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COUNSELING COMPETENCIES IN AUDIOLOGY: IMPORTANT KNOWLEDGE,  
SKILLS, AND ATTITUDES

by

Alex R. Meibos

A dissertation submitted in partial fulfillment  
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

In

Disability Disciplines

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Logan, Utah

2018

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## ABSTRACT

Counseling Competencies in Audiology: Important Knowledge,  
Skills, and Attitudes

by

Alex R. Meibos, Doctor of Philosophy

Utah State University, 2018

Major Professor: Karen F. Muñoz, Ed.D.  
Department: Special Education and Rehabilitation

The purpose of this study was to identify knowledge, skills and attitudes that are important for audiologists to possess to provide effective audiologic counseling. To achieve this, an expert panel of researchers and clinicians with expertise in audiologic counseling were recruited to establish consensus, using a modified electronic Delphi technique. Panel members were asked to generate and rate several items regarding important knowledge, skills, and attitudes needed for the implementation of effective audiologic counseling in practice. The Delphi technique uses a series of survey instruments to collect data from a panel of selected experts for building consensus concerning a specific topic where little is known or little consensus has been established in the literature.

The first round of the survey generated 72 items that participants in Round Two rated on a 6-point scale of importance regarding the extent they believed each item was important for audiologists to possess to provide effective counseling in practice. In the

final round of the Delphi survey, participants were provided with the response rate, mean, and standard deviation for each of the items rated during Round Two, and asked to rerate each item based on the information provided. After Round Three, final consensus was met on 64 counseling competency items (16 knowledge, 35 skills, and 13 attitudinal items) deemed important for audiologists to possess. The results of this study revealed that current practice guidelines in the field lack the necessary clarity and detail audiologists need to be able to provide effective counseling in practice. Items that met consensus in this study can inform counseling competencies students can acquire during graduate training. Future research is proposed to explore what is needed to move these competencies forward into training/practice and to help improve audiologic patient/family outcomes.

(126 pages)

## PUBLIC ABSTRACT

Counseling Competencies in Audiology: Important Knowledge,  
Skills, and Attitudes

Alex R. Meibos

The purpose of this study was to identify counseling competencies considered important for audiologists to possess to provide effective counseling in practice. To achieve this, researchers and clinicians with expertise in audiologic counseling, were recruited to participate in a three-round consensus survey. These experts were asked to generate and rate a list of counseling competency items they believed were important for audiologists to possess. In the final round of the study, final consensus was met on 64 counseling competency items (16 knowledge, 35 skills, and 13 attitudinal items) deemed important for audiologists to possess. The results of this study revealed that current practice guidelines in the field lack the clarity and detail necessary for audiologists to provide effective counseling in practice. Items that met consensus can inform counseling competencies students can acquire during pre-professional training. Future research is proposed to explore what is needed to move these competencies forward into training/practice and to help improve audiologic patient/family outcomes.

## ACKNOWLEDGMENTS

I wish to first express my sincere appreciation and gratitude to my mentor, Karen Muñoz, for believing in me and my potential, particularly when I doubted my own abilities. I have learned from her example a tremendous amount about what it takes to be an effective communicator, audiologist, teacher, researcher, writer, and mentor. I would never have been able to complete this study nor my doctoral work without her ongoing faith, support, encouragement, and patience. Thank you, Dr. Muñoz!

There are several others whose work, time, and experience have greatly influenced me on my path. First and foremost, the frontrunners who made much of the audiology education available at USU possible: Steven H. Viehweg and James C. Blair. Others, who unconditionally inspired and supported me, seeing strengths I at times had a hard time seeing in myself include: David Fullmer, Scott Wilson, Vance Larsen, James Burton III, David Blackinton, Sonia Manuel-Dupont, John Ribera, Dee Child, and Kristina Blaiser; audiologists who had the patience and determination to help supervise/teach and make me not just a better clinician, but a more caring human being: Heather Jensen, Jeffery Larsen, Amy Porter, Tiffany Shelton, Elizabeth Preston, Cache Pitt, Joe Dansie, Curtis Thomas, Robert L.B. Stevenson, Andrew Cobabe, Kody “KTG” Kennington, Johnny Foster, and Liz Hankins; research mentors who helped me to better understand the world of audiology research: Karl White, Lauri Nelson, Brittan Barker, Donal Sinex, and Sarah Yoho Leopold; and to the singular faculty who supported my counseling research interests and saw something in me, and this profession, they were willing to support: Michael Twohig, Jared Schultz, and Timothy Riesen.

