Measuring Audiologists' Experience, Knowledge, and Self Confidence in Audiological Assessment of DeafBlind Patients: Utility of Acute Training

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Background

- According to the National Center on DeafBlindness, there are approximately 10,000 DeafBlind children in the United States (2025).
- **Few AuD programs offer training specific to DeafBlindness, despite a growing need for qualified clinicians in this area.**
- Prior research has proven the **efficacy of short-duration training** in improving healthcare professionals' ability to work with individuals with vision loss (James et al., 2025); however, **no studies to date have examined the benefit of such trainings for audiologists.**

Purpose

1. Assess audiologists' **training and prior experience** working with DeafBlind patients.
2. Evaluate audiologists' **knowledge** and **confidence** working with DeafBlind patients, **pre- and post-acute training.**

Methods

- Audiology externs and audiologists were recruited from across the U.S. via professional listservs and university programs.
- A survey was created in REDCap to query training and prior experience working with DeafBlind patients.
- Study participants watched a novel 20-minute, asynchronous educational video presented on YouTube, which provided an overview of DeafBlindness and adaptations for the audiologic test battery.

- Novel questionnaires were developed and administered using a pretest–posttest experimental design. 10 knowledge-based items were created to reflect the instructional content, and 9 self-confidence items were adapted from the Teacher Efficacy in DeafBlindness Education Scale (Hartmann, 2012).

9 confidence items were condensed into 3 skill categories:

- **Assessment** (4 items)
  - e.g., Effectively adapt Conditioned Play Audiometry (CPA) for DeafBlind patients.
- **Communication** (3 items)
  - e.g., Successfully communicate test instructions with DeafBlind patients.
- **Building Rapport** (2 items)
  - e.g., Establish a trusting relationship with DeafBlind patients.

10 True/False knowledge items were condensed into 3 categories:

- **Foundational Knowledge** (3 items)
  - e.g., To be considered DeafBlind, an individual cannot have any residual vision or hearing. *(False)*
- **Communication and Adaptions** (4 items)
  - e.g., Hand-over-hand support is the preferred method for teaching tasks to DeafBlind children. *(False)*
- **Resources and Referrals** (3 items)
  - e.g., A copy of a school-based vision assessment (e.g., Functional Vision Assessment) should be requested in advance of an audiologic assessment for a DeafBlind patient, *only* when ophthalmologic records are not available for review. *(False)*

Training Video

Tips and Tricks Document

Results

- 82 audiologists, representing 53 unique graduate programs enrolled.
- Pre-intervention completion included 82 demographic, 77 confidence, and 73 knowledge surveys. Post-intervention completion included 46 confidence and 45 knowledge surveys.
- Among those who completed the demographic survey, **77% reported no formal training on DeafBlindness.**
- Despite limited training, **91% of audiologists had experience with DeafBlind patients** (see Fig. 1).

Figure 1. Percent of participants with professional experience working with DeafBlind patients (inner ring). The reported number of DeafBlind patients seen among the 91% of participants with experience (outer ring).

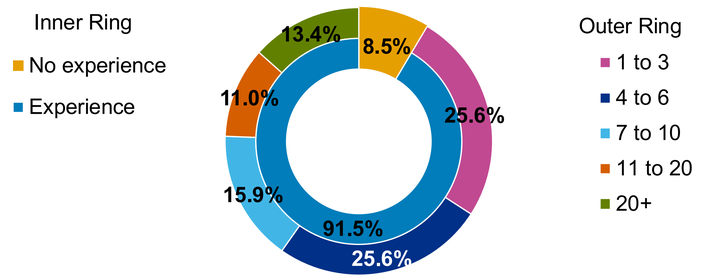
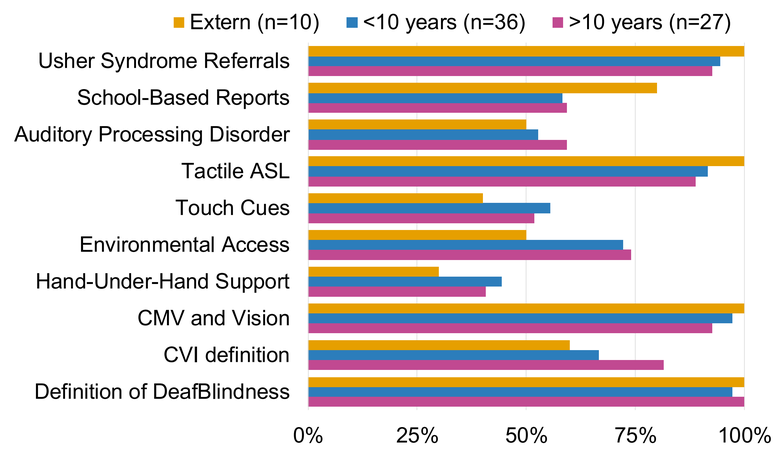
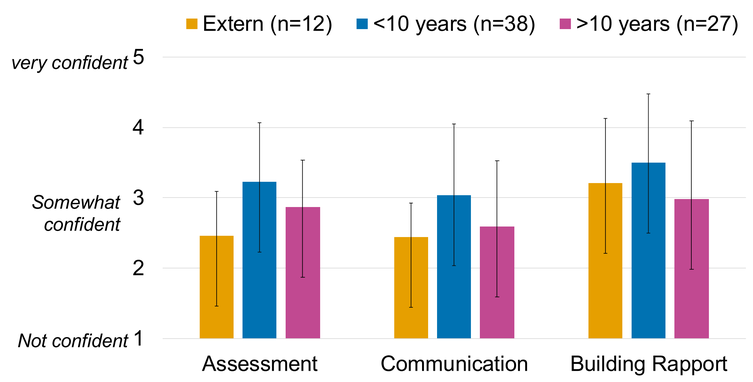


Figure 2 . Percent of participants who answered True/False **knowledge questions** *correctly* **pre-intervention**, by experience levels.



