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Sydnee Grigsby
Utah State University

Karen Muñoz
Utah State University

Guadalupe G. San Miguel
Utah State University

Michael P. Twohig
Utah State University

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**Discussing Patient Emotions in Audiology: Provider Experiences With the Implementation
Process of Hearing Loss Psychological Inflexibility Screenings**

Sydnee Grigsby¹, Karen Muñoz^{1,2}, Guadalupe G. San Miguel³, Michael P. Twohig³

¹Department of Communicative Disorders and Deaf Education, Utah State University, Logan,
UT

²National Center for Hearing Assessment and Management, Utah State University, Logan, UT

³Department of Psychology, Utah State University, Logan UT

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Address correspondence to:

Sydnee Grigsby, Department of Communicative Disorders and Deaf Education, Utah State University, 1000 Old Main Hill, Logan, UT 84321. Phone: (435) 797-3701; Email: sydnee.grigsby@usu.edu

Abstract

Purpose: This study aimed to investigate barriers and facilitators experienced by clinical educators and graduate students when talking with patients about difficult emotions and thoughts related to their hearing.

Method: A longitudinal observational design was used, and an Implementation Research Logic Model guided the process. Five clinical educators and five graduate students participated in the study. Participants completed pre- and post-measures and attended individual debriefing sessions during the eight-month study period.

Results: Four themes emerged from the debriefing sessions: (1) learning process, (2) confidence (3) barriers, and (4) supervision. Participants described that the Acceptance and Action Questionnaire-Managing Child Hearing Loss (AAQ-MCHL) and Acceptance and Action Questionnaire-Adult Hearing Loss (AAQ-AHL) served as a reminder to ask about patients' internal barriers and increased awareness of their discomfort in talking about patient emotions. Participants also described barriers and struggles related to supporting students in gaining counseling skills.

Conclusions: Screening for internal challenges helped clinicians remember to talk with patients about their difficult thoughts and emotions. Clinician hesitancy to engage in conversations with patients about their emotions can interfere with opportunities for patients to share their struggles, and with training student in these skills.

Discussing Patient Emotions in Audiology: Provider Experiences With the Implementation Process of Hearing Loss Psychological Inflexibility Screenings

Nearly 460 million people across the globe have hearing loss and it is estimated that by the year 2050 that number will increase to over 700 million (World Health Organization, 2021). Hearing loss is associated with an increase in distress as well as an overall decrease in quality of life (Nordvik et al. 2018) not only for the deaf or hard of hearing (DHH) individual, but for family members as well (Barker et al., 2017; Scarinci et al., 2012;). Hearing loss can also contribute to psychological difficulties including anxiety (Bennett et al., 2022; Contrera et al., 2017;) and depression (Lawrence, 2019). It is common for individuals with chronic conditions, such as hearing loss, to avoid thinking about their condition as well as avoid taking actions to improve their overall wellbeing (Hayes et al., 1996; Ong et al., 2019). Psychological inflexibility is an internal process that interferes with an individual's ability to be in the present moment and take desired actions that are consistent with their values, such as taking steps to meet their goals for health behaviors (Hayes & Strosahl, 2005). When someone is psychologically inflexible, their difficult thoughts and emotions can make it harder to engage in health behavior change (Ong et al., 2019). Identifying and addressing patients' internal struggles is an important element of person-centered care and can help DHH individuals improve their overall quality of life.

Discussing our patients' psychological state in regard to their hearing loss is an essential aspect in providing a holistic approach to hearing care (Erdman, 2009). Taking steps to address hearing concerns can be more difficult for someone who is psychologically inflexible because their underlying thoughts and emotions, such as worry about how they are being perceived by others, can interfere with their ability to take action – even though a lack of action has a negative effect on their daily life. When individuals are psychologically inflexible, they show patterns of

difficulty in effectively responding to challenging internal experiences in the present moment so they can successfully pursue actions to improve their wellbeing (Hayes et al., 2016; Ong et al., 2019).

Identifying when internal challenges and barriers (negative thoughts and emotions) occur can aid audiologists in effectively targeting barriers to increase patient acceptance of their internal experiences, and this can facilitate patient ability to take actions related to hearing aid uptake and adherence to treatment interventions (Coleman et al., 2018; Ekberg et al., 2014; English & Archbold, 2014; Poost-Foroosh et al., 2011; Solheim et al., 2012). However, if patients are left to navigate psychological distress related to their hearing concerns on their own, internal barriers are likely to continue to impede their ability to effectively self-manage. Research has shown that DHH patients who experience mental distress in relation to their hearing want their audiologist to ask how they are coping and help them address the challenges they experience (Bennett et al., 2020^a; 2022). However, research on audiologists' communication in practice does not demonstrate that this need is being met. Audiologists have been found to disregard patients' internal challenges and respond to emotional needs with technical solutions related to hearing devices (Bennett et al., 2020^a; Coleman et al., 2018; Ekberg et al., 2014; English et al., 2000; Grenness et al., 2015).

Professional guidelines state that counseling is within the audiological scope of practice, including identifying and addressing emotions, thoughts, feelings, and behaviors that result from living with hearing loss (American Speech-Language-Hearing Association [ASHA], n.d.; the American Academy of Audiology [AAA], 2023). Muñoz et al. (2017) found that while audiologists report understanding the importance of counseling, they lack confidence in their skills to effectively navigate conversations around such patient challenges. Audiologists have

reported barriers to providing effective counseling, including insufficient counseling training, lack of clarity related to their role, and limited organizational support (Bennett et al., 2020^b; Muñoz et al., 2019). Without training and support, counseling behaviors are unlikely to improve.

