



Evaluation and satisfaction

Wouter Dreschler

Academisch Medisch Centrum Amsterdam



Contents



1. Evaluation of individual benefit
 - Outcome measures
 - Subjective judgments

2. Evaluation of the benefit in groups
 - Scientific studies / field trials
 - Expert opinions

3. Satisfaction in groups of users

Part 1.

Evaluation of individual benefits



- a) Objective tests that evaluate the effects of 'signal processing'

- b) Outcome measures
 - ..related to auditory functioning
 - ..related to listening comfort

- c) Questionnaires / Quality of Life (QoL)

a. Evaluation of 'signal processing'



- Quality of the ear mould
 - Gain reserve before feedback occurs
- Coupler measurements
 - HA show an increasing complexity
 - They are not transparent ("black box")
- IG-tests / VSM
 - Not advocated by the manufacturers
 - However: indispensable

b1. Outcome measures related to auditory functioning



- Speech intelligibility in quiet
- Speech intelligibility in noise
 - SRT tests / NHT / Oorcheck
 - Different types of background noise
 - Spatially separated sound sources
- Directional hearing
 - Classical
 - DIR-VU (PACT-project)

b2. Tests related to listening comfort



- Parts of Amplifit
- Subjective SNR:
 - ANL: Acceptable Noise Level test
- Listening effort
 - Reaction times
 - Effort scaling
 - Pupillometry

Minimum evaluation set: KIST



KIST

Kwaliteits Instrument Slechthorenden Transmuraal

- **Ontwikkelen kwaliteitscontrole hoortoestelaanpassing, op basis van:**
 - a. **Spraakverstaan**
 - b. **Lokalisatie test**
 - c. **Insertion gain**
 - d. **Enquête (GHABP)**

- **Extra kwaliteitscontrole (AC):**
 - e. **Enquêtes (hoortoestel en verwachtingen)**
 - f. **Luidheidschaling**
 - g. **Checklist hoortoestelkeuze**

