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Rethinking Hearing Aid Fitting: Integrating Ecological Momentary Assessment into the Hearing Aid Fine-Adjustment Process

→ Introduction

Hearing loss (HL) is a significant issue, affecting around **430 million people worldwide** [1]. Beyond its physiological impacts, it often results in **diminished quality of life**, contributes to **social isolation, frustration, anxiety** [2,3] and accelerated **cognitive decline** [4].

Hearing aids (HAs) are considered the primary solution. Nevertheless, there are still considerable challenges in diagnosis and fitting. Only around 53% of those affected get referred to a hearing health care professional (HCP) [5], of which around **61% drop out during the process**.

Reasons for this include **structural barriers** in the healthcare system, a **lack of continuity** in the adjustment process and other barriers [6,7,8]. In addition, **retrospective self-reporting** by those affected is often influenced by recall bias [9].

The goal of the study is to examines whether and how Ecological Momentary Assessment (EMA) can be meaningfully integrated into the HA fitting process. For this purpose the perspectives of HCPs on existing processes, data needs, design requirements and practical feasibility.

Expected benefits [10,11]

- Reduction of recall bias associated with retrospective surveys
- Increased ecological validity due to the recording of experiences at the time of their occurrence

→ Method

60 min. non-standardized semi-structured **online-interview** with HCPs (N=7)

Analysis of transcripts according to the qualitative content analysis by Mayring [12] & Kuckatz [13].

5-15 min. **online questionnaire** (N=6) regarding demographic data and further evaluation of the presented concept

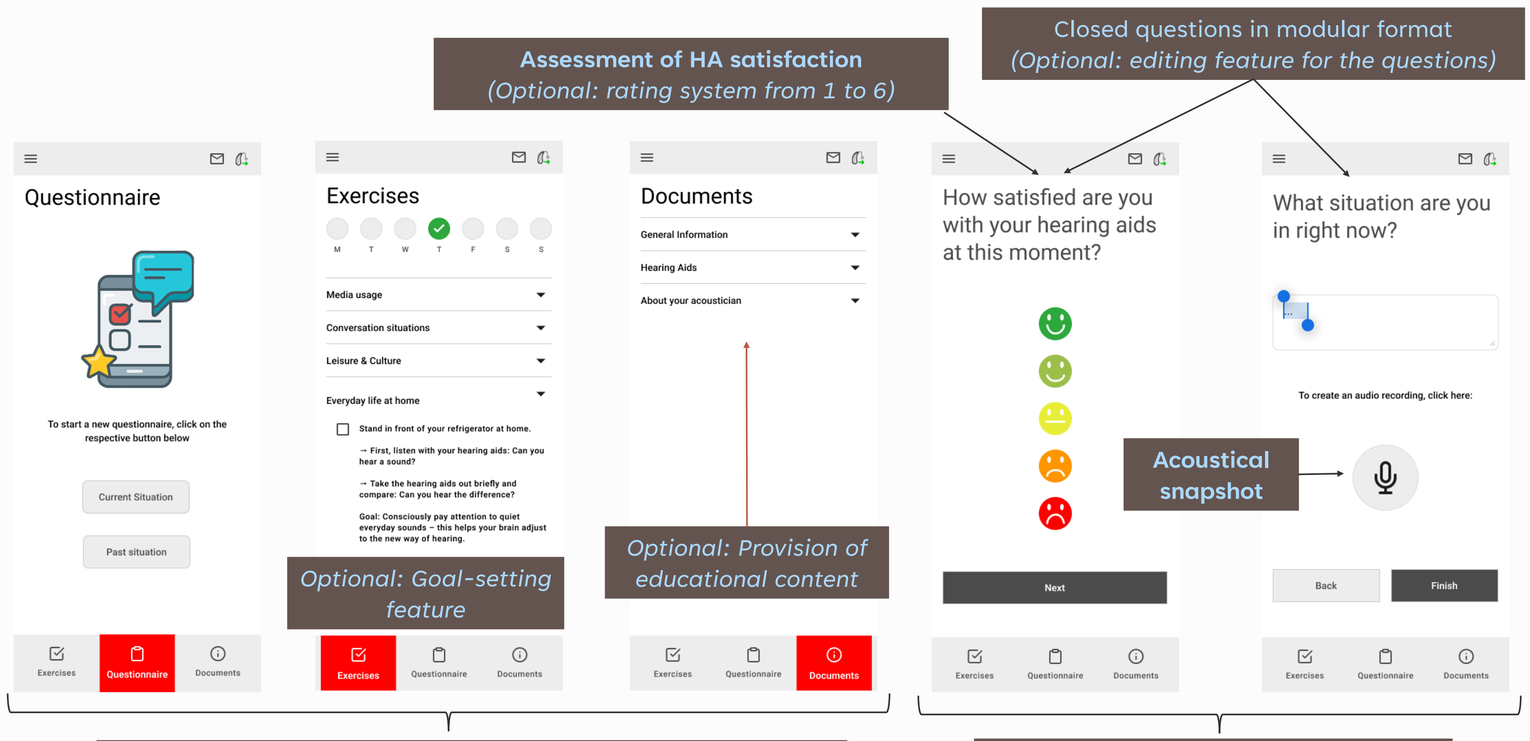
Table 1:
Description of the Sample

Gender	Age	Prof. experience	Title	Current work environment	ToE	CET (annually)
Male	45-54	15+	Master HA Specialist	HA & Optician's specialist store	Owner	3+
Female	45-54	15+	Master HA Specialist	HA specialist store	Owner	3+
Female	55-64	15+	Master HA Specialist	HA specialist store	Owner	3+
Male	55-64	15+	Master HA Specialist	HA & Optician's specialist store	Owner	3+
Female	25-34	6-15	Master HA Specialist	HA specialist store	Employee	1-2
Female	55-64	15+	Master HA Specialist	HA specialist store	Owner	3+

Notes.
CET = Continuing education & training
ToE = Type of Employment

Scan here to view the used references

→How should the EMA app be graphically presented?



→How do HCPs rate the overall concept in terms of its viability for their company?

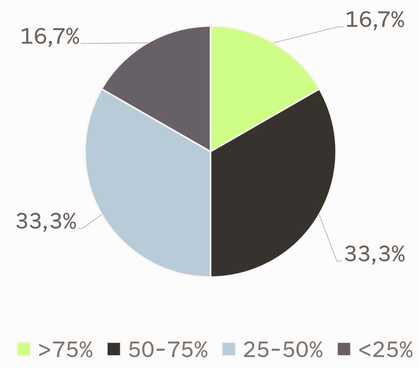
Challenges

- Usability for older clients with limited digital literacy
- Increased data processing effort: More data → More time & complexity for HCPs and clients
- Reliability of the collected data
- Objectification of subjective data

Benefits

- Enhanced counseling
- Better patient adherence
- Informed decision-making (esp. for younger HCPs)
- 50% see potential for: Improved client self-management, more engagement in the fine-adjustment process
- Some expect efficiency gains through data-driven decisions

→ With how many of their current clients would HCPs try out the new concept? (n=6)



→ Integration must be carefully managed to enable efficiency, not complexity

→Discussion

- findings largely align with study among HCPs and potential clients
- highlight the client-centered nature of current practices, the establishment of a trust-based relationship between the HCP and the client, and the value of combining subjective and objective data with client satisfaction as a key outcome measure.
- the envisioned EMA app should be intuitive, easy to integrate into daily routines, and primarily optimized for client use.

Optimism toward EMA integration, but a usability challenges for older clients remain

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