To date, minimal research has been conducted to guide effective counseling practices in audiology. A few studies have focused on improving counseling skills among audiology students using standardized patients (Schroy et al., 2015) and simulation (Alanazi et al., 2017). Those who participated in these trainings found them to be beneficial; however, the effect of these studies on increasing counseling skills is undetermined. Finai and colleagues (2018) found that audiology students increased their use of counseling skills (e.g., validation, shared planning, asking open-ended questions) following individual training and performance feedback after sessions. Initially, students were concerned with the amount of time they would spend including these skills; however, these changes increased the amount of time spent counseling by less than two minutes on average. To inform counseling practice in audiology, a Delphi study was conducted with 33 experts to describe competencies needed for knowledge, skills, and attitudes (Meibos et al., 2018). It was concluded that additional research is needed to determine effective ways to implement counseling in practice. However, to change how audiologists approach counseling in practice, implementation research is needed to better understand mechanisms that support the integration of evidence-based counseling skills into routine audiological care.

Implementation science aims to reduce the time it takes for evidence-based innovations to be implemented regularly in practice by increasing the adoption, implementation, and maintenance of practices, programs, policies, and guidelines (Fernandez et.al., 2019). The goal is to close the gap between what we know and what we do. The ultimate impact of new evidence-based innovations depends not only on their effectiveness but also on their reach and the extent

to which they are effectively implemented (Fernandez et al., 2019). Outcomes for implementation research are typically focused on the level of the system, setting, and/or service provider – not the level of the patient – however, improved patient outcomes are anticipated from efforts to implement targeted evidence-based practice (EBP; Smith et al., 2020).

Screening for psychological inflexibility related to hearing loss in routine practice may help audiologists consider patients' internal barriers during their work with patients. Ong and colleagues (2019) developed and validated two screening instruments to assess for psychological inflexibility specifically in relation to hearing loss: the Acceptance and Action Questionnaire-Adult Hearing Loss (AAQ-AHL; Appendix A) and the Acceptance and Action Questionnaire-Managing Child Hearing Loss (AAQ-MCHL; Appendix B). Implementing changes in practice, such as screening for internal barriers using the AAQ-AHL and AAQ-MCHL, can be challenging and the adoption of innovations into practice are often delayed. On average, it takes 17 years for evidence to reach the clinic (Morris et al., 2011), a lag that represents lost opportunities to improve patient experiences.

The current study used implementation science to explore barriers and facilitators experienced by clinical educators and graduate students as they learned to integrate the AAQ-AHL and AAQ-MCHL into routine clinical practice. The context for the implementation study was in a program that included person-centered care (PCC) as a foundational aspect of student training. The screening was implemented as part of routine practice for new patients in June 2022. Clinical educators and graduate students attended a two-hour workshop in May 2022, conducted by the research team, to learn about the screening tool and to discuss implementation logistics and hesitations related to the clinician's role in talking about internal barriers with patients. To address concerns raised about time needed for scoring, the screening was conducted

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electronically on an iPad during appointment check-in, auto-scored, and viewable within the electronic medical records system. A screening interpretation guide was posted in the clinic hearing aid work rooms to support clinician learning. We addressed logistical challenges prior to the study, and as needed during the study period (see Appendix C). The following research questions informed the implementation process: (a) What do clinical educators and graduate students experience when discussing patient emotions and thoughts?, (b) How confident do clinical educators and graduate students feel in their ability to perform counseling skills?, and (c) Is general psychological inflexibility reported by clinical educators and graduate students?

Methods

Study methods were reviewed and approved by the university Institutional Review Board (protocol number 12797). We used a longitudinal observational design in which researchers collaborated with clinical educators and graduate students in one clinical facility to explore barriers and facilitators in discussing patient emotions and thoughts following patient completion of the AAQ-AHL and/or AAQ-MCHL screening.

Implementation Blueprint

We used the Implementation Research Logic Model (IRLM; Smith et al., 2020) to guide the execution of this practice change initiative (specifics can be found in Appendix D). A logic model is a systematic depiction of the relationships among different elements of a study (W.K. Kellogg Foundation, 2004). Research has shown that these models improve planning by identifying gaps in the study, aid in the reproducibility of successful studies, and identify failures of unsuccessful studies (Funnell & Rogers, 2011; Smith et al., 2020). The IRLM includes four fundamental elements that describe the causal pathway of change: (1) determinants, (2) implementation strategies, (3) mechanisms of action, and (4) outcomes.

Determinants are context-specific barriers and facilitators of implementation. We identified relevant determinants for our project using the Consolidated Framework for Implementation Research (Breimaier et al., 2015). *Implementation strategies* are used to support the adoption of evidence-based innovation into routine care. *Mechanisms of action* are the processes through which implementation strategies affect outcomes (e.g., change in a determinant). *Outcomes* are the effects of purposeful actions to implement evidence-based innovation (e.g., indicators of implementation processes).