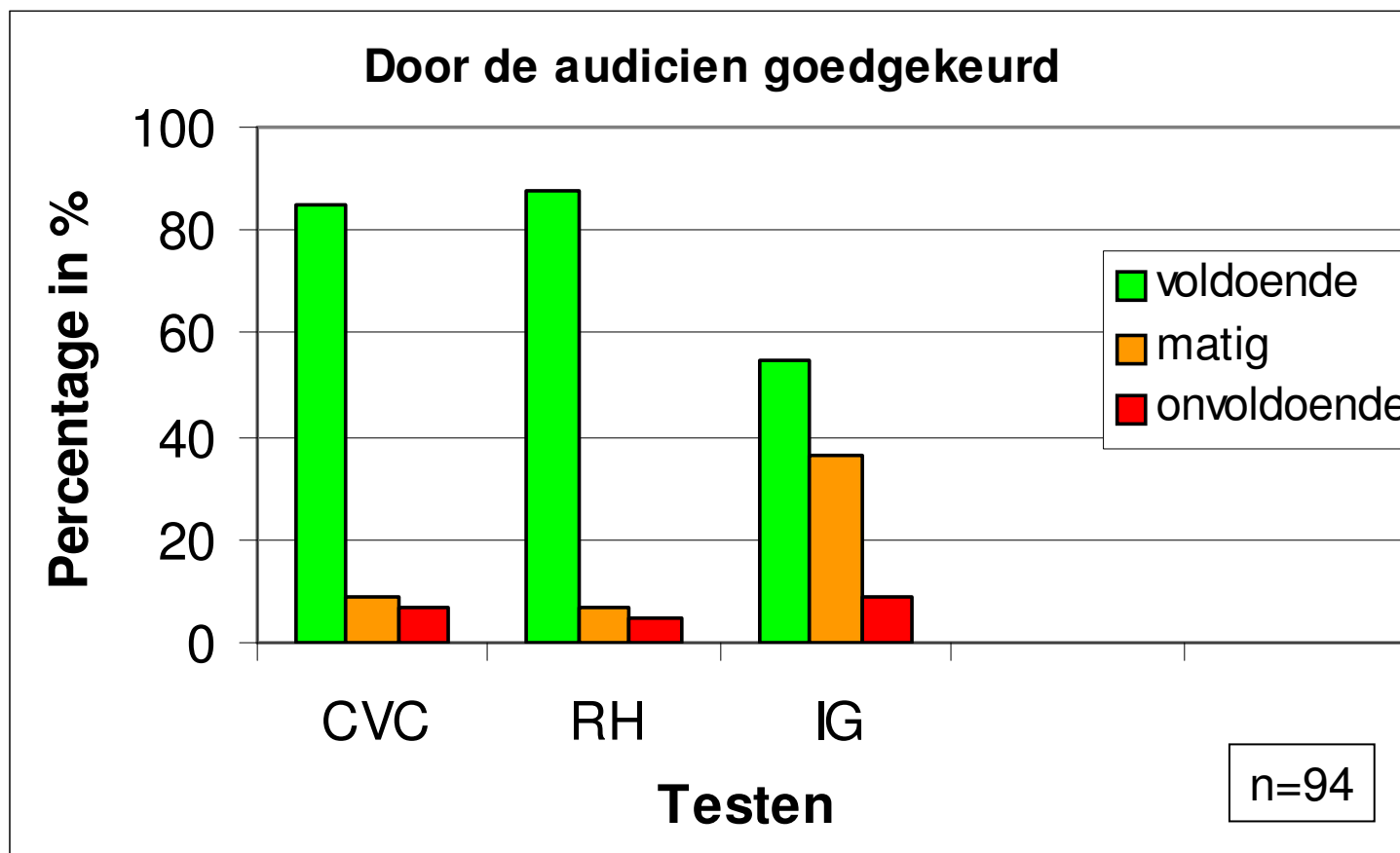


AZOS Aangepast
Zorgmodel
Slechthorenden

stichting
PACT
platform for audiological
clinical testing

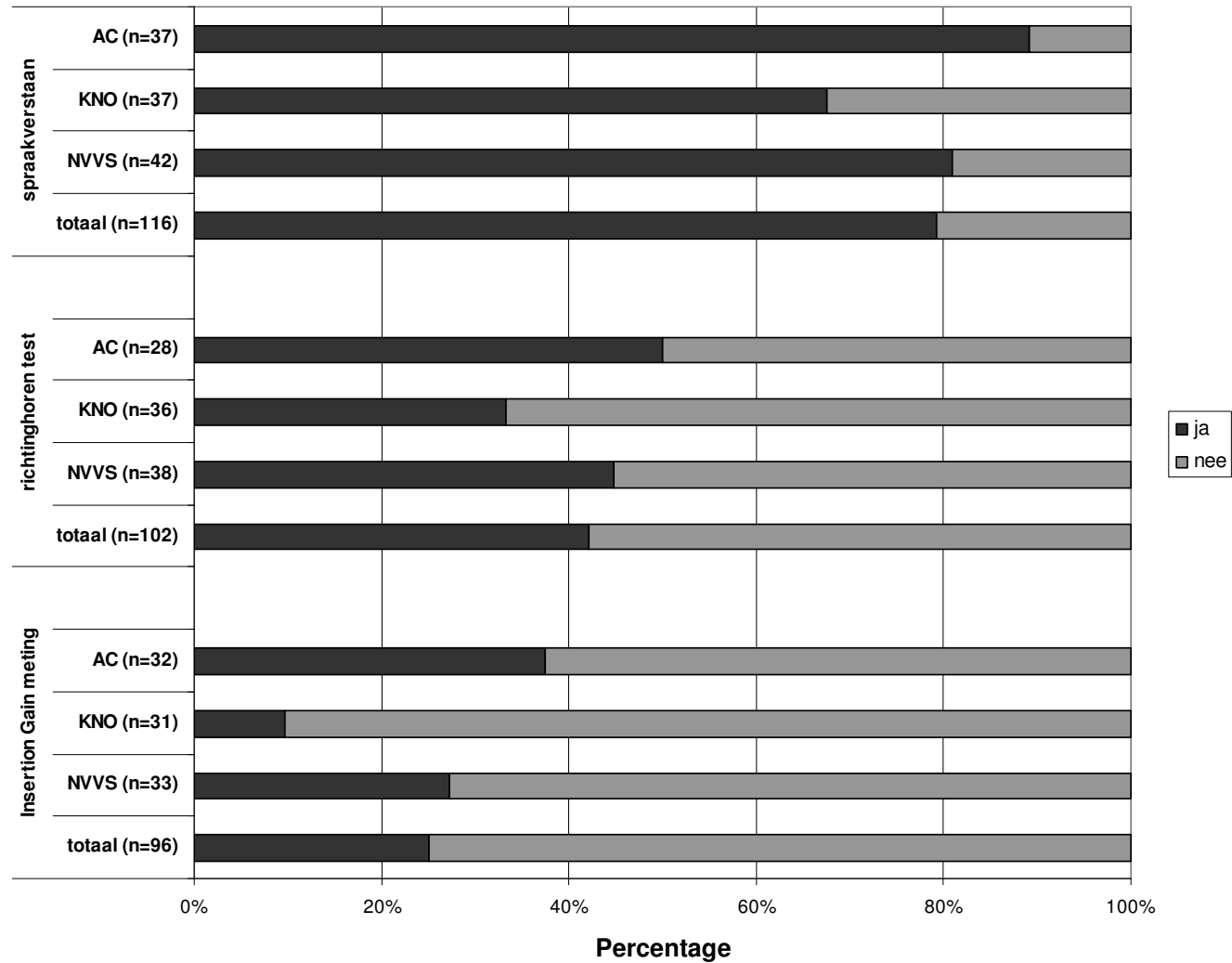


KIST, performance tests (a-c)



Evaluatie van het hoortoestel

Soort test



*PACT-studie
t.b.v. CvZ
(n=123)*

c. Questionnaires



- Available in Dutch
 - IOI-HA
 - APHAB
 - SSQ
 - AIADH / AVETA
 - COSI
 - GHABP
 - Handicap list van v/d Brink
 - HUI-3
 - ...

