Poster P340

Development of the Functional Listening for Communication Item Banks: A mixed methods content validation study

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functional listening and communication item bank

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Background

The **Functional Listening for Communication (FLC) project** is a multi-phase, mixed methods study to develop and validate a patient-reported outcome (PRO) measure measuring 8 domains of self-reported functional listening and communication ability in adults with hearing loss (AwHL) (Fig. 1).[1] Few hearing-specific PRO measures address currently functional listening and communication with hearing loss.[2]

Pretesting contributes evidence of content validity, a PROM's most important measurement property.[2] It allows developers to evaluate item quality and address problems with item wording and response scales prior to psychometric evaluation.

Aims & objectives

To pretest the FLCIB, Specifically:

- Evaluate the **relevance**, **comprehensibility**, and **clarity** of draft items
- **Reduce** the draft item pool
- **Identify potential problems** with remaining items' content, format and response scales

Methods

Participants: Expert review panel (AwHL, healthcare professionals (HCPs), academics; N = 18). Females = 16 (88.9%); age range = 25 to 75 years); hearing device use = 7 (38.9%).

Data collection: Qualtrics online survey. Items rated on two content validity indicators: 1) domain relevance and 2) ease of understanding using a 4-point scale (0 = Not at all and 4 = Extremely). Free text boxes for additional feedback.

Data analysis: Descriptive statistics. Two-stage item reduction: 1) Items with mean relevance score of >86% were included. Of these, items with an ease of understanding score >80% were retained for further review. Content analysis of free text comments.

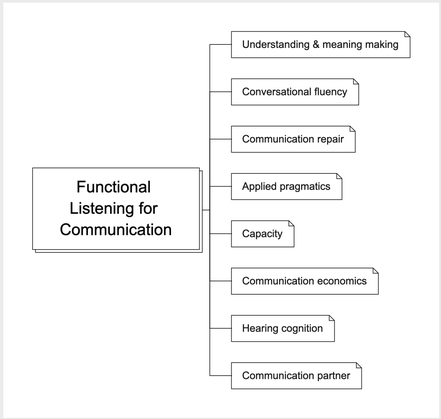

Figure 1. Domains of the FLCIB's conceptual framework

Results

- Across domains, mean **relevance** scores ranged from 87% to 92% and mean **ease of understanding** scores ranged from 89% to 93% (Table 1).
- **Item reduction:** 165 (28.4%) items removed for not meeting *a priori* thresholds for inclusion (Table 1).
- **Content analysis:** For included items, 107 (25.7%) were flagged for revision (to address problems with context, interpretation or domain fitness), 45 (10.8%) were redundant requiring further review, and 200 (48.1%) required rewording to improve clarity. 64 (15.4%) items needed no refinement.

Figure 2. Exemplar quotes from the expert reviewer online survey

Table1. Mean relevance and ease of understanding ratings for the FLCIB domains (all items, 4-point scale)

Domain	Mean relevance rating	Mean ease of understanding rating
Understanding Meaning Making (UMM)	3.58 (89%)	3.54 (89%)
Conversational Fluency (CF)	3.50 (87%)	3.57 (89%)
Communication Repair (CR)	3.66 (92%)	3.69 (92%)
Applied Pragmatics (AP)	3.58 (90%)	3.55 (89%)
Communication Partner (CP)	3.60 (90%)	3.71 (93%)
Communication Economics (CE)	3.61 (90%)	3.65 (91%)
Hearing Cognition (HC)	3.64 (91%)	3.64 (91%)
Capacity (C)	3.59 (90%)	3.65 (91%)

Table 2. Item reduction across the FLCIB domains based on *a priori* threshold criteria

	UMM	CF	CR	AP	CP	CE	HC	C	Total
Item pool	82	61	74	66	77	88	60	73	581
Items excluded	27	24	12	26	23	20	14	19	165
Items included	55	37	62	40	54	68	46	54	416

Conclusions

- Survey results provided **evidence of the FLCIB's content validity** and data driven item reduction and refinement.
- Further item reduction will be followed by: 1) cognitive debriefing with AwHL and 2) quantitative refinement/psychometric evaluation using Rasch analysis.
- The FLCIB is a **co-designed, hearing-specific PRO measure of functioning** for use in research and clinical practice.

[1] US Food & Drug Administration (2020). FDA Patient-Focused Drug Development Guidance Series for Enhancing the Incorporation of the Patient's Voice in Medical Product Development and Regulatory Decision Making.
[2] Neal et al. Front Psychol. 2022 Mar 10;13:786347. doi: 10.3389/fpsyg.2022.786347.
[3]Hughes et al. (2022) PLoS ONE 17(10): e0276265. https://doi.org/10.1371/journal.pone.0276265
[3]Terwee et al.. (2017). COSMIN methodology for assessing the content validity of PROMs User manual Version 1.0. www.cosmin.nl

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