Participants

Audiology clinical educators and graduate student clinicians from one clinical facility were invited to participate in the study in-person and via email. Participants were directed to a unique link hosted by REDCap, a secure online research platform, to provide informed consent. This study was conducted from September 2022 to April 2023. Five clinical educators and five graduate students participated. Participants were in clinic varying amounts, from one to five days per week, during the study period. Participants reflected on their direct engagement talking with clients; they were assessed individually. Graduate student participants provided counseling in sessions and clinical supervisors provided support as needed. After appointments, clinical supervisors met with graduate students to debrief sessions as part of their typical clinical process.

Procedures

Clinical educators and graduate students completed questionnaires at the start and conclusion of the study via REDCap. Following the baseline assessment at the beginning, participants were scheduled for debriefing sessions with a member of the research team (KM or GSM); KM was one of the developers of the AAQ-AHL and AAQ-MCHL and GSM is a PhD Psychology graduate student. During the first month, participants attended two debriefing

sessions, two weeks apart, then monthly for the remainder of the study, to give participants opportunities to see new clients and experience discussions from the screenings between debrief sessions. Debriefing sessions lasted approximately 15 -30 minutes and were conducted with each participant individually. Sessions were guided by a list of open-ended questions (Appendix E) to explore the clinician's experience with the screening and how they navigated talking about patients' emotions and thoughts within the session. During debriefing sessions, the researchers documented topics of discussion with participants in REDCap. Support needs identified during debriefing sessions were noted and a shared plan to address needs was developed.

Measures

Participants completed three questionnaires at the start of the study: demographic, Acceptance and Action Questionnaire (AAQ-II; Appendix F), and a confidence rating scale. The AAQ-II and confidence rating scale were completed again at the end of the study.

Demographic Questionnaire

The demographic questionnaire queried participant characteristics including age, gender identity, racial identity, role (i.e., clinical educator; graduate student), and whether a counseling course had been taken.

AAQ-II

The AAQ-II (Bond et al., 2011) is a 7-item measure widely used to assess for general psychological inflexibility (e.g., "My painful memories prevent me from having a fulfilling life"). Items are rated on a 7-point scale ranging from 1 *never true* to 7 *always true*. Total scores range from 7-49 with higher scores indicating greater psychological inflexibility. This measure has been validated indicating strong internal reliability ($\alpha = 0.89$). Participants completed the AAQ-II to assess their general psychological inflexibility because how they deal with distressing

thoughts and emotions could influence their learning in a study focused on talking with patients about their difficult emotions and thoughts.

Confidence

This 9-item questionnaire assessed participants' confidence related to aspects of counseling. Items were rated on a scale of 0-100 ranging from 0 *not confident at all* to 100 *completely confident*. Participants rated their level of confidence for each item (e.g., "finding out underlying worries/concerns about your client"). This self-report measure was developed for the study to explore participant self-efficacy related to engaging in counseling skills.

Analysis

Quantitative data for the AAQ-II and confidence scales were analyzed using descriptive statistics. For the total scale confidence ratings, the clinical educator and graduate student samples were combined as they were not found to be significantly different using the Mann-Whitney U test (Mann & Whitney, 1947). The sample was found to be normally distributed using the Wilcoxon signed-rank test (Wilcoxon, 1945) and a paired sample t-test (Statistics Kingdom, n.d.) was used to compare pre- and post-confidence total rating scores. For total AAQ-II scores, the clinical educators and graduate students were combined as they were not found to be statistically different using the Mann-Whitney U. A Wilcoxon signed-rank test was used to compare pre-and post-AAQ-II ratings; the sample was not normally distributed.

Debriefing notes were extracted from REDCap and combined in an Excel spreadsheet within a secure research Box folder. A member of the research team (SG) identified emergent themes, referred to as meaningful discussion units, as this information was identified from the debriefing notes, not discussion transcripts. The trends were identified across all debriefing sessions and participants in an iterative process three different times during the study period.

Members of the research team (SG, KM, GSM) met and reviewed the trends to track implementation progress including identified challenges and support needed. The frequency of meaningful discussion units were calculated for all participants. Themes are described, and those that were predominant to a role (i.e., clinical educator, graduate students) are noted.

Results

Ten individuals participated in this study: five clinical educators (age $M = 38.4$, $SD = 9.06$) and five graduate students (age $M = 24.6$, $SD = 1.85$). Five participants identified as female. Seven identified as white and three participants identified as Hispanic. Seven of the participants reported they had previously taken a counseling course (four clinical educators; three graduate students).

AAQ-II and Confidence

Participants completed the AAQ-II to assess their general psychological inflexibility at the start and end of the study (Table 1) to explore presence of this as a factor that could influence the learning process. We did not expect to see scores change from pre- to post-assessment as the study did not target decreasing participant psychological inflexibility. Results of the Wilcoxon signed-rank test indicated that there was a non-significant difference between pre-AAQ-II ratings ($Mdn = 15$, $n = 10$) and post-AAQ-II ratings ($Mdn = 15.5$, $n = 10$), $Z = -0.2$, $p = .833$, $r = -0.07$. Scores ranged from 7-33 (pre) and 7-27 (post).

Participants rated their confidence related to aspects of counseling at the start and end of the study (Table 2). Results of the paired sample t-test indicated that there was a non-significant difference between pre-confidence ($M=668.8$, $SD = 167.7$) and post-confidence ratings ($M = 713.8$, $SD = 104.2$), $t(9) = 0.9$, $p = .403$). The variability in confidence reduced from pre- to post-ratings.

