

Robyn M. Cox\*  
Dafydd Stephens†  
Sophia E. Kramer‡

\*The University of Memphis,  
Memphis, TN, USA,

†Welsh Hearing Institute,  
University Hospital of Wales,  
Cardiff, UK,

‡Vrije University Medical Center,  
Department of Audiology/  
Otolaryngology, Amsterdam,  
The Netherlands

## Translations of the International Outcome Inventory for Hearing Aids (IOI-HA)

### Traducciones del Inventario Internacional de Resultados para Auxiliares Auditivos (IOI-HA)

The International Outcome Inventory for Hearing Aids (IOI-HA) was developed as a product of an international workshop on Self-Report Outcome Measures in Audiological Rehabilitation (Cox et al, 2000). The workshop participants recognized a need to be able to combine and compare data from different investigations and clinical service models. Thus, the inventory was developed to facilitate cooperation among researchers and program evaluators in diverse hearing healthcare settings, including across national boundaries. By design, it is brief and general enough to be appropriate in many different studies. The goal is to append the IOI-HA items to other self-report outcome measures that might be planned for a specific application. The IOI-HA items will then provide directly comparable data that will allow combination or comparison across otherwise incompatible projects.

For this plan to be successful, it is essential to generate psychometrically equivalent translations in the languages in which hearing aid research and treatment assessments are performed. Elsewhere in this issue, there are two reports that reflect psychometric assessments of the original English version of IOI-HA in the USA and in Wales. A further report gives an assessment of the characteristics of a Dutch translation of the IOI-HA, used in The Netherlands. It is encouraging that all three investigations produced data reflecting similar inter-item correlations and two non-overlapping separate factors that were essentially identical across the studies.

These papers were presented at the meeting of the International Collegium of Rehabilitative Audiology (ICRA) held in Cardiff in May 2001. A number of the contributors to the original self-report workshop were present, and it was decided to organize members and their associates to generate translations of the questionnaire into a number of different languages. It was also decided to explore other applications of the questionnaire, of which a preliminary approach is presented in this issue by Noble.

The present article reports a set of 21 careful translations of the IOI-HA into other languages. All translations were performed by individuals who are well versed in the academic discipline and have the target language as their first language. Each translation was checked by at least one additional qualified individual to ensure that each item captures the nuances of the original English wording. Each translator carefully followed the design principles of the original version. There are seven items in the inventory, each accessing a different self-report outcome dimension. The items were written to be unambiguous, with few cognitive requirements and at a low reading level. Negative statements and reversed meanings were avoided. An attempt was made to eschew any cultural bias. All items were designed with five possible responses. The response categories for six of

the items were chosen so that their semantic distinctions (in English) were roughly equal (Levine, 1981). The seventh item requires an estimate of hours of daily use. To maximize the comprehensibility of the inventory, each item has a separate response continuum, and the responses are presented so that the most favorable item appears on the right. It is intended to present the translations in the appendices in copy-ready format so that they can be used immediately. These translations and any others that might have been generated are also available as downloadable files from the website [www.ausp.memphis.edu/harl](http://www.ausp.memphis.edu/harl).

With the exception of the Dutch translation, none of the non-English translations presented here has been studied to determine its psychometric properties. The next appropriate step would be for each of the translations to be used with a group of native speakers of the target language. The psychometric properties of the translated inventory should then be determined and compared to those of the English version. The original English version should be used as a criterion, and changes should be made to the wording of translated items that do not appear to replicate the characteristics of the criterion.

This article presents translations of the IOI-HA only. However, this inventory represents the first in what was envisioned by workshop participants as a series of inventories. Other IOI versions could be used to assess and compare the outcomes of audiological rehabilitation using devices other than hearing aids. In addition, a version that addresses the rehabilitation result from the point of view of other individuals (i.e. significant others of the hearing-impaired person) could be very useful. Progress has been made in devising suggested wording for the English language items for these IOI offshoots (Noble, this issue).

### **Acknowledgements**

We are most grateful to our various colleagues from ICRA and elsewhere who provided the translations attached as appendices, and whose names are included with the appendices.

### **References**

- Cox RM, Hyde M, Gatehouse S, et al. (2000) Optimal outcome measures, research priorities and international cooperation. *Ear Hear* 21:106S–15S.
- Levine N. (1981) The development of an annoyance scale for community noise assessment. *J Sound Vibration* 74:265–79.

## MIEDZYNARODOWA OCENA APARATÓW SŁUCHOWYCH (MOAS)

1. Proszę się zastanowić nad tym jak często używał/a Pan/i swój aparat słuchowy (aparaty słuchowe) w ostatnich dwóch tygodniach. W typowym dniu, ile godzin używał/a Pan/i swój aparat (aparaty)?

wcale	mniej niż godzinę dziennie	1 do 4 godzin dziennie	4 do 8 godzin dziennie	więcej niż 8 godzin dziennie
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Proszę się zastanowić w jakiej sytuacji najbardziej chciał/a Pan/i lepiej słyszeć zanim dostał/a Pan/i obecny aparat słuchowy (aparaty słuchowe). O ile w ostatnich dwóch tygodniach pomógł Panu/i aparat (aparaty) słuchowy w tej sytuacji?

wcale nie pomógł	trochę	umiarkowanie	dość dużo	bardzo dużo
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Proszę znów pomyśleć o sytuacji, w której chciał/a Pan/i lepiej słyszeć. Kiedy używa Pan/i obecny aparat (aparaty) słuchowy, do jakiego stopnia ma Pan/i NADAL trudności w tej sytuacji?

bardzo duże trudności	dość duże trudności	umiarkowane trudności	niewielkie trudności	żadnych trudności
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Biorąc wszystko pod uwagę, czy uważa Pan/i, że warto borykać się z aparatem (aparatami) słuchowym?

nie warto	trochę warto	umiarkowanie warto	dość warto	bardzo warto
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Do jakiego stopnia Pana/i używanie obecnego aparatu (aparatów) słuchowego w ostatnich dwóch tygodniach wpłynęło na wykonywane przez Pana/ią czynności?

bardzo mocno wpłynęło	dość mocno wpłynęło	umiarkowanie wpłynęło	trochę wpłynęło	w ogóle nie wpłynęło
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Według Pana/i, używając obecny aparat (aparaty) słuchowy w ostatnich dwóch tygodniach, do jakiego stopnia miało kłopot otoczenie z Pana/i trudnościami w słyszeniu?

bardzo duży kłopot	dość duży kłopot	umiarkowany kłopot	niewielki kłopot	żadnego kłopotu
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Biorąc wszystko pod uwagę, w jaki sposób Pana/i obecny aparat (aparaty) słuchowy zmienił Pana/i jakość życia?

na gorsze	bez zmian	trochę lepiej	dużo lepiej	o wiele lepiej
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Polish Version