I also wish to thank the many patients/families I have met, and who have taught me through their experiences. I additionally appreciate my fellow classmates, including the ever-inspiring alumni: Chalese Marva Buttars, Daniel Roberts, Vauna Gross, Sarah Cordingley, Quin Card, Annie Hayden, Melanie Hill, Haleigh (Schofield) White, Brittany Martinez, Karyn Storey, Whitney (Olson) Bennett, Monica Weston, Wyatt Rasmussen, Suzy Reed, Lisa Rose, Annette Lanning; my friends in my AuD cohort: Stephanie Rusk, Hannah McLeod; exemplary PhD students in my Disabilities Disciplines program: Carla Orellana, Sarai Holbrook, Rebekah Wada, Eliza Jex, Cesar “Rodri” Galdamez, and a true friend and colleague, Ana Beatriz Caballero, MD, AuD; and all others who made an meaningful impression: Clarissa Ong, Grayson Butcher, Christina Heitzinger, Tiffany Sawin, McKay Kunz, Victoria Reyes, Brittany Bown, Kristin Kibbe, Joshua Pluim, Mark Stevenson, Tanner Price, Tom Call, John “JJ” Whicker, Madison Murphy, Hannah Jones, Dane Whitaker, Jalin Finai, Corinne Coleman, Shea Long, Madison Buntrock, Kirany (Gines) Bennett, Kacy Herald, Taylor Chafin, Nikki Pearson, Bailey Reynolds, Makynzie Larsen, Nicole Thiede, Monica Muncy, and Caitlyn Ritter. The advisers/staff and their daily doses of optimism: Heather Thomas, Tonya Jewell, Michelle Wilson, Brynn Davies, Heather Humphries, Valerie Donohoe, Wendy Thompson, Shauna Meikle, and Tracy Cowley. My parents/siblings/grandparents for their enduring love and support; my three children: Carly, Liana, and Adelyn. Most of all, my wife, Caydee, for her love, patience, support, and ability to endure this experience better than I could’ve ever imagined. After eight years of marriage, I look forward to the next chapter in our lives.

Alex R. Meibos



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## CHAPTER I

### INTRODUCTION

Counseling practices in audiology play a critical role in helping patients and families understand, accept, and adjust to the impacts of auditory, vestibular (balance), or other ear related disorders (American Speech-Language-Hearing Association [ASHA], 2006a). Negative functional impacts of these disorders can place significant limitations on effective communication, the ability to acquire spoken language skills, to perform in school or at work, and to effectively maintain relationships. Social and emotional impacts of these disorders on patients and families can include feelings of embarrassment, isolation, depression, stress, or anxiety. Preparing audiologists to navigate challenges with their patients includes intentionally targeting the development of effective counseling knowledge, skills, and attitudes.

The provision of counseling within audiology has long included addressing two broad aspects of individual patient and family needs including (a) the need for information and (b) the need for personal-adjustment support (Clark & English, 2014; Luterman, 1976; Sanders, 1975). *Informational counseling*, as described in the audiology literature, refers to educating a patient regarding the nature and impact of their ear related disorder, how different interventions work to help limit negative impacts of the disorder, and how patients and families might implement them effectively. *Adjustment counseling* refers to audiologists helping patients identify and address internal barriers (e.g., denial, stress, anxiety) and external barriers (e.g., learning new information) associated with their ear related condition(s), and to help them reduce barriers by supporting patient and family

learning, self-efficacy, and self-management, with successful implementation of new skills in their daily lives.