Implementation Themes

Four themes emerged from the debriefing sessions with participants for implementation outcomes (Table 3). The frequency of meaningful discussion units for each theme differed between clinical educators and graduate students: *Learning Process* (clinical educators 39%; graduate students 32%), *Clinician Confidence* (clinical educators 21%; graduate students 35%), *Barriers* (clinical educators 6%, graduate students 33%), and the fourth theme, *Supervision*, was only present for clinical educators (34%).

Learning Process

Three sub-themes were identified within learning process: screening as a bridge for discussing emotions, future learning needs, and logistics. Most (7/10) participants reported that the monthly debriefs helped them reflect on their counseling skills in remembering the importance of attending to how they are implementing these skills. More than half (6/10) of the participants reported that the screening was helpful in guiding their discussions about patient mental well-being and assisted them in identifying patients' underlying concerns.

Learning needs were identified by participants (7/10). Participants reported a desire for more practice with patients experiencing strong emotions. To support this, role play opportunities were provided four different times. Half of the participants desired additional resources such as written information and video examples. Counseling performance feedback documents were updated during the study to include more examples (Appendix G) and role play videos were edited to indicate specific skills used. Both resources were provided to participants. Participants also recognized that the screening was helpful for new patients and that it may also be useful for existing patients (e.g., during the hearing aid trial).

Few participants (2/10) mentioned having difficulty including the screening within routine care. This concern stemmed from forgetting to check screening scores before patient appointments. This sub-theme was only present for graduate students and resolved after the first debrief as participants reported no further challenges implementing it into their routine.

Confidence

There were three sub-themes within confidence: feeling comfortable, feeling uncomfortable, and increasing comfort. During each debriefing discussion, participants shared their feelings talking with patients about their emotions. At some point in the debriefing process, most of the participants (7/10) talked about feeling comfortable discussing feelings and emotions with their patients. A little more than half (6/10) talked about feeling uncomfortable with some aspect of discussing patient emotions and expressed feelings of concern such as making the patient feel uncomfortable, feelings of awkwardness when asking questions related to mental well-being, and not wanting to validate patient emotions while their supervisor was in the room. Many participants (7/10) mentioned that their confidence increased during the study due to the screening and debriefing process as it helped increase their skills and normalized discussing patient feelings and emotions.

Barriers

Two sub-themes were found within barriers: feelings of uncertainty and concerns related to time. Most participants (7/10) reported having feelings of uncertainty. Hesitancies were described as not knowing what questions to ask patients, not knowing how to validate patient emotions, not knowing what to do after validating concerns, and not knowing how to help when clients experience more difficult emotions. A few participants (3/10) reported having concerns related to how much time it would take to address emotions during the appointment.

Supervision

Two sub-themes emerged within supervision: strategies and barriers. All clinical educators identified various strategies to support student learning: importance of modeling counseling skills, providing students with timely and explicit feedback, and taking time during appointment preparation and debriefing to discuss client emotions. Giving the students space to practice implementing skills with patients was also described in strategies for scaffolding support. The importance of creating a comfortable environment was discussed to help students feel they can be vulnerable to try new skills as they work to gain confidence. More than half (3/5) of the clinical educators reported barriers to teaching students. Barriers included feelings of uncertainty regarding how to instruct students on the implementation of counseling skills, not remembering to think about client emotions, worries of compromising patient care, and a belief that students should focus on learning and applying technical aspects of audiology before working on their counseling skills.

Discussion

This study aimed to investigate barriers and facilitators experienced by clinical educators and graduate students when talking with patients about difficult emotions and thoughts related to their hearing. Emotions and thoughts can influence behavior and the patients' ability/inability to take steps to address their hearing difficulties. Although audiologists recognize the importance of counseling, they have reported a struggle in knowing how to ask about and respond to patient emotions (Muñoz et al., 2019). If internal challenges are left unaddressed, they are likely to interfere with effective hearing management. Two important insights emerged from this study: (1) the value of incorporating a screening tool, such as the AAQ-AHL and AAQ-MCHL, into routine audiology practice to prompt discussions to understand and address patients' internal

challenges, and (2) the role of audiology training programs to support students in developing counseling skills.

Screening patients for internal barriers can help audiologists identify when concerns are present. Relying on patients to bring up their distressing thoughts and emotions related to their hearing loss is ineffective as the challenges are likely to remain unspoken and can interfere with the treatment process. While some individuals may openly discuss their struggles, research has shown that patients are more likely to discuss their challenges when a provider initiates that conversation (Bennett et al., 2021). In contrast, audiologists have reported waiting for their patients to raise the topic of mental wellbeing (Bennett et al., 2022). However, even when patients raise the topic, audiologists have been found to ignore the emotional concerns expressed and provide a response focused on the technical aspects of their hearing care (Ekberg et al., 2014). The process of purposefully screening for the presence of internal challenges can prepare and guide audiologists in this discussion.

Screenings have been used as a mechanism to assess for an individual's mental wellbeing across many disciplines for some time (Shields et al., 2021). These tools can be used to help identify individuals experiencing psychological distress for the purpose of addressing their underlying thoughts and feelings that interfere with the treatment process. In our study, clinical educators and graduate students expressed that inclusion of the screening helped them remember to explore patients' internal experiences and facilitate discussions about emotional well-being. Alternatively, audiology patients and providers have reported that addressing emotional distress and asking how hearing loss has impacted emotional wellbeing is more important than screening for emotional distress/psychological symptoms (Bennett et al., 2021). In another study that explored the inclusion of a screening in an audiology practice, audiologists reported concerns

that patients would perceive the screening as intrusive, in addition to feelings of uncertainty in talking to patients about their emotions. Patients, however, were overwhelmingly positive about the inclusion of the screening during their audiology appointment (Muñoz et al., 2017).

