

Translation of the LittleEars questionnaire into Polish

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Introduction

Professionals involved in cross-cultural assessment have acknowledged the methodological challenges which they must face when translating and adapting questionnaires developed for a specific linguistic and cultural group. International medical studies have demonstrated that a simple translation of a questionnaire does not ensure data accuracy (Guillemin et al., 1993).

Guidelines for adapting tests and questionnaires have been established by the *International Test Commission* (ITC). The ITC is an association of national psychological associations, test commissions, publishers and other organizations committed to promoting effective testing and assessment policies and to the proper development, evaluation and uses of educational and psychological instruments. The ITC Guidelines are intended to orient professionals and users when adapting tests or questionnaires reflecting the technical knowledge gathered in the field (van de Vijver and Hambleton, 1996).

The aim of this study is to present the translation of the LittleEars Questionnaire into Polish and to get the evidence of the quality of the translated version of the LittleEars questionnaire.

Method

Adaptation of the LittleEars Questionnaire (LE-Q) into Polish was carried out within the project "Remediation of Hearing Loss (HearingTreat)" Marie Curie Host Fellowships for the Transfer of Knowledge (ToK) by the Institute of Physiology and Pathology of Hearing (Poland), in cooperation with the University of Granada (Spain). The adaptation was performed in two main phases: 1) translation phase; and 2) evaluation phase of the translated version into Polish by means of an expert-appraisal method (Obrycka et al., 2009).

Translation

The LittleEars questionnaire was developed to assess auditory behavior of infants up to two years of age (Weichbold et al., 2005). It was also intended to follow the auditory development of very young hearing impaired children, cochlear implants or hearing aids users with a hearing age (time after first fitting of the devices) of 0-24 months. The LittleEars was originally developed and validated in Germany. The questionnaire consists of 35 dichotomous questions. Most of the items are additionally supplemented with examples to make the questions more precise.

For the translation of the English version of the LittleEars into Polish a back-translation design was chosen according to the best practices recommended by the *International Test Commission* (Hambleton, 2001). The back-translation design focuses mainly on keeping the “variable meaning” in addition to getting a linguistically correct version (Harkness, 2003). The main steps when applying this design were: 1) direct translation from English (source language) into Polish (target language); 2) back translation of Polish version into English; and 3), comparison of the two versions in “the source language” to adjudicate the target version for each item of the questionnaire. Figure 1 illustrates the followed process of translating the LittleEars into Polish using one of the items.

Insert Figure 1 about here

The direct translation step was carried out by a speech therapist and an audiologist, competent in both languages (English and Polish), with long experience in working with very young hearing-impaired children. The work was supervised by a researcher with expertise in test construction and adaptation. In this step, 14 complex questions from the point of view of translation were identified. The difficulties in the translation arose due to the lack of direct translation of some English expressions into Polish (e.g. “without seeing him/her you”, “acoustic rituals”, “to sing along when hearing a song”).

The back translation phase was carried out by a professional translator. The translator was supervised by people in charge of the adaptation process. Lastly, to adjudicate the final Polish version of the LittleEars, comparison of both English versions (original and back translated) was performed. Comparing both English versions, item by item, the decision about whether they measure the very same auditory behavior was made. On the basis of this comparison 11 questions in the Polish language version were identified for future revision.

Evaluation process by expert-appraisal method

The evaluation phase was performed by applying an expert-appraisal method. The expert appraisal method can provide evidence of the quality of the translated version and recommendation to improve the final version (Harkness, 2003). Five experts from the Institute of Physiology and Pathology of Hearing were chosen to do this task: a psychologist, a professional translator, a speech therapist, and two audiologists; all of whom but one were experienced in working with hearing-impaired children. Evaluation forms were provided to the experts so that the task was carried out in a systematic way.

The experts were asked to compare both English and Polish versions of each item, including the question stem and the examples, and to assess to what extent both versions measure the very same auditory behavior. The experts gave their rates on a numbered scale (from “1” not appropriated translation to “5” for “absolutely appropriate translation”). They were also asked to put their comments and make suggestions in case of rating 3 or lower. The experts’ rates were analyzed.

Results

As a result of the statistical analysis of the experts rates, 8 items were reviewed, two of which had the lowest median value (Median = 3), and six had the second lowest value of

median of the expert assessment (Median = 4). The experts made additional comments and suggestions for 5 items. Table 1 presents the results of statistical analysis of the experts' rates.

Insert Table 1 about here

Finally after discussion the translation of 6 items was changed and the final translated Polish version of the LittleEars questionnaire was produced.

Conclusion

Adaptation of the LittleEars questionnaire according to the International Test Commission Guidelines allows us to avoid serious errors in translation process. Application of an expert appraisal method guarantees linguistic equivalence of the translated version and the best professional quality of the adaptation. The results of expert appraisal procedure confirm the very good quality of the Polish version of the LittleEars questionnaire.