While the importance of counseling patients and families in audiology has been long recognized, evidence indicates audiologists are not consistently implementing effective counseling skills to meet patient and family needs. Current practice guidelines in audiology lack sufficient depth related to counseling (American Academy of Audiology [AAA], 2004, 2006, 2012, 2013, 2015; ASHA, n.d., 2001, 2004, 2006a, 2006b, 2008), leaving expectations for audiologic counseling education and training vague. Counseling competencies, like other knowledge and skills audiologists are expected to learn (AAA, 1997; Council for Clinical Certification in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association [CCC-ASLP], 2012), need intentional instruction for acquisition to occur. Without careful attention to how counseling is described in our field, it is unlikely that professionals and graduate students will be purposeful in their approach to implement effective counseling skills. The use of consistent counseling terminology, and clearer expectations regarding the audiologist's role, can guide training related to knowledge, skills, and attitudes needed for effective audiologic counseling. Therefore, the purpose of this study was to identify the knowledge, skills, and attitudes that are important for audiologists to possess to provide effective counseling in practice.

## **CHAPTER II**

### **REVIEW OF THE LITERATURE**

Audiologists are allied healthcare professionals trained to help patients and families affected by a broad range of ear related disorders. Assessment for and treatment of hearing loss, auditory processing disorders, tinnitus, and vestibular disorders, are examples of chronic ear related disorders commonly addressed within their scope of practice (ASHA, 2004). These disorders are additionally categorized as physical, mental, or psychological disabilities (Smart, 2015), which if left untreated can significantly limit participation in major life activities (Americans with Disabilities Act [ADA], 1990). The present chapter: (a) describes populations seeking audiologic services and illustrate why effective counseling knowledge, skills, and attitudes are needed in audiology, (b) describes gaps that have been identified in audiologic counseling practices, and (c) discusses counseling training variability in graduate audiology education. The primary aim of this study was to delineate counseling knowledge, skills and attitudes audiologists need to learn to advance the implementation of effective support practices within the field of audiology.

#### **An Overview of Patient and Family Needs in Audiology**

The World Health Organization's (WHO) International Classification of Functioning, Disability and Health (ICF) theoretical framework provides a standard language and framework for describing individual functioning and health, while also promoting patient-centered practices in healthcare (WHO, 2001). The ICF framework is

used within a wide range of disability and health professions and is organized into two parts: (a) functioning and disability (body functions/structures and activity/participation) and (b) contextual factors (environmental and personal factors). Numerous researchers have suggested a paradigm shift toward this patient-centered framework in audiology (ASHA, 2004; Cherry, 2015; Clark & English, 2014; English, 2005; Erdman, 2013; Hickson, 2012; Schow & Nerborne, 2013; Sharma, 2016; Singh et al., 2016), moving away from a biomedical model (or site-of-lesion) approach. Experts agree that individuals affected by ear related disorders are impacted in diverse ways; because of the “types of activities they do, [the] societal roles they have, who they are, and the [environments] in which they participate” (Meyer, Grenness, Scarinci, & Hickson, 2016, p. 163). Two broad categories to consider related to audiologic assessment and treatment under the theoretical ICF framework, include (a) functional impacts and (b) social and emotional impacts of ear related disorders.

### **Functional Impacts**

Hearing can be described functionally as the ability to sense and interpret sounds to any meaningful extent (Schow & Nerbonne, 2013), and is critical to speech and language development, verbal communication, and learning. An individual who is not able to hear sounds as well as someone with normal hearing is said to have a hearing loss. An estimated 360 million people (5% of the world’s population), including 32 million children, have what is considered disabling hearing loss, according to the World Health Organization (WHO, 2017). It is the third most common chronic health issue after arthritis and heart disease in the U.S. (Blackwell, Lucas, & Clarke, 2014; Collins, 1997;



Tremblay, 2017), affecting an estimated 48 million individuals (20% of the population) age 12 or older (Lin, Niparko, & Ferrucci, 2011). Approximately 2-3 in every 1,000 children born in the U.S. are identified with permanent hearing loss at birth (Centers for Disease Control and Prevention [CDC], 2010), and almost 15% of school age children (ages 6-19) report some degree of hearing loss in the U.S. (Blackwell et al., 2014).

The primary functional impact of hearing loss is the inability to meaningfully detect, discriminate, identify, and understand/comprehend sounds, including verbal communication. Secondary functional impacts of hearing loss include varying levels of equal access to educational, vocational, and social opportunities. For children, untreated hearing loss can introduce significant challenges in learning, developing spoken language, and in building social skills to succeed in school and life. Adults and adolescents with untreated hearing loss experience distorted/incomplete access to communication that can seriously impact their professional and personal lives.