Providing holistic hearing care requires clinicians to understand patients' internal experiences and a screening tool can serve as a bridge to engage in conversations beyond the technical aspects of care.

Perceived barriers can interfere with provider ability to fully engage in person-centered care. A holistic approach to hearing care includes understanding patients' internal experiences; however, clinicians' thoughts, feelings, and perceptions can influence how they engage with patients, conversations they invite, and what is addressed during the appointment. In the current study, both clinical educators and graduate students expressed feelings of uncertainty in how to approach discussions with patients. In other studies, audiologists have reported feelings of uncertainty, lack of knowledge and skills related to supporting patients' internal challenges (Bennett et al., 2022; Muñoz et al., 2019), and worries about the time needed to address patient emotions (Bennett et al., 2022; Finai et al., 2018). The internal barriers audiologists experience can influence how they approach clinical care decisions which could then affect patient outcomes. In our study, the desire for learning support was evident from requests for tangible resources and opportunities, such as role play, to receive explicit instruction.

A potential barrier to engaging in discussions about patients' internal barriers could be how providers cope with their own difficult thoughts and emotions. In our current study, participants completed a general psychological inflexibility measure to consider how they respond to feeling distressed. The measure provides an indicator, the higher the score the greater the psychological inflexibility; there are not cutoffs for levels. Two of the participants had

elevated scores at the beginning of the study and reported feeling uncomfortable talking about emotions with their patients. At the end of the study, they had lower scores and expressed feeling increased confidence. While the debriefing support provided in this study was not aimed at reducing psychological inflexibility, the experience of support may have contributed to participant awareness of and response to their internal experiences. Clinical educators' awareness of how they respond to their own internal experiences may also contribute to how they approach supervision with students for counseling skill development.

Counseling has long been recognized as an important part of audiological practice. While the number of audiology training programs offering a counseling course has increased in recent years (Whicker et al., 2017), students have reported variability in the content and support they receive (Whicker et al., 2018). Practice guidelines support evidence-based counseling in audiology (ASHA, n.d.); however, the extent of uptake and implementation among programs is unclear. Strategies such as standardized patients (Alanazi et al., 2016; Schroy, 2015; Wilson et al., 2010) and targeted feedback (Alanazi et al., 2016; Finai et al., 2018; Wilson et al., 2010) have been used in counseling instruction for students; however, carryover of skills into routine practice is unknown (Whicker, 2020). Muñoz and colleagues found that among 205 clinical supervisors, just over half (53%) felt confident in their ability to teach students how to talk with patients about difficult emotions and less than half (47%) could explain their rationale behind their strategy (2018).

For students to develop confidence in using counseling skills routinely in practice, they need explicit instruction, opportunities to observe these skills, and support over time that includes feedback on their performance. In the current study greater confidence was verbally expressed over time; however, confidence ratings did not increase significantly from pre- to post.

This may be reflective of knowledge gaps. Not all the participants reported previous counseling training, and elements included in counseling education are variable. New graduate students are tasked with learning complex technical skills, and in our study, some clinical educators expressed that determining when and how to include instruction on student communication with patients and families is unclear. The debriefing discussions helped clinical educators process their conflicting thoughts related to a desire to support counseling skill development and uncertainty about when and how to provide explicit instruction. Students communicate with clients from their first encounter and begin developing habits. Beck and Kuzler (2018) recommend teaching graduate students microskills for counseling early and evaluating skill development, as these skills form the foundation for building a therapeutic alliance with patients. Addressing patients' emotions and experiences with their hearing loss in a holistic manner can feel uncomfortable. To provide person centered care, clinical educators have a responsibility to help students learn how to communicate with patients. This communication begins with awareness of communication elements that support person centered care (e.g., validating emotions and shared decision making) for each clinical encounter as students gradually learn to communicate and expand their counseling skill set.

Learning new information and skills can be time consuming and difficult to integrate into practice (Moodie et al., 2011). Implementation science can facilitate the efficiency and effectiveness of the uptake of new EBPs (Westfall et al., 2007). Implementation strategies such as audit and feedback (Crawshaw et al., 2023) and communities of practice (McWilliam et al., 2009) can be used to improve the quality and delivery of healthcare. Including implementation science in the field of Audiology is necessary to increase the public health impact of EBP (Studts, 2022).

There are limitations that should be considered when interpreting the findings. The study represented the experiences of clinical educators and graduate students at one facility, practicing within a context specific to that facility. The results of this study cannot be generalized to other clinicians in other facilities. Study outcomes relied on self-report, debriefings were provided relatively infrequently, and verification of counseling skill implementation (e.g., video) was not included. More frequent debriefings, inclusion of additional learning strategies, and objective outcome measures may have been more effective in supporting and identifying behavior change.