Problem:

Applicability in the individual subject

KIST- questionnaire: GHABP



KIST - d

Subjectieve beoordeling met GHABP bij de audicien

■ Pre-fitting

- Hoeveel moeilijkheden?
- Maakt u zich druk over deze moeilijkheden?

■ Post fitting

- Draagt u het hoortoestel in deze situatie?
- Helpt het hoortoestel in deze situatie?
- Hoeveel moeilijkheden heeft u (nog) met hoortoestel
- Bent u voor deze situatie tevreden met uw hoortoestel

■ Pre-fitting

- Initial disability
- Handicap

■ Post-fitting

- Use
- Benefit
- Residual disability
- Satisfaction



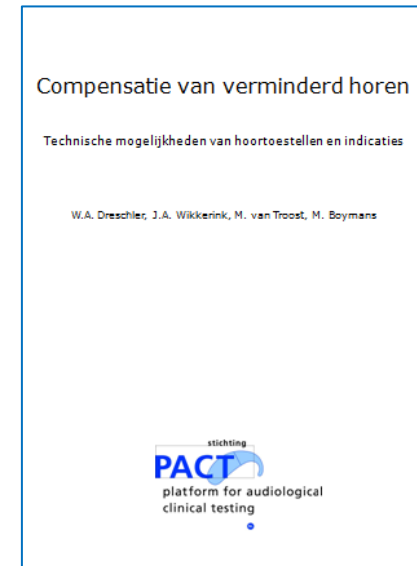
Part 2.

Evaluation of benefits in groups



Review from the literature

- Methodological quality / level of evidence:
 - Randomized Clinical Trial (RCT)
 - Cohort studies
 - Case-control studies
 - Series and case studies
- Most important difficulties:
 - blinding (cross-over design)
 - randomization
 - selection process



→ If the evidence is too weak for Evidence-Based Practice, we have to apply Practice-Based Evidence

On the way to Practice-Based Evidence



- Collect clinical test results, preferably by means of validated outcome measures
- Collect experiences of HA users and experts

→ PACT project: Compensatie van verminderd horen

Technische mogelijkheden van hoortoestellen en indicaties

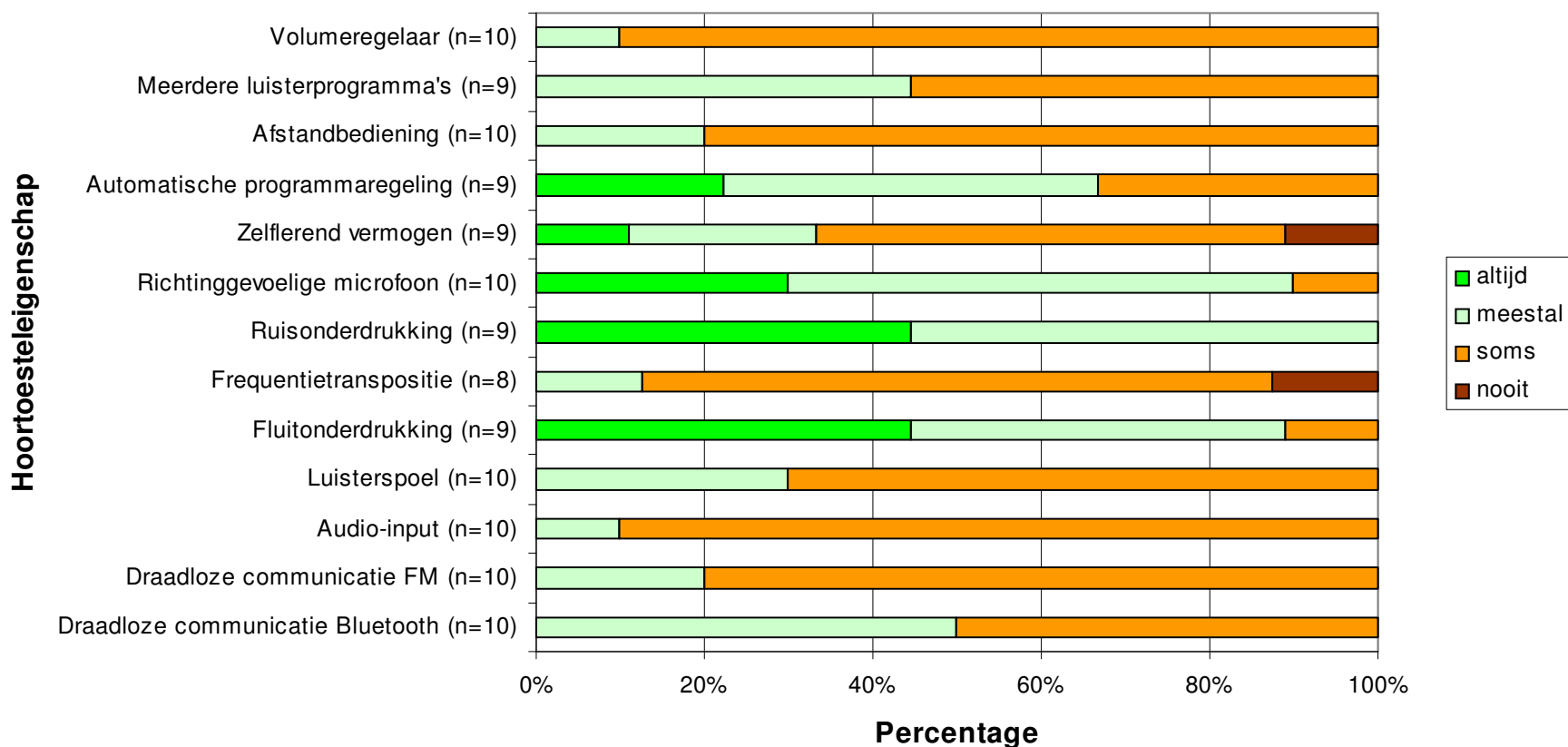
- Questionnaire for HA users (n=123)
- Questionnaire for technical experts (TP)
 - 5 dispensers / 5 manufacturers
- Questionnaire for “HA-fitters” (VP)
 - 5 ENT-doctors / 5 audiologists



