
HörTech Questionnaire Inventory for Hearing Aid Evaluation

Heike Heuermann & Martin Kinkel

1. How can we classify the physiological and psychosocial consequences of hearing loss?
2. How can we measure the benefit from and individual satisfaction with hearing aids?

Functional states associated with health

- **Body function (“impairment” scale)**
 - loss of function of body/organ
 - here: hearing impairment due to loss of hair cells or damage in the auditory pathway
- **Activities at the individual level (“disability” scale)**
 - any limitation to perform an activity within a “normal” range
 - here: restricted hearing/listening in various specific situations
- **Participation in society (“handicap” scale)**
 - restricted fulfilment of a social role that would be normal for a given individual (considering age, gender, education,...)
 - here: isolation from public life due to hearing loss

- **Body function (“impairment” scale)**
 - audiogram, loudness scaling
(→ speech tests)
- **Activities at the individual level (“disability” scale)**
 - client oriented questionnaires on hearing/listening ability
in various situations
- **Participation in society (“handicap” scale)**
 - client oriented questionnaires on social participation and
general quality of life

Measuring benefit and individual satisfaction

- “Objective” compensation of hearing loss
 - adaptive loudness scaling
 - OLSA (Oldenburg Sentence Test)
- Perceived compensation of disability and handicap (dependent on personality type, cognitive capabilities, ...)
 - Oldenburg Inventory
 - IOI-HA (International Outcome Inventory for Hearing Aids)
 - Quality of Life (QoL) measures
- HA characteristics (handling, sound quality, battery capacity,...)
 - questionnaire “Hearing Aid Evaluation”

Various hearing and listening situations:

- 3 open questions (most important situations)
 - 5 questions concerning hearing in quiet
 - 5 questions concerning hearing in noise
 - 3 questions concerning directional hearing
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- How well can you listen/hear in these situations?
 - How much effort does listening/hearing take?
 - all questions with and without hearing aids

04. Sie sind mit mehreren Personen zusammen in einem Raum. Können Sie die Gespräche um Sie herum mühelos verstehen?

	immer	oft	manchmal	selten	nie
ohne Hörgeräte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mit Hörgeräten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Wie anstrengend ist das Hören in dieser Situation für Sie?

	nicht	sehr wenig	wenig	mittelgradig	deutlich	sehr	extrem
ohne Hörgeräte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mit Hörgeräten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Die Situation kenne ich nicht



International Outcome Inventory for Hearing Aids (IOI-HA)

KIND[®]
HÖRGERÄTE

- Short questionnaire about individual disability and handicap
- Intended as additional tool to be combined with other inventories
- Available in more than 20 languages



International Outcome Inventory for Hearing Aids (IOI-HA)

KIND[®]
HÖRGERÄTE

1. Hours of daily use?
2. How much have the hearing aids helped?
3. How much difficulty do you still have?
4. Are the hearing aids worth the trouble?
5. How much have the hearing difficulties affected the things you can do?
6. How much do you think other people were bothered by your hearing difficulties?
7. How much have the hearing aids changed your enjoyment of life?

Questions concerning hearing aid characteristics:

- design
- handling
- sound quality
- wearing comfort
- acclimatisation

05. Wie gut kommen Sie mit den Hörgeräten zurecht?

Auf- und Absetzen

sehr gut gut mittel schlecht sehr schlecht

Ein- und Ausstellen

sehr gut gut mittel schlecht sehr schlecht

Einstellen der Lautstärke

sehr gut gut mittel schlecht sehr schlecht nicht vorhanden

Programm-wahl

sehr gut gut mittel schlecht sehr schlecht nicht vorhanden

Batterie-wechsel

sehr gut gut mittel schlecht sehr schlecht

07. Wie ist der Tragekomfort der Hörgeräte?

sehr gut gut mittel schlecht sehr schlecht

08. Wie ist das Aussehen der Hörgeräte?

sehr gut gut mittel schlecht sehr schlecht

- So far used in post-hoc mailing campaigns, field tests, and regular fitting processes
- The questionnaires in fact cover distinct aspects of perceived disability (Oldenburg Inventory) and handicap (IOI-HA)
- Perceived value of the HA **does not** only depend on perceived benefit → “Hearing Aid Evaluation”
- Time of application of the questionnaires has a crucial impact on the results

- **Anamnesis** → cause study, demographics
- **Immediate Acceptance** (“Hörgeräte-Rundgang”, Stock et al.)
→ general quality of hearing aid and fitting algorithm
- **Oldenburg Inventory** (based on Holube & Kollmeier 1991)
→ perceived benefit after several weeks of usage
- **IOI-HA** (Cox et al. 2000)
→ perceived benefit after several weeks of usage
- **Hearing Aid Evaluation** → sound, handling, design
- **Equipment and Services** → further indicators for customer satisfaction
- **Quality of Life Questionnaire** (based on Nottingham Health Profile)
→ impact of hearing aids on a customer’s psychosocial condition

**Thank you very much
for your attention**

**Heike Heuermann, Martin Kinkel
KIND Hörgeräte**