No two people, even with similar profiles of hearing loss, have the same experiences. Several characteristics describe the functional impact of hearing loss. Common causes include aging (presbycusis), prolonged exposure to loud noise, ear infections, head injuries, birth defects, genetic history, and or ototoxic reactions to drugs or medical treatments. Hearing loss can be *congenital* (present at birth), *prelingual* (identified before spoken language is developed), and *postlingual* (acquired after spoken language is developed). Three general types of hearing loss include conductive (outer/middle ear pathologies), sensorineural (inner ear and auditory nerve pathologies), and mixed (both outer/middle and inner ear pathologies), indicating the part(s) of the ear with functional deficits. Severity of hearing loss is described by the degree, varying from

minimal to profound, and can vary from one frequency to another, resulting in different hearing loss configurations. Other characteristics include hearing loss in one ear (unilateral) or both (bilateral), symmetrical (loss is similar in both ears) or asymmetrical (loss is different in each ear), progressive or sudden onset, and fluctuating hearing loss.

A small percentage of individuals in the United States, who have severe to profound hearing loss, are described as culturally D/deaf. The capital D refers to a cultural identification with the Deaf community, whereas the lower case deaf relates to individuals who do not wholly identify with the Deaf community. Some within this community prefer verbal communication, but most rely on some form of signed communication or sign language such as American Sign Language (ASL). Hearing loss in Deaf culture is not viewed as a disability, nor in any way a detriment to function; rather, they see society's reluctance to accommodate to their needs as what is disabling (Dobie & Van Hemel, 2004).

Functional impacts of other ear-related disorders (e.g. auditory processing disorders, tinnitus, vestibular disorders, etc.) may be subtle, can fluctuate, but most often impact functional listening and or meaningful participation in major life activities. Anywhere from 2-3% of children (Chermak & Musiek, 1997) to 70% of adults (Stach, Spretnjak, & Jerger, 1990) in the U.S. have been diagnosed with an auditory processing disorder (APD; central or neural hearing dysfunction). Kochkin, Tyler, and Born (2011) estimate that some 30 million people in the U.S. have tinnitus (the perception of acoustic stimuli in the absence of external acoustic stimuli), and that approximately 1 in 5 tinnitus sufferers report their tinnitus as disabling or nearly disabling. The prevalence of balance and vestibular related disorders in children is very low (likely less than 1% of the U.S.

population; O'Reilly et al., 2010); however, an estimated 35-40% of people in the U.S., regardless of age, are at risk for experiencing some form of disabling vestibular related challenge in their lifetime (Agrawal, Carey, Della Santina, Schubert, & Minor, 2009; National Institute on Deafness and Other Communication Disorders [NIDCD], 2014; Ten Voorde, van der Zaag-Loonen, & van Leeuwen, 2012).

In summary, individuals with ear related disorders present with a variety of functional impacts. Assessment of the impacts they experience, and how to address their challenges vary widely. Children and adults with these conditions are a heterogeneous population; audiologic counseling and services need to be individualized to help patients and families best understand and adjust to their disorder(s). The next section describes associated social and emotional impacts.

### **Social and Emotional Impacts**

Considerable negative social, psychological, cognitive, and health impacts have been reported by patients with untreated hearing loss (Arlinger, 2003; Chisolm et al., 2007; Kochkin & Rogin, 2000). For example, studies have linked untreated hearing loss in adults to feelings of anger, frustration, “embarrassment, fatigue, irritability, tension, stress, social isolation, loneliness, rejection, paranoia, anxiety, negativism, depression, personal safety, impaired memory, and relationship stress” (Dalebout, 2009, pp. 12-13). Negative patient reactions are commonly known to lead to reports of negative attitudes and uncooperative behaviors (Demorest & Erdman, 1989). These challenges are not unique to hearing loss, but are also associated with a wide variety of “secondary” health problems that have long been identified in the disability literature (Kinne, Patrick, &

Doyle, 2004; Ravesloot, Seekins, & Young, 1998; Seekins & Clay, 1994; Shontz, 1971). General social and emotional implications of living with hearing loss and other chronic ear related disorders can present different challenges among children and adolescents who grow up with these disorders, and among adults who acquire them later in life.