Relevant functionalities (TP)



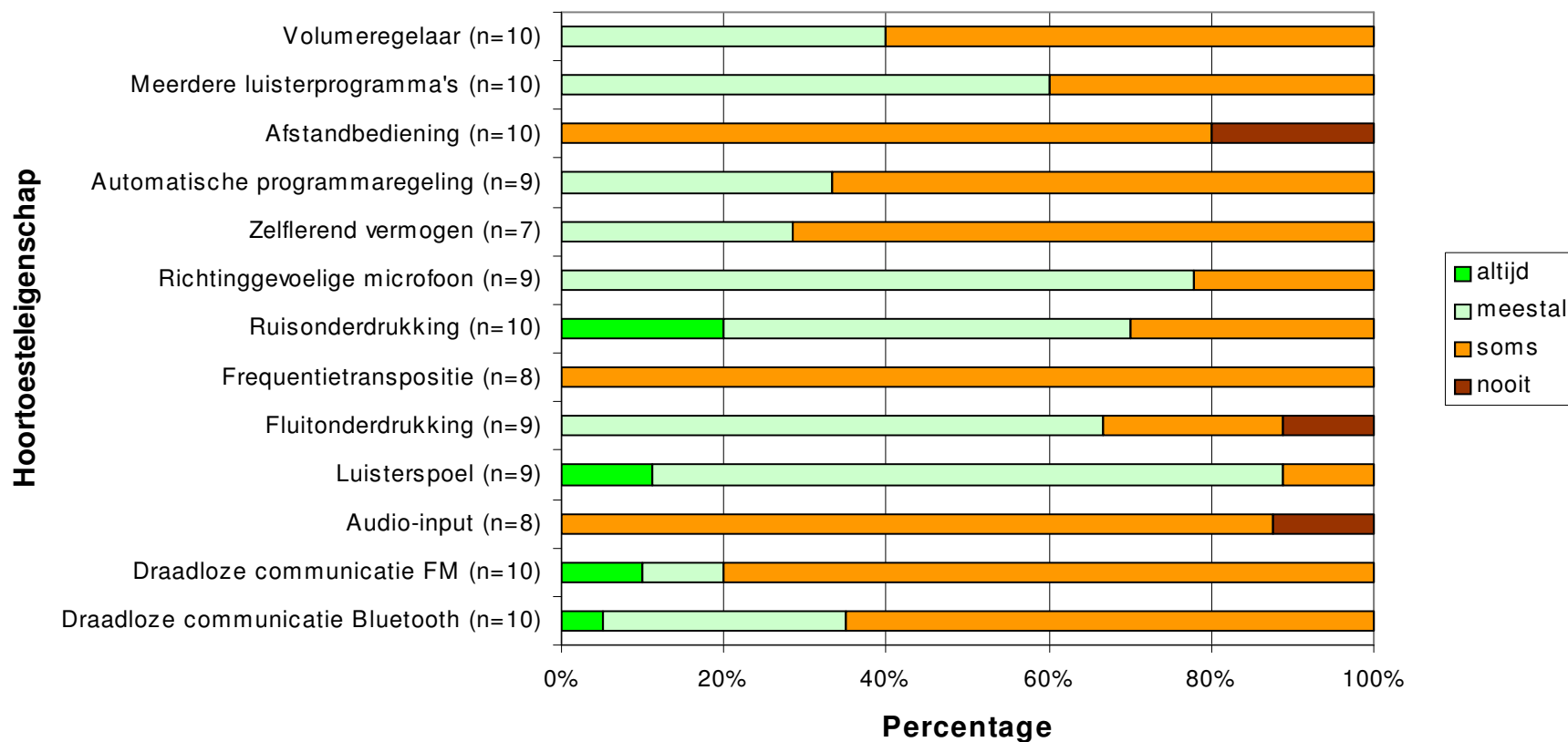
Meerwaarde van hoortoesteleigenschap voor de aanpassing/revalidatie (TP)



