Author's response to reviews

Title: Translation and Validation of the Arab Version of the Late-Life Function and Disability Instrument: A Cross Sectional Study

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Version: 2  Date: 20 December 2014

Author's response to reviews: see over
Submission of revised manuscript: MS: 7254086901449241

Dear Dr. Tomohiro Okura,

We thank you and the reviewers for your insightful comments. As you will note we addressed all the comments and believe this has greatly enhanced the quality of our work. We hope this will clear the way to publication in your journal.

Following is a detailed response to the comments made by the reviewers to our manuscript “Translation and Validation of the Arab Version of the Late-Life Function and Disability Instrument: A Cross Sectional Study”. Also attached is a file with the manuscript and the revisions noted in 'track changes'.

Sincerely,

Dr. Michal Elboim Gabizon.
Comment by reviewer 1:

Reviewer's report:
This study evaluated the validity and test-retest reliability of the Arabic version of the Late-Life Function and Disability Instrument (LLFDI) in 61 healthy older adults living in Israel. The authors report strong evidence in support of the translated measure’s psychometric properties and the methods are generally well described, however the manuscript would benefit from revision to increase readability. In particular, the description of the different scales of the LLFDI is confusing throughout the manuscript and the conclusion regarding sensitivity to change should be modified given the study design.

Response
Thank you for your supportive comment. We have corrected the description of the different scales of the LLFDI in accordance with the developer’s description. In addition, the conclusion regarding the sensitivity was modified.

Comment 1
In the abstract results are presented for known-groups validity with respect to falls and gender, however these analyses are not mentioned in the methods.

Response
These analyses were added to the methods part, see the abstract line 34.

Comment 2
The conclusion in the abstract states that “the translated instrument is sensitive to both single and group changes”, however the study was cross-sectional and there are no results to support this statement.

Response
We removed this sentence.

Comment 3
In describing the scales it would be best to use the same nomenclature as the developers—i.e., instead of subcategories (line 101) use the term “dimensions” here and “role subscales” on line 103. This should be modified throughout the manuscript.

Response
We have revised the entire manuscript (and tables) in response to your comment. We now use the terminology suggested by the developers of the questionnaire, as follows: 1. There are two components (function and disability); 2. Under Disability there are two dimensions (frequency & limitation); 3. At the lowest level we have the domains (3 for the function component, 2 for the frequency dimension and 2 for the limitation dimension)

Comment 3
Please describe the study recruitment process in more detail. Where were subjects recruited from?

Response
The details of the recruitment process was added, see lines 152-153. The subjects were recruited by snow ball sampling from three geriatric community centers with one located in a city and two in Arab villages.
**Comment 4**

Page 10- absolute reliability. Please provide the formulas used to calculate the SEM and SRD. Please check if references 29 and 30 are the best references for describing the SEM and SRD and their uses.

**Response**

We have added the formulas used to calculate SEM and SRD (see lines 204-210). While we have left reference 29 for the internal consistency and reference 30 for ICC, we have added references 31 and 32 as more relevant for the SEM and SRD: (31. Atkinson, Greg, and Alan M. Nevill. "Statistical methods for assessing measurement error (reliability) in variables relevant to sports medicine." *Sports medicine* 26.4 (1998): 217-238; 32. Bland JM: Minimal detectable change. Physical Therapy in Sport 2009, 10(1):39.)

In addition, your request for clarification of the SEM and SRD procedures prompted some discussion among the authors. We made some changes in the procedures employed, basing the SEM calculation on the classic formula now indicated, and the SD used on the first reading only. This resulted in some minor changes in the values. However, these did not affect in any way change our conclusions. We also took advantage of newly acquired software, MedCalc, to add 95% confidence limits to the ICC(2,1) we reported. Both of these changes were used to enhance Table 3 which contains the main summary of the results.

**Comment 5**

Page 11. The results are: somewhat difficult to follow please be explicit when describing the results by referring to which component, dimension and subscale is being described. It might be helpful to add subheadings for the Function and Disability components separately.

**Response**

Corrected as suggested.

**Comment 6**

On line 221 it states “there was no gender related differences”, then on lines 222 gender differences are discussed. Please clarify. Also please see my comment above about describing the scales explicitly and using the nomenclature as per the original instrument.

**Response**

We apologize for this error and have corrected it (line 267). There was indeed a difference between the genders in all but one domain.