Conclusion

The current study investigated barriers and facilitators experienced by clinical educators and graduate students when talking with patients about difficult emotions and thoughts related to their hearing after incorporating the AAQ-AHL and AAQ-MCHL into routine practice. The findings revealed that the screening helped clinicians remember to talk with patients about their thoughts and emotions. The study also provided insights related to the influence of clinicians' hesitations to talk about patient emotions, as well as barriers and strategies clinical educators experienced in teaching students to be aware of and talk about internal barriers with patients.

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Data Availability Statement

The datasets generated and analyzed during the current study are available from the corresponding author upon reasonable request.

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Table 1

Patient Psychological Inflexibility Total Scores Pre- and Post- Study

| Participant ID | Pre-AAQ-II Score | Post-AAQ-II Score |
|-----------------------|-------------------------|--------------------------|
| 1 | 8 | 7 |
| 2 | 7 | 7 |
| 3 | 13 | 10 |
| 4 | 15 | 15 |
| 5 | 33 | 16 |
| 6 | 33 | 25 |
| 7 | 23 | 27 |
| 8 | 24 | 27 |
| 9 | 15 | 16 |
| 10 | 8 | 12 |

Note: Acceptance and Action Questionnaire (AAQ)

Table 2*Confidence with PCC/Counseling Skills Pre- and Post- Study*

| Skill | Pre-Implementation | | Post-Implementation | |
|---|--------------------|--------|---------------------|--------|
| | Mean (SD) | Range | Mean (SD) | Range |
| Showing nonverbal attentiveness to your client | 79.3 (22.9) | 20-100 | 88.6 (7.34) | 80-100 |
| Giving nonverbal encouragement to your client | 79.6 (17.9) | 40-100 | 86.6 (9.65) | 70-100 |
| Giving verbal praise for things will done to your client | 83.7 (17.8) | 52-100 | 85.9 (13.5) | 60-100 |
| Finding out underlying worries/concerns about your client | 64.5 (19.7) | 39-84 | 71.3 (18.8) | 38-100 |
| Giving specific reassuring information | 64.8 (26.5) | 10-90 | 71.1 (16.6) | 45-100 |
| Tailoring hearing/hearing aid education to client priorities | 79.6 (19.0) | 45-100 | 71.1 (16.4) | 50-100 |
| Reaching agreement on a short-term goal with your client | 73 (22.01) | 40-100 | 78.7 (13.5) | 50-100 |
| Reviewing the long-term therapeutic plan with your client | 74.7 (23.2) | 40-100 | 79.1 (13.3) | 50-100 |
| Helping patient to use criteria for making decisions about hearing aid management | 69.6 (19.6) | 45-96 | 75.4 (13.9) | 50-100 |

Table 3

Frequency of Meaningful Conversation Units for Implementation Themes

| Themes | Frequency % (n) | Sub Themes | Frequency % (n) |
|-------------------------|------------------------|--|------------------------|
| Learning Process | 36% (59) | | |
| | | Screening as a bridge for discussing emotions | 49% (29) |
| | | Future learning needs | 47% (28) |
| | | Logistics | 4% (2) |
| Confidence | 27% (45) | | |
| | | Feels comfortable | 48% (22) |
| | | Increasing comfort | 34% (25) |
| | | Feels uncomfortable | 18% (8) |
| Supervision | 19% (31) | | |
| | | Strategies | 81% (25) |
| | | Barriers | 19% (6) |
| Barriers | 18% (30) | | |
| | | Feelings of uncertainty | 83% (25) |
| | | Concerns related to time | 17% (5) |

Note: Percentages reflect the percent of the total meaningful conversation units related to responses to questions during debriefing sessions.

Appendix C

Logistical Issues

| Date | Description of Problem | Resolved? |
|-------------|--|------------------|
| 05/22 | Clinicians had difficulty finding the screening surveys in Point and Click (PNC). | Yes |
| 06/22 | Patients answered "yes" to the screening question, but the score never came into PNC. | Yes |
| 06/22 | Patients completed screening, but the score never came into PNC because the client did not click "submit". Data was erased due to the length of time. | Yes |
| 06/22 | Patients were unable to return to previous questions to revise answers. | Yes |
| 06/22 | Patients attempted to change survey answers and were booted back to the start of the survey. | Yes |
| 06/22 | Surveys were not going through to PNC after completion. | Yes |
| 09/22 | Clinicians forgot to review survey scores in PNC before patient appointments. | Yes |
| 10/22 | The initial question assessed whether the patient needed to fill out the screening. The wording of this question caused confusion and led many participants to not complete the screening. | Yes |

Appendix E

Check-In Questions

1. How did it go?
2. What challenges do/did you experience?
3. What would you like help with?
 - a. This is where we would offer the most feedback
4. How did you feel talking with your client about their feelings related to their hearing loss/hearing aids?
5. What goals do you have now as you move forward with your clients?
6. What support do you need for assessing and discussing patient internal challenges going forward?

