Using the qualitative pre-test interview to develop a questionnaire for children with hearing loss

The York-Binaural-Hearing-Related-Quality-of-Life-Youth (YBHRQL-Y)

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Background

In hearing research there are numerous measures for adults with hearing loss. There are fewer measures for children with hearing loss e.g. PEACH, LittlEars etc. Many of these are designed for proxy completion by a parent / guardian / clinician. However, when asking quality of life questions, it is important for the child to be able to self-complete a questionnaire. As adults we have a different world view to children and our priorities differ. A hearing person has different lived experiences to a person with hearing loss.

To truly understand their experience and assess their quality of life there is a need for a questionnaire that is founded in their world view, and which uses language relatable to them. Here, we demonstrate how the qualitative pre-test interview (QPI)[1] can be applied to questionnaire development.

Method

Two sets of interviews with children aged 8 to 16 years with severe-to-profound hearing loss. Interviews based on domains taken from existing questionnaire in adults[2].

Interview 1	Interview 2
Open ended questions	QPI approach
Based on YBHRQL domains	Equal partners
Everyday situations where domains were a challenge	Language use, structure, relatability, presentation, understanding
Analysed inductively using theme analysis	Analysed deductively using the response process model

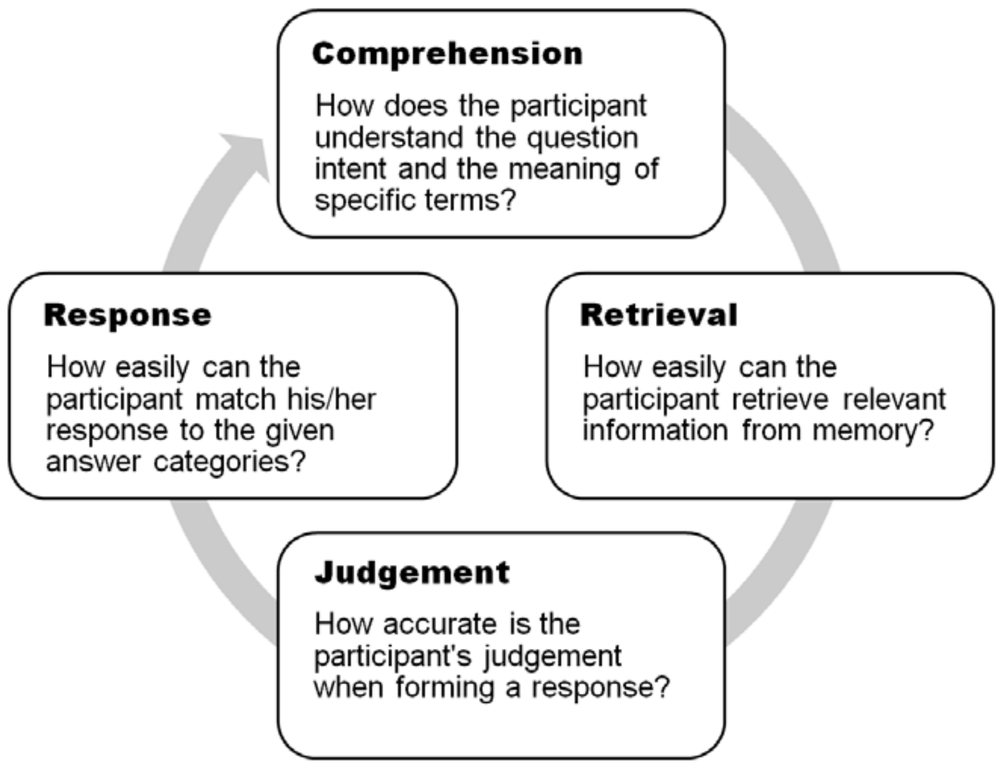

Image taken from Sopromadze 2016

Results

We recruited 12 children (3 male, 9 female) aged 8 to 16 years with a severe to profound hearing loss. Children attended primary (n=5) and secondary schools (n=7) with some having a severe loss (n=8) and others having a profound loss (n=4).

Interview 1	Interview 2
YBHRQL too complex	Language now relatable
Language difficult and not relevant, e.g. preference for understand rather than hear	Some change of response options and structure
Scenarios relatable to participants include; with friends in dining hall, in school classroom, sports clubs, home activities etc.	Short and specific setting of the scene before asking a question. Participants then relating to the scenario more readily.

Adult version (original)

Understanding speech when there is background noise

- ☐ 1. When a friend speaks to you while the TV is on or other people are chatting in the same room, you can hear your friend speaking easily, usually picking up all of the words they say.
- ☐ 2. Between 1 and 3.
- ☐ 3. When a friend speaks to you while the TV is on or other people are chatting in the same room, you can hear your friend speaking, but you can only pick out some of the words they say. This can lead to confusion if you miss an important word. Sometimes you need them to repeat themselves or to turn the volume down for you to understand them.
- ☐ 4. Between 3 and 5.
- ☐ 5. When a friend speaks to you while the TV is on or other people are chatting in the same room, you find it very difficult to hear your friend speaking. You are usually unable to pick out the words they say. This regularly leads to misunderstanding and confusion. The room needs to be completely quiet for you to understand them.

Child version (adapted)

Understanding speech when there is background noise

It is lunch time, and you are in the place where you eat food. Imagine the noises that are here, people chatting, cutlery and plates being used. You are sat around a table with your friends. One of them speaks to you but you cannot see their face. Can you understand what they are saying?

- I can understand **most** of the words ☐
- ☐
- I can understand **some** of the words ☐
- ☐
- I can understand **none** of the words ☐

Conclusion

The QPI approach is a useful way to design and adapt questionnaires for use in children with hearing loss. It would also have beneficial applications in the wider field including translation of questionnaires into other languages.

References: **[1]** Buschle, C., H. Reiter and A. Bethmann (2021). "The qualitative pretest interview for questionnaire development: outline of programme and practice." Quality & Quantity., **[2]** Summerfield, A. Q., Kitterick, P. T., & Goman, A. M. (2022). Development and Critical Evaluation of a Condition-Specific Preference-Based Measure Sensitive to Binaural Hearing in Adults: The York Binaural Hearing–Related Quality-of-Life System. *Ear and Hearing*, 43(2), 379-397

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