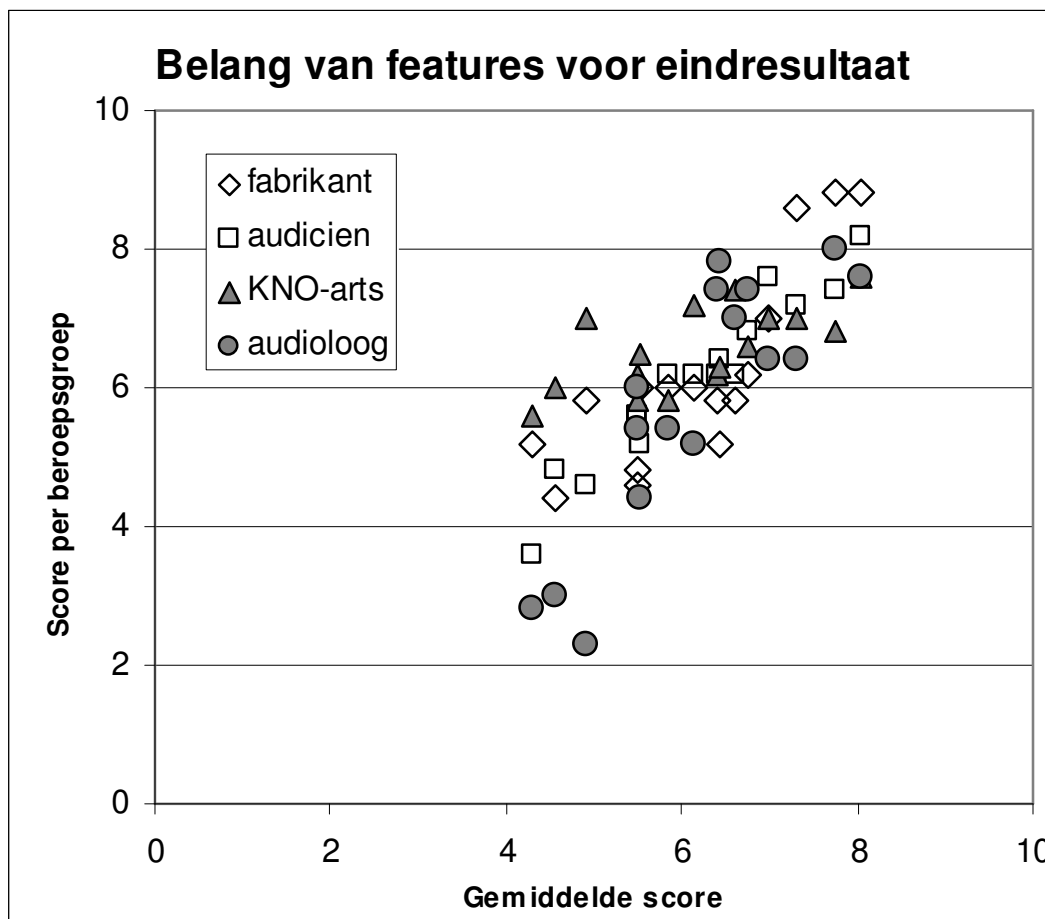
Relevant functionalities (VP)



Meerwaarde van hoortoesteleigenschap bij de aanpassing/revalidatie (VP)