Appendix A

AAQ-AHL

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------------|-------------------------|--------------------|-----------------------|------------------------|---------------------------|--------------------|
| never true | very seldom true | seldom true | sometimes true | frequently true | almost always true | always true |

I am leading a full life despite my frustration with hearing loss. 1 2 3 4 5 6 7

My life is going well, despite negative thoughts and feelings about my hearing loss. 1 2 3 4 5 6 7

My frustration with hearing loss has made me less involved in activities I enjoy. 1 2 3 4 5 6 7

I wish I could control negative thoughts and feelings about my hearing loss. 1 2 3 4 5 6 7

Frustration with hearing loss does not interfere with my goals. 1 2 3 4 5 6 7

Despite negative thoughts and feelings about my hearing loss, I can still take care of my responsibilities. 1 2 3 4 5 6 7

I struggle to get things done because of my frustration with hearing loss. 1 2 3 4 5 6 7

I need to manage negative thoughts about my hearing loss to have control over my life. 1 2 3 4 5 6 7

My negative thoughts and feelings about my hearing loss lead me to avoid situations. 1 2 3 4 5 6 7

I worry about what others think of my hearing loss. 1 2 3 4 5 6 7

I spend a lot of time thinking how things would be for me without hearing loss. 1 2 3 4 5 6 7

Frustration with my hearing loss keeps me from effectively treating and managing it. 1 2 3 4 5 6 7

Appendix B

AAQ-MCHL

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------------|-------------------------|--------------------|-----------------------|------------------------|---------------------------|--------------------|
| never true | very seldom true | seldom true | sometimes true | frequently true | almost always true | always true |

My frustration with my child's hearing loss has negatively affected my parenting. 1 2 3 4 5 6 7

I wish I could control negative thoughts and feelings about my child's hearing loss. 1 2 3 4 5 6 7

I need to manage negative thoughts about my child's hearing loss to be a better parent. 1 2 3 4 5 6 7

My negative thoughts and feelings about my child's hearing loss lead me to avoid situations. 1 2 3 4 5 6 7

I worry about what others think of my child's hearing loss. 1 2 3 4 5 6 7

I suppress negative thoughts and feelings related to my child's hearing loss. 1 2 3 4 5 6 7

I spend a lot of time thinking about how things would be for me without my child's hearing loss. 1 2 3 4 5 6 7

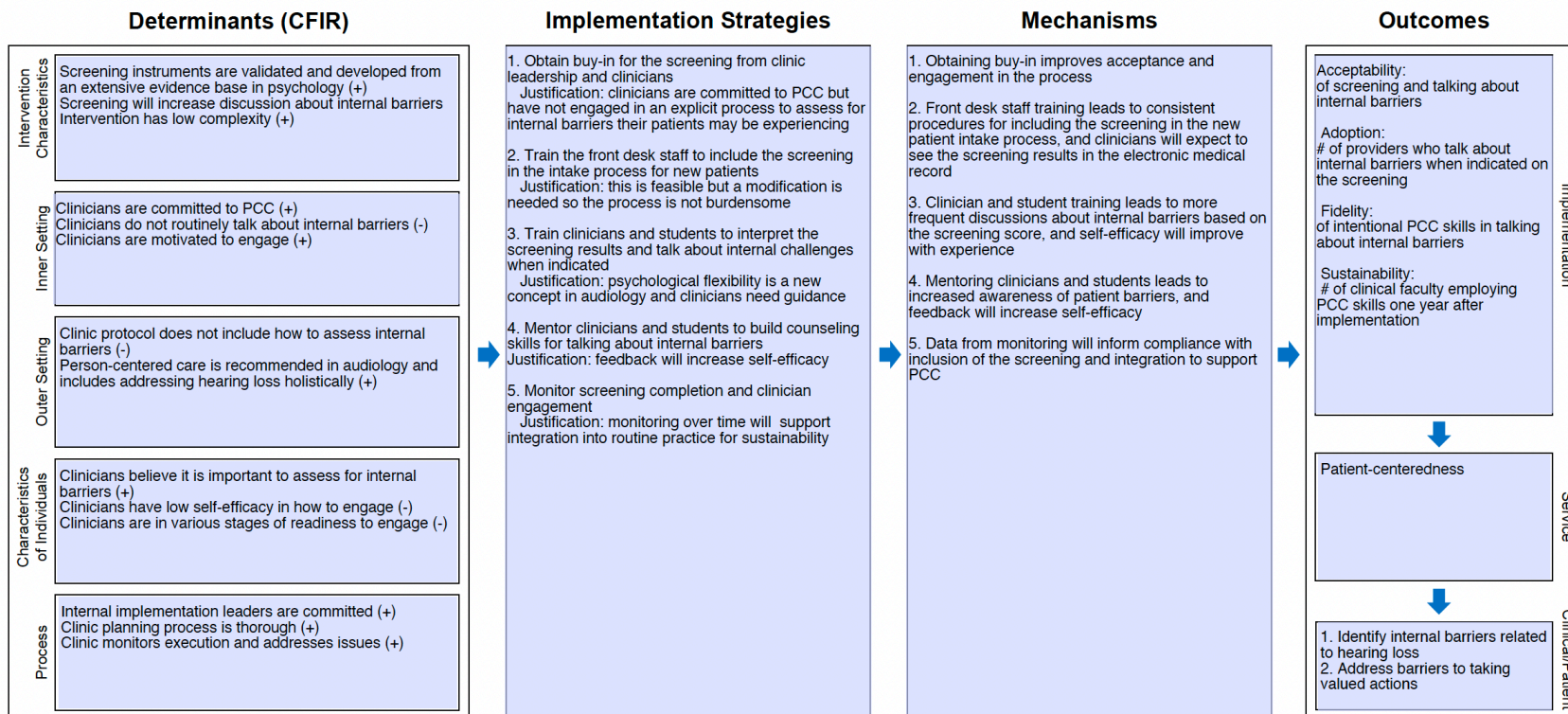
Frustration with my child's hearing loss keeps me from effectively treating and managing it. 1 2 3 4 5 6 7