**Children.** For children who grow up with ear related disorders, even a mild or moderate condition can adversely impact spoken language acquisition and learning. When language, motor, or cognitive development is delayed compared to typical developing peers, there is a ripple effect on social development, “including self-concept, emotional development, family concerns, and social competence” (English, 2013, p. 244). Research to date has focused on hearing loss; the literature is scarce regarding psycho-social outcomes related to other auditory/vestibular disorders in children.

**Self-concept.** Self-concept can be described as self-image, identity, or how one sees oneself. How a child with an ear related disorder views themselves is not inherent when they are born; it is learned throughout their childhood from the input, feedback, and reactions of others who surround them. In a more general sense, children are likely to perceive themselves as their parents or other caregivers see them, which largely influences their self-concept. Capelli, Daniels, Durloux-Smith, McGrath, and Neuss (1995) learned from a sample of children with hearing loss (ages 6-12) and a sample of children with normal hearing in the same classrooms, that children with hearing loss perceived themselves as less socially accepted compared to children with normal hearing. A larger study (Bess, Dodd-Murphy, & Parker, 1998) asked school-aged children with mild hearing loss (more than 1,200) to answer a question regarding how they felt about themselves in the past month, and children with normal hearing in the same study

exhibited significantly higher reports of having positive self-esteem. Earlier research has shown that the mere presence of a hearing aid on a child has been known to elicit a negative reaction among peers, teachers, and other professionals who see it (Blood & Blood, 1982, 1983; Danhauer, Blood, Blood, & Gomez, 1980). Such reactions can adversely affect a child's self-concept and how they view their hearing loss over time.

**Emotional development.** School age children with hearing loss in recent studies have reported experiencing higher rates of fatigue and stress in their everyday lives compared to their normal hearing peers (Bess, Gustafson, & Hornsby, 2014; Bess & Hornsby, 2014; Hornsby, Werfel, Camarata, & Bess, 2014). Fatigue in school age children is associated with reduced academic performance (Beebe, 2011) and increased levels of stress (Ravid, Afek, Suraiya, Shahar, & Pillar, 2009). If left unaddressed, fatigue could lead to other mental health issues, which in turn would likely carry over into adulthood, affecting work performance and quality of life (Hétu, Riverin, Lalande, Getty, & St-Cyr, 1988; Kramer, Kapteyn, & Houtgast, 2006).

Children who can communicate how they feel have likely acquired the language skills necessary to describe, interpret, and understand their emotions. Researchers have found that typically developing children can develop the ability to reason about daily events in relation to their desires, thoughts, and beliefs of others (concepts related to "theory of mind") by as early as age 4-5 (Perner, Leekam, & Wimmer, 1987). Studies in audiology have identified that restricted auditory access to mental state discourse at younger ages (Peterson & Siegal, 1995, 2000) and having normal hearing parents (Moeller & Schick, 2006), are two predictors that put children with hearing loss at a higher risk for delays in this area compared to typically developing children.

Social delays in this aspect may also influence the emotional development of sympathy and empathy in children. The respectful understanding of what others are feeling (sympathy) or experiencing (empathy) are generally prerequisites for friendships to develop. One of the primary reported concerns of parents of children with hearing loss, is whether their child will grow up like other kids and have friends and share in similar social experiences.

***Family concerns.*** An estimated 95% of children born with hearing loss in the United States, are born to hearing parents (Mitchell & Karchmer, 2004), who are generally unfamiliar with hearing loss. A diagnosis of hearing loss can be devastating and cause a family to experience varying levels of grief as the child grows and develops. Parents often experience varying stages and phases of grief repeatedly throughout their child's development (Kübler-Ross, 1969; Sexton, 2010), and have reported feelings of depression and stress related to the management of hearing aid use (Caballero et al., 2017; Muñoz, McLeod et al., 2017; Muñoz et al., 2016). Parents who struggle to work through emotional challenges often risk further delays in timely intervention (Ching et al., 2017; Yoshinaga-Itano, Sedey, Coulter, & Mehl, 1998) and may not experience as many positive interactions with their child with hearing loss (Pipp-Siegel & Biringen, 1998).