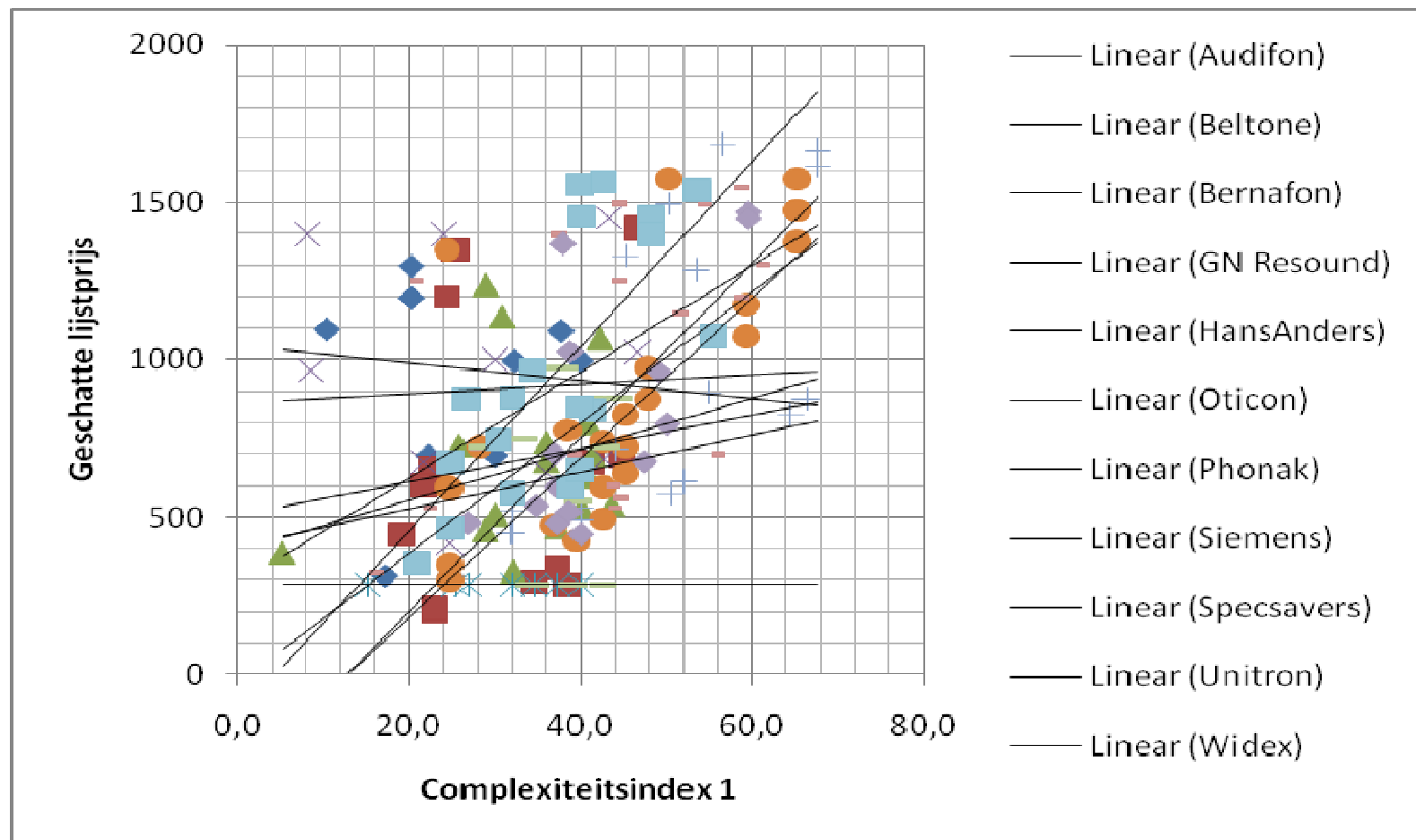


Reasonable consensus

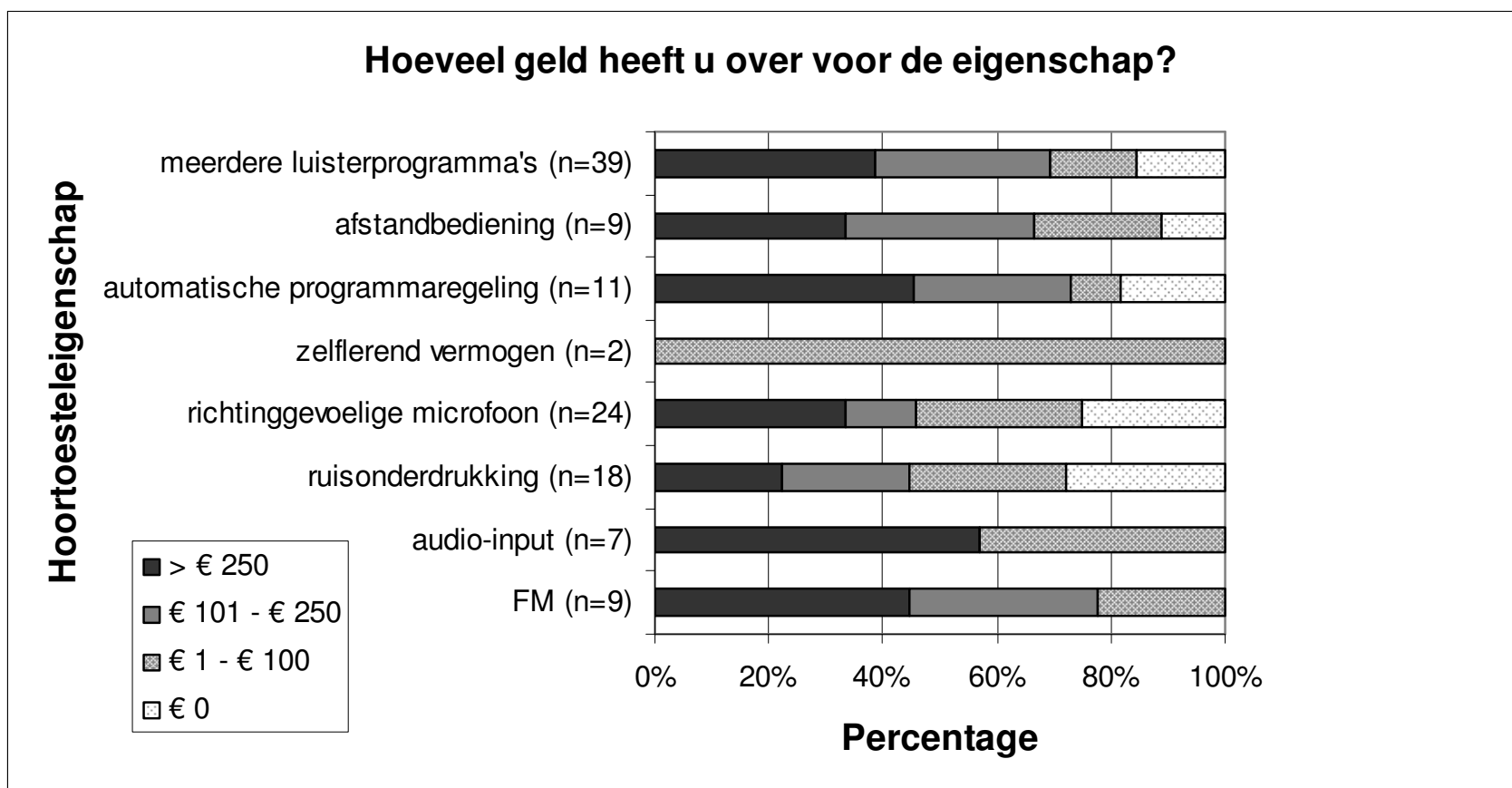


- Manufacturers are relatively optimistic
- Audiologists tend to be more critical

