Matthias Hoben (hoben@nar.uni-heidelberg.de)
Cornelia Mahler (cornelia.mahler@med.uni-heidelberg.de)
Marion Bär (marion.baer@gero.uni-heidelberg.de)
Sarah Berger (sarah.berger@med.uni-heidelberg.de)
Janet E Squires (jasquires@ohri.ca)
Carole A Estabrooks (carole.estabrooks@ualberta.ca)
Johann Behrens (johann.behrens@medizin.uni-halle.de)

Version: 2 Date: 12 November 2013

Author's response to reviews: see over
Dear Dr. Mabuyo,

Thank you for the opportunity to revise and resubmit this manuscript. We thank the reviewer for her suggestions and have incorporated all her requested changes to strengthen the paper. We have included reviewer requests and comments, along with our responses in the table below. The manuscript revisions were done using the “track changes” function. In addition, to assist in the next review round we indicated in the table on which page each issue and our corresponding changes are located in the revised manuscript. We have also adhered to the editorial requests (formatting of tables and manuscript). Please do not hesitate to contact me, if you have any questions or require further clarification.

Yours sincerely

Matthias Hoben
RN, Dipl. in Nursing Management, MSc in Nursing
Network Aging Research, University of Heidelberg, Germany
hoben@nar.uni-heidelberg.de
<table>
<thead>
<tr>
<th>Reviewer comment</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please clarify the aim and make it congruent throughout the paper; At the moment, in the Abstract your suggest the aim of the paper is to “report specific experiences in translating the health care aide instrument versions, as well as challenges and strategies for their solution unique to German residential LTC” whereas in the main text, the aim is phrased as to “describe the translation process, providing a rationale for the translation methods chosen and the strategies applied to challenges”, referring to German long term care (LTC) setting. I suggest the incongruence is primarily with regards to which versions of the tools this paper focus and why you suggest it renders a separate paper.</td>
<td></td>
</tr>
<tr>
<td>We clarified the aims of this paper and matched the wordings in the abstract and text (see Abstract and p. 8). This paper focuses on the translation process of all five care provider versions: health care aide (HCA), registered nurse (RN), allied health providers (AHP), clinical specialists (SP), and managers (MA). Our aim was both, to describe and justify the translation process methods, and to point out challenges met and solutions applied. The majority of the challenges occurred when translating the tools for the HCAs. Resolving those issues substantially facilitated the translation of the other instrument versions. To make this particular focus clearer, we also moved the last paragraph of the results section (reporting on the complexity of the HCA translation process and the decreasing difficulty of the translation of any subsequent version) to “challenges”, at the beginning of the results section (see pp. 15 and 20).</td>
<td></td>
</tr>
</tbody>
</table>

The latter comment above relates to a general issue regarding the number of papers published from your study on translating and testing the ACT in German LTC. Currently, the papers are not transparent in terms of how and why you separate the findings and/or data collections and why you choose to publish what I understand is at least four, possibly more papers, on the translation process and outcomes, rather than collating the different aspects of translation and psychometric testing into fewer but more comprehensive publications. Please provide exhaustive details on the full study, and where this and the other papers sit. In particular, this would avoid the author/s being questioned for salami-slicing the process and/or findings into fragmented publications. |
| We have added information on the overall project design and the second paper submitted to the methods part (p. 8). The project of translating and validating the three tools is partitioned in three major phases: (1) the translation and adaptation process, (2) the linguistic validation (= cognitive debriefing) of the translated tools (actually pertaining to the translation process but, in fact being a sub-project of its own; see below for rationale), and (3) the psychometric testing of the translated tools with various statistical methods. This procedure compiles data collection of three independent samples (one content expert sample and two care provider samples) at three different times and has been recognized as the procedure for translation and validation of translated instruments [1, 2]. The project is based on the validity concept of the Standards for Educational and Psychological Testing, which are recognized as best-practice in psychometric testing (see [3], [4] and the cognitive debriefing paper for further details). According to this understanding, validity is a unitary concept (rather than there are various kinds of validity), and there are four major sources of evidence indicating how valid a tool is: instrument content, response process-
Reviewer comment | Response
d---|---
es, internal structure of the tool, and associations of the variables assessed by the tool with other variables. The entire translation process was designed to ensure the translated tools’ validity by following best practice guidelines and applying rigorous methods.

The first article (the one under consideration here submitted to *BMC HSR*) reports, how we designed the translation process in order to ensure validity. It provides information about the tool’s content validity evidence. Assessments of the translated tools by content experts (expert focus groups), back translation reviews by the tool developers, and item modifications and documentation of the entire process by the translation team were the basis for this. The data sources of this article are assessments of content experts, the tool developers, and the translation team members. We believe, in accordance with the best practice guidelines in instrument translation that reporting the translation process methods and the related challenges is crucial. It a) facilitates future translation processes, b) informs potential tool users about strengths and weaknesses of the translated tools, and c) helps with interpreting the tool scores.

The second article, submitted to *BMC Geriatrics*, provides information about the response process validity of the translated tools. The data basis for this are responses of care providers. They were assessed by a cognitive debriefing step. This step usually is described as one of the translation process phases. However, we report it separately in detail, as a) it is a crucial step in assessing the tool validity before collecting data in a large sample b) it is a complex and methodologically demanding step, which rarely is reported in sufficient detail (although this information would be of great interest for potential tool users), and c) it reports a different kind of validity evidence than the first article, assessed with specific methods in a different sample (care providers, not content experts, tool developers or translators).