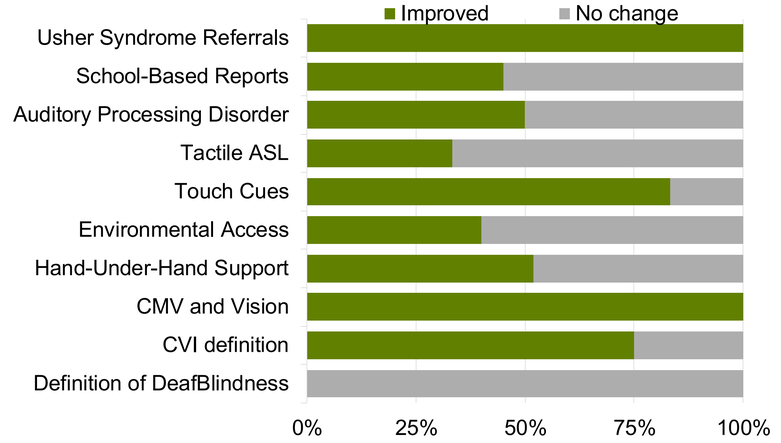
- Across experience levels, areas of weakness were related to questions on **hand-under-hand (HUH) support**, **touch cues**, and **referring individuals with auditory processing disorders**.
- Categorically, scores were the highest in Foundational Knowledge and the lowest in Communication and Adaptations.

Figure 3 . Average (SD) **pre-intervention confidence** ratings per skill category by years of experience .



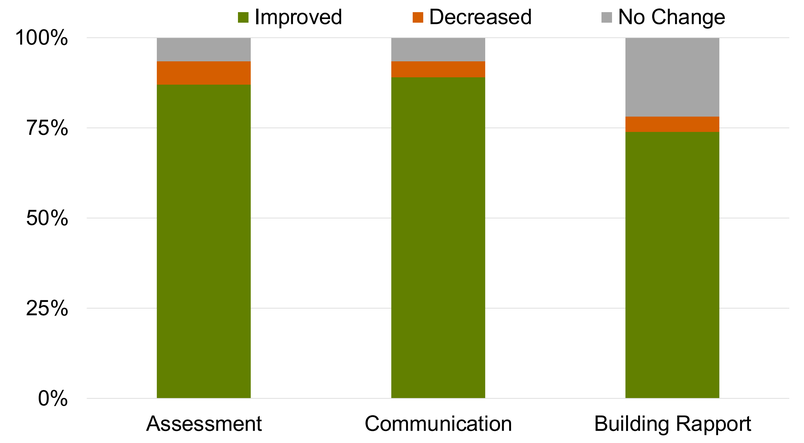
- Across categories, audiologists reported mean pre-intervention confidence levels ranging between 2.3 (slight) and 3.8 (somewhat).
- On average, audiologists felt the **most confident adapting objective test measures** (*M*=3.8), and the **least confident adapting VRA** (*M*=2.3).
- Notably, a moderate level of confidence (*M*=2.9) was reported for HUH support on the pre-intervention confidence survey, despite few audiologists answering this knowledge question correctly.

Figure 4. Percent of participants for whom **post-intervention knowledge** scores improved (green) or did not change (grey).



- Of participants who answered at least one knowledge question *incorrectly* on the pre-test (n=66), more than half (53%) showed improved performance on one or more questions post-intervention.
- Categorically, the highest amount of improvement was seen in questions about Communication and Adaptations, followed by Resources and Referrals.

Figure 5. Percent of participants (n=46) whose **confidence** in working with DeafBlind patients improved (green), did not change (grey) or decreased (orange) post-intervention by skill category.



- **The majority of audiologists reported increased confidence across all skill categories following intervention,** with a mean improvement of 1 point. A small number reported decreased confidence; *one participant attributed decreased confidence post-intervention to increased awareness of this topic.*
- On an item level, audiologists' confidence increased the most in hand-under-hand support, touch cues, and adapting VRA.

Conclusions

- Most audiologists' confidence in working with DeafBlind patients increased immediately following a brief video training. Improvements in knowledge were also appreciated post-intervention.
- Most audiologists reported a lack of formal training on DeafBlindness. **These findings support the need for DeafBlind-specific education within audiology graduate programs and continuing education requirements.**

"This information is so valuable. I hope to see this at further conferences so audiologists can have an in-depth knowledge of testing DeafBlind [patients]"

- Limitations include a lack of validated confidence and knowledge tools. Further research regarding the long-term effects of the training is needed to determine sustained benefits.

References

Hartmann, E. (2012). A Scale to Measure Teachers' Self-Efficacy in Deaf-Blindness Education. *Journal of Visual Impairment & Blindness*, *106* (11), 728–738.

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National Center on Deaf-Blindness. (2025). *2024 National Deafblind Child Count Report*.