***Social competence.*** Children with hearing loss have been observed as being less socially competent in settings outside of therapy or school (Fellinger, Holtzinger, Sattel, & Laucht, 2008; Preisler, Tvingstedt, & Ahlström, 2002), and positive peer interactions have scarcely been reported (Antia & Kreimeyer, 1992; Martin, Bat-Chava, Lalwani, & Waltzman, 2011). Even mothers of adolescents have reported that their children seem

less emotionally bonded to normal hearing peers, and that aggression is often present in such relationships (Henggeler, Watson, & Thelan, 1990). More meaningful friendships have been found among children who have peers with hearing loss (Kluwin, Stinson, & Colarossi, 2002; Stinson, Whitmore, & Kluwin, 1996); however, it is generally uncommon that peers with hearing loss are present in mainstream primary and secondary education settings (Most, Ingber, & Heled-Ariam, 2012).

**Adults.** Like children with ear related disorders, adults who acquire even mild to moderate conditions can experience adverse impacts on their ability to communicate with others and maintain adequate abilities to participate in meaningful life activities. When the ability to hear, maintain equilibrium, and or utilize other ear related functions is compromised, there is a ripple effect that applies to similar categories for adults, including self-concept, emotional reactions, and family concerns.

***Self-concept.*** Researchers agree that adults can be hesitant to admit having a disability of any kind, including hearing loss, and they often delay taking steps toward rehabilitation. Out of approximately 28.8 million adults in the U.S. who could benefit from using amplification, roughly only 25% over the age of twenty have reported at least some experiential use (Blackwell et al., 2014). Adults who place higher priority on what they fear others may think (e.g. “The Hearing Aid Effect” [Blood, Blood, & Danhauer, 1977]) are at a higher risk of having decreased confidence in their self-concept.

The top two predictors associated with non-uptake of hearing aids in the U.S. are first, the financial cost, followed closely by cosmetic concerns (Kochkin, 2012; Kochkin et al., 2010). The stigma of old age, weakness, embarrassment, handicap, diminished capacity, self-doubt, insecurity, or defectiveness (Wallhagen, 2010), are all labels older

adults have long associated with hearing loss; because non-hearing aid users or other adults with normal hearing have used these words to describe them (Blood et al., 1977; Doggett, Stein, & Gans, 1998; Lott, 2016; Johnson, Danhauer, & Edwards, 1982). Even as the size of hearing technology has decreased, and general perceptions of adults using hearing aids has improved (Blood, 1997; Cienkowski & Pimentel, 2001; Rauterkus & Palmer, 2014), the self-concept of an adult with an ear related disorder can only be determined individually.

***Emotional reactions to hearing loss.*** No adult with an acquired ear related disorder is immune from feelings of grief (Kübler-Ross, 1969), depression, anxiety, insecurity, frustration, social isolation, and resentment (Arlinger, 2003; Chisolm et al., 2007; Claesen & Pryce, 2012; Kochkin & Rogin, 2000). Additionally, adults with hearing loss often allocate increased cognitive effort (e.g., “listening effort” [Downs, 1982]) in communicating with others, which can lead to self-reports of stress, embarrassment, tension, and fatigue (Copithorne, 2006; Edwards, 2007; Héту et al., 1988; Hornsby et al., 2014). Fatigue can negatively impact social relationships and the ability to maintain meaningful employment (Héту et al., 1988; Kramer et al., 2006). Although studies have indicated amplification can help to reduce listening effort and other social and emotional impacts of hearing loss (Chisolm et al., 2007; Hornsby, 2013; Mulrow et al, 1990; Noble & Gatehouse, 2006), hearing aid use and uptake by adults is still poor (Kochkin, 2012; Blackwell et al., 2014). This suggests that a biomedical focus on functional limitations (e.g., the provision of hearing aids) is insufficient to address the emotional challenges adults face in their day-to-day life.

***Emotional reactions to other ear disorders.*** A recent scoping review related to



tinnitus revealed that anxiety and depression are highly prevalent in reportedly distressed adults who have tinnitus (Durai & Searchfield, 2016). A survey of adults with tinnitus likewise reported that the more disabling the tinnitus, psychological disorders such as post-traumatic stress disorder and suicide ideation can also occur (Kochkin, 2011). Adults with auditory processing disorders tend to have the most difficulty in work settings, and with the diverse listening challenges they experience, frustration, and anxiety are common (Obuchi, Ogane, Sato, & Kaga, 2017). Studies with adults who have Meniere's disease, reporting chronic vertigo symptoms, have also linked symptoms to stress, anxiety, and decreased quality of life (Kirby & Yardley, 2009; Monzani, Casolari, Guidetti, & Rigatelli, 2001; Orji, 2014).