Appendix D

Implementation Planning

Implementation Research Logic Model (IRLM)

Project Title: Hearing loss psychological flexibility screening (AAQ-AHL and AAQ-MCHL): provider experiences talking with patients about difficult emotions and thoughts



Smith, Rafferty & Li, 2020

Date:

Version:

Appendix E

Counseling Performance Feedback Form

| SKILLS | DATES OBSERVED | | | | | | |
|--|----------------|--|--|--|--|--|--|
| | | | | | | | |
| NONVERBAL COMMUNICATION | | | | | | | |
| Includes body position, eye contact, posture, distance from client, voice tone, rate of speech, facial expressions, etc. | | | | | | | |
| ENCOURAGERS | | | | | | | |
| Includes minimal encouragers (e.g., head nods, uh-huh) and door openers (e.g., tell me more about...) | | | | | | | |
| QUESTIONS | | | | | | | |
| Includes use of appropriate open and closed questions; avoids leading and stringing questions together | | | | | | | |
| VALIDATION | | | | | | | |
| Content: Responding to patient emotions, feelings (e.g., empathy, reflection) | | | | | | | |

| SKILLS | DATES OBSERVED | | | | | | |
|--|----------------|--|--|--|--|--|--|
| | | | | | | | |
| Feelings: Includes positive and negative emotions | | | | | | | |
| SHARED AGENDA | | | | | | | |
| Includes collaboration with patient to establish a plan and priorities for the session | | | | | | | |
| SHARED PLANNING | | | | | | | |
| Includes collaboration with client for shared decision-making, problem-solving, monitoring progress | | | | | | | |
| PROVIDING INFORMATION | | | | | | | |
| Includes asking permission, checking in for understanding, individualizing content, offering choices, avoiding jargon | | | | | | | |
| EFFECTIVE FEEDBACK INCLUDES: (1) discussing skills/concerns ahead of time, (2) discussing/reflecting on performance after session, (3) reviewing and discussing specific skills in audio/video of session, (4) role playing skills, and (5) setting goals | | | | | | | |

Note: Developed by Muñoz, K., Twohig, M., & Ong, C (2018) with support from the American Academy of Audiology/American Academy of Audiology Foundation Research Grants Program. Updated 2022 as part of an implementation science study.

SKILL EXAMPLES

OPEN-ENDED QUESTIONS: *Benefits:* engages patient/parent, expands your understanding, and increases patient/parent commitment

Tell me about how you are doing with . . .

Tell me what has been most difficult for you with . . .

You seem frustrated, tell me how frustration is getting in the way of . . .

When do these thoughts [their difficult thought they shared] show up for you?

What part of this are you worried about?

What part of this is going well for you?

What will happen if things don't change [regarding their difficulty hearing]?

VALIDATION: *Benefits:* responding to emotions helps patient/parents feel understood, shows that you care, clarifies their concern, and reduces impact of emotion on behavior

This is really difficult and what you are feeling makes sense for this situation

I can see that this is important to you.

Yeah, I can see how that might make you feel really sad.

I'm thinking **this** must have been (upsetting, sad, frightening, scary, etc.) **for you**.

What a frustrating situation to be in.

That's got to be so (difficult, upsetting, frustrating, etc.) for you.

That must have been very upsetting for you.

I'm thinking **you** must have been (upset, sad, frightened, scared, etc.).

Continue exploring emotion/concern until patient/parent is done (nothing new shows up). Then transition to addressing needs. (e.g., So, what is your next step? I bet you are wondering where we go from here.)

SHARED PLANNING: *Benefits:* respects patient/parent autonomy, identifies their needs and priorities, increases engagement, recognizes their role in behavior change

Opportunities: agenda setting, decision-making, goal setting, action planning

Asking permission: respects patient autonomy, allows patient to state if they are ready/safe to go there, engages patient, can tailor information provided

What is important for you that we be sure to address/include in our discussion today?

Patients/parents have shared strategies that help with . . .; would you like me to tell you what has helped others?

After discussing hearing results: With your hearing loss, hearing aids can help you hear the sounds you are missing. What are your thoughts on using hearing aids? **Open-ended question helps you understand patient** [based on discussion, follow up with another open-ended question] What would be helpful to talk about/do today?

Hearing aid fitting appointment: Today we will talk about how to use and care for your hearing aids, what questions do you have as we get started? **Open-ended question helps you understand patient priorities, you can start with what is most pressing for the pt. This supports shared planning for the appt.**

Appendix F

AAQ-II

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------------|-------------------------|--------------------|-----------------------|------------------------|---------------------------|--------------------|
| never true | very seldom true | seldom true | sometimes true | frequently true | almost always true | always true |

My painful experiences and memories make it difficult for me to live a life that I would value. 1 2 3 4 5 6 7

I'm afraid of my feelings. 1 2 3 4 5 6 7

I worry about not being able to control my worries and feelings. 1 2 3 4 5 6 7

My painful memories prevent me from having a fulfilling life. 1 2 3 4 5 6 7

Emotions cause problems in my life. 1 2 3 4 5 6 7

It seems like most people are handling their lives better than I am. 1 2 3 4 5 6 7

Worries get in the way of my success 1 2 3 4 5 6 7