A cost-benefit analysis, based on expert weightings

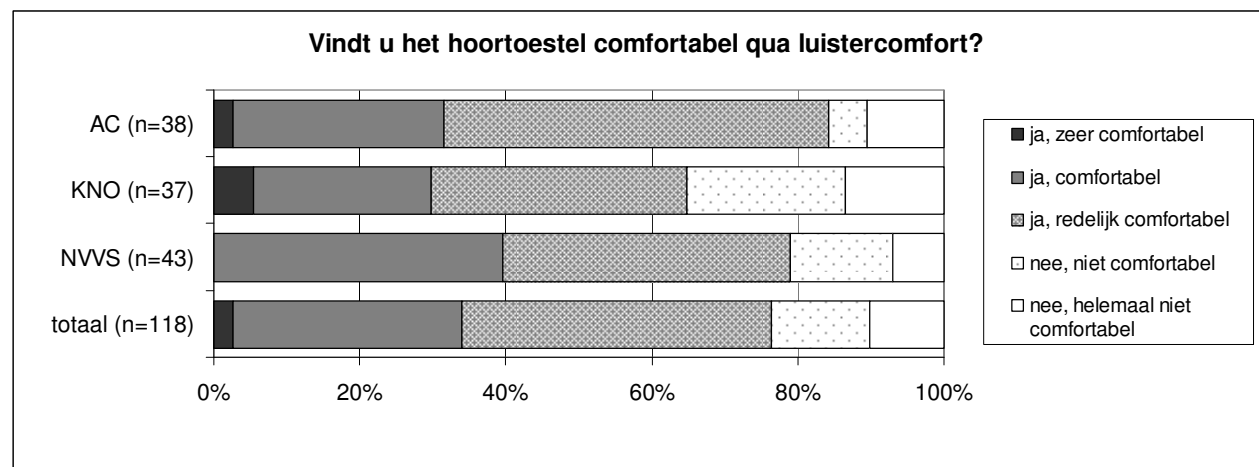
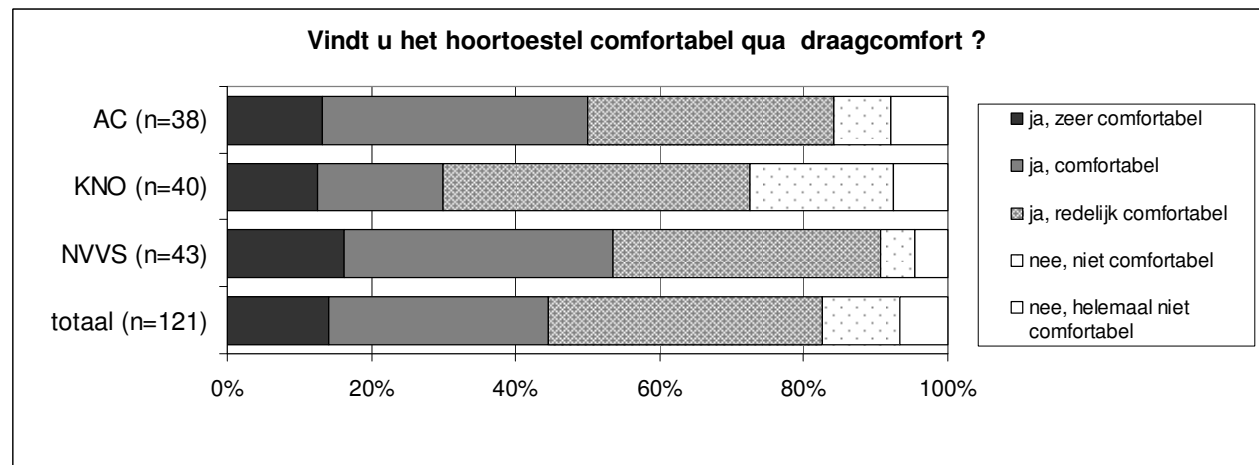


What about the users?