**Comment 7**

Lines 255-256. Please modify this sentence. Given that this was across-sectional study it is not possible to make any conclusions on sensitivity to change. The SEM and SRD provide evidence for the absolute reliability of the measure and can be useful for interpreting change scores in longitudinal investigations in future work.

**Response**

We agree and corrected it accordingly. See lines 305-307: "The relatively low SEM% and SRD% suggest reasonably high inter-test precision, a pre-requisite for sensitivity to individual or group changes in longitudinal studies".

**Comment 8**

Line 269. There is discussion that the LLFDI showed higher correlations with the performance-based measures than with the self-report measures and while this is interesting, might this also have to do with the underlying constructs being measured?

**Response**

We accept and have added on lines 321-322 "This may be related to the fact that the underlying constructs being measured are more closely related."
**Minor comments 1**
The introduction focuses on the Function component of the LLFDI without any explanation of the Disability component despite the article’s focus on both questionnaires.

*Response*
Explanation of the disability component was added as suggested, see lines 65-67. Details of the Disability component of the LLFDI are presented in lines 110-125.

**Minor comments 2**
Page 5, line 76. The wording “functional limitation component” may be confusing since the disability component contains a limitation scale. Suggest re-wording this here and throughout the manuscript to avoid confusion

*Response*
Corrected as suggested here, see line 83, and through the manuscript.

**Minor comments 2**
Page 6, lines 99-100. The description of the likert scale as ranging from “none” to “cannot do” is unclear- suggest including each of the response options.

*Response*
We included each of the response options as suggested, see lines 107-109.

**Minor comments 3**
What does the inclusion criterion “well-motivated” refer to?

*Response*
Phrase removed

**Minor comments 4**
Line 173. How were falls ascertained?

*Response*
Lines 192-194 we noted "The fall status was ascertained by self-report of number of falls in the past year. Individuals who reported one or more falls within the previous year were considered as fallers."

**Minor comments 4**
Line 224. The terms “frequency and capability of participating in life tasks” will likely be confusing to readers if the scales are not referred to. Do the authors mean the frequency and limitation dimensions of the Disability component of the LLFDI?

*Response*
We agree that it may be confusing to readers; accordingly we corrected it, see line 270.

**Minor comments 4**
Line 228. Similar to above, what is meant by “the fallers demonstrated higher function and ability”? Do the authors mean higher scores on both the Function and Disability components?

*Response*
Line 275, we corrected it to higher function and lower level of disability.

**Minor comments 5**
Line 259. Is “ICC” the correct term here or is this a typo?

*Response*
It refers to test retest reliability values lines 291-298.

**Minor comments 6**
Line 270- minor misspelling of author name.

**Response**
We corrected the author name, see line 285.

**Minor comments 8**
Lines 277 and 282. Similar comment as above, the term “higher function and ability” is not clear- which scales are being referred to here?

**Response**
As the reviewer commented this was unclear. We corrected in line 274 to higher function and lower level of disability. In line 330 we wrote "higher function and low level of disability"

**Minor comments 9**
Perhaps I missed it, but will the translated version be made available as appendix?

**Response**
We can add it, but will leave it to the editor to decide.
Comments by review 2

Major compulsory Comments 1
The introduction part is not coherent.
Response
We have made some changes in the introduction (see track changes) and believe it is now more coherent.

Comments 2
Different Arabic speaking countries use different way of talking; you have not mentioned this in your manuscript.
Response
We certainly agree and have noted this as a limitation in lines 356-358.

Comments 3
line 123 you mentioned translation emphasized conceptual and culture meanings rather than literal, what did you mean by that? you did not explain that later
Response
We have added examples of changes made to the questionnaire to make more coherent to Arab speaking individuals (see lines 136-141 ).

Comments 4
line 139, how did you figure out about ability to understand simple commands
Response
Ability to understand simple commands was determined during the initial interview.

Comments 5
line 139, what do you mean by well- motivated?
Response
Phrase deleted

Comments 6
line 144, I do not think 6 to 8 days would be enough as interval between tests.
Response

Minor Essential revisions:
Comments 1
line 42, add "Arab" older adults.
Response
Corrected.

Comments 2
Lines 158 and 162 put BBS and TUG as heading and then explain.
Response
We don't quite understand what is meant by this comment

Comments 3
Line 168, put space between indicate risk.

Response
Corrected.