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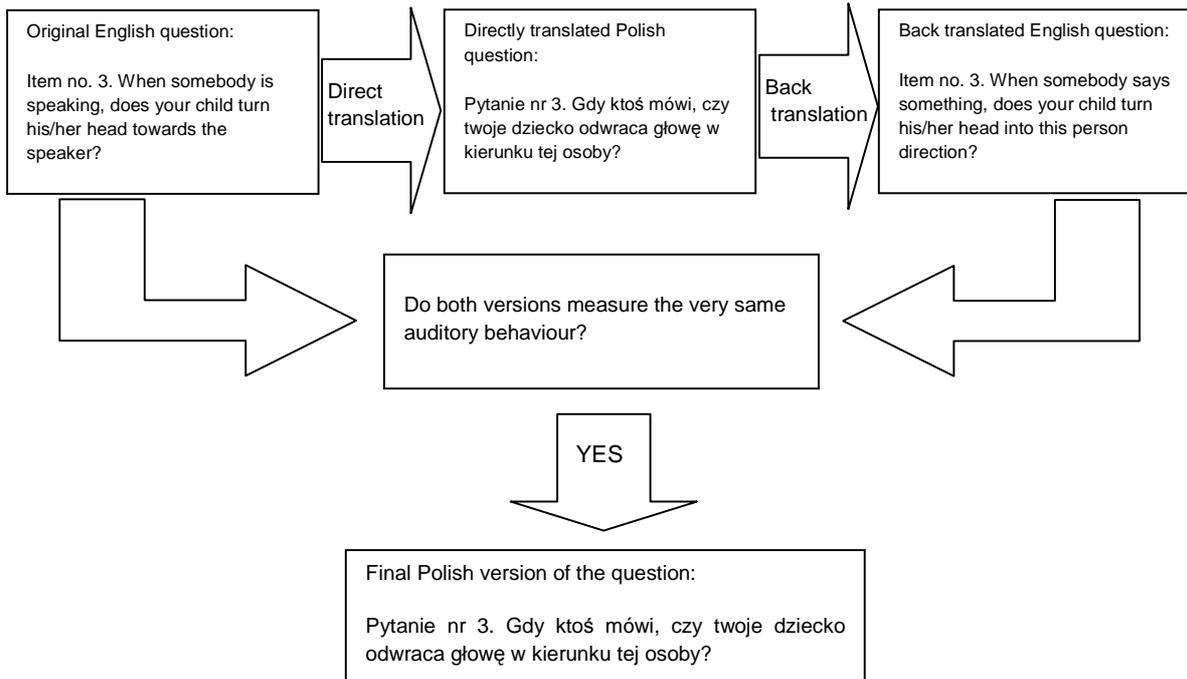