***Family concerns.*** Spouses, children, grandchildren and other extended family members of adults with acquired disorders, often acquire the social and emotional impacts of those disorders as well. Evidence of this are found in a recent systematic literature review revealing that communication partners of adults with hearing loss experienced limitations to their social life, challenges with communicating, and poorer quality of life and relationship satisfaction (Kamil & Lin, 2015). Reasons for this may include the need for family members to take on the responsibilities of repeating or explaining what was said, covering up miscommunications, communicating for the adult over the phone, and going out of their way to accommodate/advocate for them. The strain this puts on relationships can be devastating, especially for children and grandchildren desiring relationships rich with open and loving communication with adult parents and grandparents who have hearing loss. Studies have recommended the inclusion of significant others or communication partners within the rehabilitation process (Hallberg,

1996; Kramer, Kapteyn, Kuik, & Deeg, 2002; Scarinci, Hickson, & Worrall, 2011); therefore, the social and emotional needs of these “others” need to be considered in rehabilitation as well (Singh et al., 2016).

In summary, ear related disorders “can negatively impact the psycho-social well-being and quality of life of children and adults...and sometimes, their families” (Meyer et al., 2016, p. 164). The ICF framework (WHO, 2001) encourages audiologists “to plan rehabilitation outcomes with consideration of the difficulties the person faces in real-life situations” (Sharma, 2016, p. 161) and to inquire regarding all factors that “may act as facilitators or barriers to functioning” (ASHA, 2004, p. 3). Patients and families do not always know to bring these challenges up, unless they are asked. Application of the ICF framework in audiology puts “counseling at the forefront of intervention as the foundation of audiology’s therapeutic context, therapeutic process, and therapeutic activities” (Erdman, 2013, p. 196). Evidence related to how the field has historically failed to apply this framework to counseling practices is provided in the next section.

### **Gaps in Audiologic Counseling**

Therapeutic relationships and patient-centered communication/counseling in healthcare settings have been shown to improve patient outcomes and promote adherence to clinical recommendations (Robinson, Callister, Berry, & Dearing, 2008; Zolnierek & DiMatteo, 2009). Studies in audiology have likewise demonstrated that counseling can improve outcomes for adults using hearing technology (Meibos et al., 2017), including increasing average hours of hearing aid use (Aazh, 2016; Stephens, 1977), and reducing negative self-perceptions of hearing handicap (Brooks, 1979; Elkayam & English, 2003;

Ferguson, Maidment, Russell, Gregory, & Nicholson, 2016; Saunders & Forsline, 2012; Saunders, Lewis, & Forsline 2009). Improvement in functional/psycho-social outcomes and long-term success of patients and families is central to the work of audiologists; however, evidence in the audiologic counseling literature indicates there is a disconnect between how audiologists feel about counseling and how they implement counseling in practice.

### **Audiologist Perspectives**

Counseling and patient-centered interactions in audiology have long been regarded as important by researchers and professional association committees (AAA, 2004, 2013; ASHA, 1980, 2001, 2004, 2006a; 2006b; 2008; Clark & English, 2004, 2014; Clark & Martin, 1994; Crowe, 1997; DiLollo & Neimeyer, 2014; English, 2000, 2001, 2002, 2008, 2013, 2014; Flasher & Fogle 2012; Goetzinger, 1967; Hartbauer, 1978; Kodman, 1966; Luterman, 1976, 1979, 1991, 1996, 2001, 2008, 2016; Madell, 2000, 2015; McDonald, 1962; Myklebust, 1949; Rollin, 2000; Roush & Kamo, 2014; Sanders, 1971, 1975; Scheuerle, 1992; Shames, 2006; Singh et al., 2016; Stone & Olswang, 1989; Tanner, 1980). Surveys have long indicated practicing audiologists agree with these experts (Flahive & White, 1981; Laplante-Lévesque, Hickson & Grenness, 2014; Makhoba & Joseph, 2016; Manchaiah, Dockens, Bellon-Harn, & Burns, 2017; Manchaiah, Gomersall, Tomé, Ahmadi, & Krishna, 2014; Martin, George, O’Neal, & Daly, 1987; Muñoz, Price, Nelson, & Twohig, 2017; Poost-Foroosh, Jennings, Cheesman, & Meston, 2014; Rossi-Katz & Arehart, 2011; Von Almen & Blair, 1989) (see summary of findings in Table 1). It is clear from these studies that talking about and