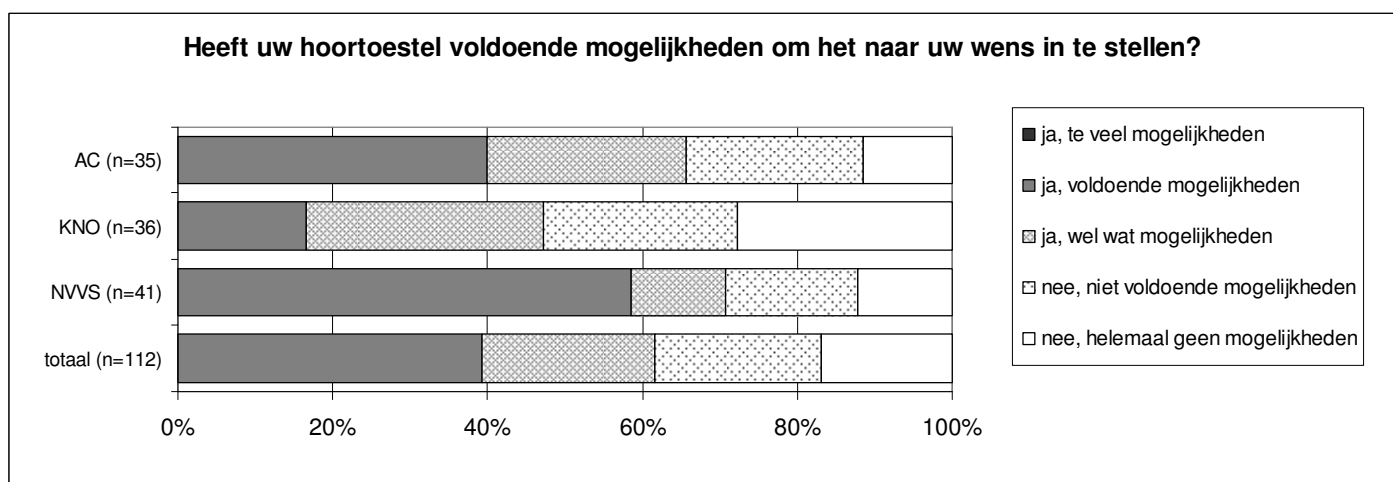
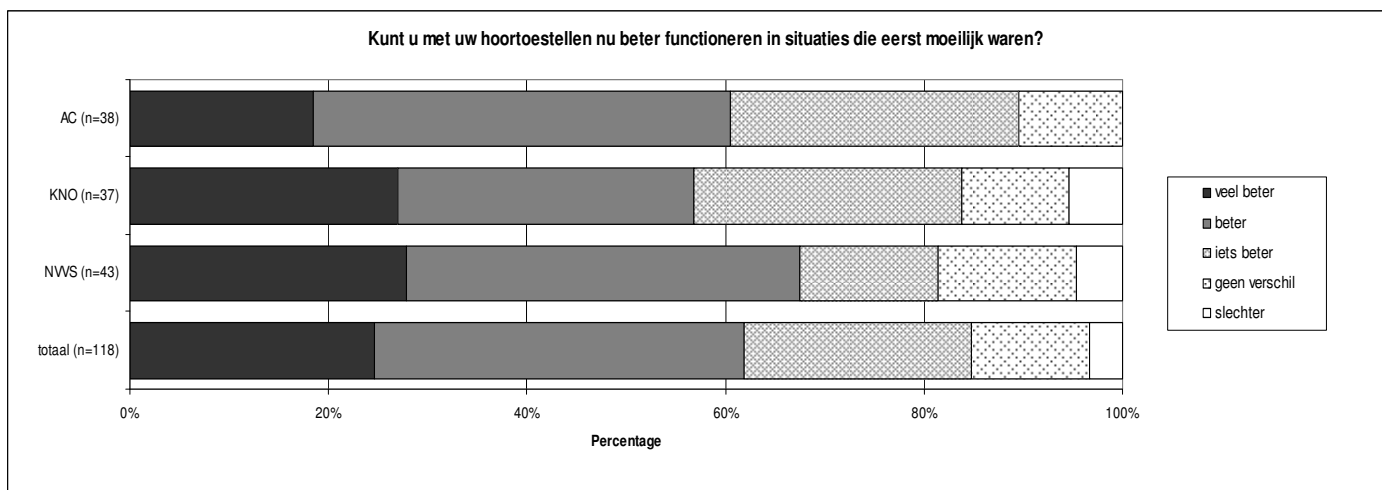


Part 3.

Satisfaction in groups of users



Functioning and control



Overall judgement and conclusions



	Overall score	% onvoldoende
AC	6,9	14%
KNO	6,1	34%
NVVS	7,1	10%
totaal	6,7	19%

Conclusions

- There is “room for improvement”
- Tools in evaluation should be refined and need better standardization
- Evaluation tools should be used more often
- The active role of the user is indispensable
- We have to collect evidence from good clinical practice

We aim at ...



- A satisfied HA user
- .. in which the HAs give an adequate compensation of his disabilities

→ Meet de breedte van de glimlach

→ Maar niet alleen die →