One article would not provide enough space to present both kinds of information in sufficient detail. Therefore, we decided to publish two papers.
Currently we are carrying out the third project step – the psychometric testing part (internal validity evidence). In this part, we collected 821 care provider questionnaires in 38 German nursing homes – other than the ones in which we did the cognitive debriefing. This sample again differs from the cognitive debriefing sample and we apply completely different methods. We also included further variables (such as job satisfaction, general health, stress, burnout, etc. of the providers, provider demographics and characteristics of the nursing homes). We calculated item total statistics, bivariate correlations of the tool scores, internal consistency reliability, etc. As one important step, we completed multiple-groups confirmatory factor analysis to study measurement invariance between the included provider groups (internal structure validity evidence). We used the estimates of these factor models to calculate reliability indices, which are more robust than the usual internal consistency reliability measures, and we calculated new instrument scores, based on the modified factor models.

We have started to investigate the associations between the individual provider level variables, the ACT variables, and the RU scores by structural equation models and regression models (associations with other variables evidence). We plan to publish at least one paper reporting the findings of this study.

Publishing the results consecutively (in chronological order of the study phases) is therefore an appropriate, transparent procedure for a study design like ours.

<table>
<thead>
<tr>
<th>Reviewer comment</th>
<th>Response</th>
</tr>
</thead>
</table>
| Currently we are | carrying out the third project step – the psychometric testing part (internal validity evidence). In this part, we collected 821 care provider questionnaires in 38 German nursing homes – other than the ones in which we did the cognitive debriefing. This sample again differs from the cognitive debriefing sample and we apply completely different methods. We also included further variables (such as job satisfaction, general health, stress, burnout, etc. of the providers, provider demographics and characteristics of the nursing homes). We calculated item total statistics, bivariate correlations of the tool scores, internal consistency reliability, etc. As one important step, we completed multiple-groups confirmatory factor analysis to study measurement invariance between the included provider groups (internal structure validity evidence). We used the estimates of these factor models to calculate reliability indices, which are more robust than the usual internal consistency reliability measures, and we calculated new instrument scores, based on the modified factor models.

We have started to investigate the associations between the individual provider level variables, the ACT variables, and the RU scores by structural equation models and regression models (associations with other variables evidence). We plan to publish at least one paper reporting the findings of this study.

Publishing the results consecutively (in chronological order of the study phases) is therefore an appropriate, transparent procedure for a study design like ours. |

| If you decide on writing the paper on the HCA version of ACT and other RU measures only, assure the paper focuses on this. In particular, the first paragraph of the Findings is rather ambiguous; you suggest the complete translation process took 16 months. Then you suggest the translation of the HCA forms took 286 days. What does the 286 days represent – calendar or work days? Either way, leave out the other forms if you decide on writing this paper on HCA forms only, and provide details on what the 286 days represent. If | The paper focusses on the translation of all five care provider versions (as stated above). We clarified, what “days” represent: calendar days, which passed between the start of the translation of the tools for a specific provider group and the final approval of this translated version by the developers (see p. 14). |

<p>| | |
| | |</p>
<table>
<thead>
<tr>
<th>Reviewer comment</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>work days, is this fullwork days and how many hours does this indicate – or consider excluding if you find that this information is of limited value to the reader.</td>
<td>We have added this information to the methods section (see page 14).</td>
</tr>
<tr>
<td>In the abstract (section Results), you suggest you “categorized” the challenges met during the translation process. Yet, this categorization is not described in the methods sections in the main text. Please provide how this was done, when (in relation to the different steps, i.e. 1-9, and measures applied in the translation process) and by whom.</td>
<td>There were three sections with full German sentences: 1) Risk that German translations would become grammatically complex (pp. 16-17), 2) Phrases/idioms non-existent in German (p. 18), and 3) Lack of corresponding German words. Section 1) contained two full German translations of an entire English ACT item. We initially intended to demonstrate, how different two German versions, representing the same English sentence, can look like. Both sentences represented the English original wording. We would not have been able to demonstrate the differences of the two German sentences by translating them into English, as these differences are specific for the German language. Therefore, we removed the German sentences completely. Instead, we described, why German sentences often tend to become longer and more complex than their English pendant and demonstrated this, using specific details of the English and the translated German example sentences. We also deleted the Mark Twain quote. In sections 2) and 3) we removed the German sentence, as the important parts are described in English the previous sentences.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Editor comment</th>
<th>Response</th>
</tr>
</thead>
</table>

There were three sections with full German sentences: 1) Risk that German translations would become grammatically complex (pp. 16-17), 2) Phrases/idioms non-existent in German (p. 18), and 3) Lack of corresponding German words. Section 1) contained two full German translations of an entire English ACT item. We initially intended to demonstrate, how different two German versions, representing the same English sentence, can look like. Both sentences represented the English original wording. We would not have been able to demonstrate the differences of the two German sentences by translating them into English, as these differences are specific for the German language. Therefore, we removed the German sentences completely. Instead, we described, why German sentences often tend to become longer and more complex than their English pendant and demonstrated this, using specific details of the English and the translated German example sentences. We also deleted the Mark Twain quote. In sections 2) and 3) we removed the German sentence, as the important parts are described in English the previous sentences.
<table>
<thead>
<tr>
<th>Editor comment</th>
<th>Response</th>
</tr>
</thead>
</table>
| Moreover, please adhere to this editorial request:  
1. Tables:  
Please ensure that the order in which your tables are cited is the same as the order in which they are provided. Every table must be cited in the text, using Arabic numerals. Please do not use ranges when listing tables. Tables must not be subdivided, or contain tables within tables. Please note that we are unable to display vertical lines or text within tables, no display merged cells: please re-layout your table without these elements. Tables should be formatted using the Table tool in your word processor. Please ensure the table title is above the table and the legend is below the table. For more information, see the instructions for authors on the journal website. | We carefully examined our tables and found that we adhered to all requirements except the highlighted one. We removed the vertical lines from all tables. |
References