Figure 1. Illustration of back-translation design with a real LittleEars item

| Variable | Descriptive Statistics (EXPERT APPRISAL OF POLISH VERSION OF LITTLEARS QU) | | | | | | | | Variable | Descriptiv Std.Dev. |
|----------|--|----------|----------|----------|----------|------------------------|------------------------|-------------------|----------|------------------------|
| | Valid N | Mean | Median | Minimum | Maximum | Percentile 25,00000 | Percentile 75,00000 | Quartile Range | | |
| ITEM1 | 5 | 4,400000 | 5,000000 | 3,000000 | 5,000000 | 4,000000 | 5,000000 | 1,000000 | ITEM1 | 0,894427 |
| ITEM2 | 5 | 4,400000 | 5,000000 | 3,000000 | 5,000000 | 4,000000 | 5,000000 | 1,000000 | ITEM2 | 0,894427 |
| ITEM3 | 5 | 4,800000 | 5,000000 | 4,000000 | 5,000000 | 5,000000 | 5,000000 | 0,000000 | ITEM3 | 0,447214 |
| ITEM4 | 5 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 0,000000 | ITEM4 | 0,000000 |
| ITEM5 | 5 | 4,400000 | 5,000000 | 3,000000 | 5,000000 | 4,000000 | 5,000000 | 1,000000 | ITEM5 | 0,894427 |
| ITEM6 | 5 | 3,400000 | 3,000000 | 2,000000 | 5,000000 | 3,000000 | 4,000000 | 1,000000 | ITEM6 | 1,140175 |
| ITEM7 | 5 | 4,600000 | 5,000000 | 4,000000 | 5,000000 | 4,000000 | 5,000000 | 1,000000 | ITEM7 | 0,547723 |
| ITEM8 | 5 | 4,800000 | 5,000000 | 4,000000 | 5,000000 | 5,000000 | 5,000000 | 0,000000 | ITEM8 | 0,447214 |
| ITEM9 | 5 | 4,600000 | 5,000000 | 3,000000 | 5,000000 | 5,000000 | 5,000000 | 0,000000 | ITEM9 | 0,894427 |
| ITEM10 | 5 | 4,400000 | 5,000000 | 3,000000 | 5,000000 | 4,000000 | 5,000000 | 1,000000 | ITEM10 | 0,894427 |
| ITEM11 | 5 | 4,400000 | 5,000000 | 3,000000 | 5,000000 | 4,000000 | 5,000000 | 1,000000 | ITEM11 | 0,894427 |
| ITEM12 | 5 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 0,000000 | ITEM12 | 0,000000 |
| ITEM13 | 5 | 4,400000 | 5,000000 | 3,000000 | 5,000000 | 4,000000 | 5,000000 | 1,000000 | ITEM13 | 0,894427 |
| ITEM14 | 5 | 4,000000 | 4,000000 | 3,000000 | 5,000000 | 3,000000 | 5,000000 | 2,000000 | ITEM14 | 1,000000 |
| ITEM15 | 5 | 4,200000 | 4,000000 | 3,000000 | 5,000000 | 4,000000 | 5,000000 | 1,000000 | ITEM15 | 0,836660 |
| ITEM16 | 5 | 4,000000 | 4,000000 | 3,000000 | 5,000000 | 4,000000 | 4,000000 | 0,000000 | ITEM16 | 0,707107 |
| ITEM17 | 5 | 4,200000 | 5,000000 | 3,000000 | 5,000000 | 3,000000 | 5,000000 | 2,000000 | ITEM17 | 1,095445 |
| ITEM18 | 5 | 4,200000 | 5,000000 | 3,000000 | 5,000000 | 3,000000 | 5,000000 | 2,000000 | ITEM18 | 1,095445 |
| ITEM19 | 5 | 4,200000 | 4,000000 | 3,000000 | 5,000000 | 4,000000 | 5,000000 | 1,000000 | ITEM19 | 0,836660 |
| ITEM20 | 5 | 3,800000 | 3,000000 | 3,000000 | 5,000000 | 3,000000 | 5,000000 | 2,000000 | ITEM20 | 1,095445 |
| ITEM21 | 5 | 4,200000 | 5,000000 | 3,000000 | 5,000000 | 3,000000 | 5,000000 | 2,000000 | ITEM21 | 1,095445 |
| ITEM22 | 5 | 4,800000 | 5,000000 | 4,000000 | 5,000000 | 5,000000 | 5,000000 | 0,000000 | ITEM22 | 0,447214 |
| ITEM23 | 5 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 0,000000 | ITEM23 | 0,000000 |
| ITEM24 | 5 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 0,000000 | ITEM24 | 0,000000 |
| ITEM25 | 5 | 4,600000 | 5,000000 | 3,000000 | 5,000000 | 5,000000 | 5,000000 | 0,000000 | ITEM25 | 0,894427 |
| ITEM26 | 5 | 4,200000 | 5,000000 | 3,000000 | 5,000000 | 3,000000 | 5,000000 | 2,000000 | ITEM26 | 1,095445 |
| ITEM27 | 5 | 4,000000 | 4,000000 | 3,000000 | 5,000000 | 3,000000 | 5,000000 | 2,000000 | ITEM27 | 1,000000 |
| ITEM28 | 5 | 4,600000 | 5,000000 | 3,000000 | 5,000000 | 5,000000 | 5,000000 | 0,000000 | ITEM28 | 0,894427 |
| ITEM29 | 5 | 4,400000 | 5,000000 | 3,000000 | 5,000000 | 4,000000 | 5,000000 | 1,000000 | ITEM29 | 0,894427 |
| ITEM30 | 5 | 4,400000 | 5,000000 | 3,000000 | 5,000000 | 4,000000 | 5,000000 | 1,000000 | ITEM30 | 0,894427 |
| ITEM31 | 5 | 4,000000 | 4,000000 | 3,000000 | 5,000000 | 4,000000 | 4,000000 | 0,000000 | ITEM31 | 0,707107 |
| ITEM32 | 5 | 4,600000 | 5,000000 | 4,000000 | 5,000000 | 4,000000 | 5,000000 | 1,000000 | ITEM32 | 0,547723 |
| ITEM33 | 5 | 4,600000 | 5,000000 | 3,000000 | 5,000000 | 5,000000 | 5,000000 | 0,000000 | ITEM33 | 0,894427 |
| ITEM34 | 5 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 0,000000 | ITEM34 | 0,000000 |
| ITEM35 | 5 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 5,000000 | 0,000000 | ITEM35 | 0,000000 |

Table 1. The results of statistical analysis of the experts' rates