Table 1

*Audiologist-Reported Perspectives Related to Counseling*

Year	First author	Key findings	N
<b>Importance of counseling</b>			
1981	Flahive	94% agreed audiologic counseling includes addressing both informational and personal adjustment needs of patients	226
1987	Martin	82% agreed it was very important to provide emotional counseling	83
1989	Von Almen	75% agreed it was important to provide informational counseling to school-age children with hearing loss	231
2016	Makhoba	62% agreed the provision of informational counseling was important 46% agreed the provision of adjustment counseling was important	45
2018	Muñoz	>75% agreed it was important to counsel parents regarding their concerns, expectations, perceptions, support, and internal challenges	350
<b>Importance of patient-centered communication in practice</b>			
2011	Rossi-Katz	66% reported they modified their counseling approach in discussing cochlear implant candidacy with older adults	47
2014	Poost-Foroosh	Most agreed that services should include shared-decision making and consideration of the individual patient's comfort, needs, and readiness	9
2014	Laplante-Lévesque	Most audiologists in Australia have a high preference for patient-centered practices	663
2014	Manchaiah	Most audiologists in Portugal, and slightly less in India and Iran, have high preferences for patient-centered practices	191
2017	Manchaiah	Most audiologists in the U.S. have a high preference for patient-centered practices	75

recognizing the importance of counseling is not new in the field; it just has not developed over the years.

### **Patient Perceptions**

Although audiologists strongly recognize the importance of utilizing counseling in practice, evidence from studies exploring patient-perspectives indicate that audiologic

counseling practices are not always consistent with patient-centered recommendations (i.e., ICF framework [WHO, 2001]; Clark & English, 2014; Erdman, 2013). For example, parents of children with hearing loss ( $N = 260$ ) were surveyed nearly 50 years ago regarding professional communication they received, and only 50% reported they were satisfied with the diagnostic information provided to them at the time of their child's diagnosis (Fellendorf & Harrow, 1970). Dissatisfaction reported by parents in subsequent surveys, was consistent with a reportedly perceived lack of emotional support from audiologists or physicians (Sweetow & Barrager, 1980), and that professionals were too blunt in their communication of information (Williams & Darbyshire, 1982). A small sample of parents (20%; 30/154) even reported feeling uncomfortable to ask their audiologist questions (Sweetow & Barranger, 1980). Adults with hearing loss have reported similar negative experiences. For example, adults have previously reported feeling their audiologist was indifferent to their feelings (Martin, Krall, & O'Neal, 1989); others have reported feeling uncomfortable asking their audiologist questions or that their audiologist was supportive, trustworthy, or empathetic in their approach to counseling (Light & Looi, 2011). A survey exploring hearing aid services and follow up care received by adults, revealed that at a least a third of new and experienced adult hearing aid users were dissatisfied to somewhat satisfied with the benefit they received from their hearing aids or hearing healthcare providers (Kochkin et al., 2010). The voice and concerns of unsatisfied patients and parents in these studies raise important issues that need to be addressed in audiology.

### **Patient-Audiologist Interactions**

Recent qualitative studies of audio/video recorded conversations in clinical audiology practices have provided valuable insight into what kinds of counseling skills are missing. Researchers in Australia (Ekberg, Barr, & Hickson, 2017; Ekberg, Grenness, & Hickson, 2014; Grenness, Hickson, Laplante-Lévesque, Meyer, & Davidson, 2015; Sciacca, Meyer, Ekberg, Barr, & Hickson, 2017) and in the U.S. (Muñoz, Ong, Borrie, Nelson, & Twohig, 2017) have identified a lack of successful implementation of informational and supportive communication skills by students and professionals, during audiologic assessment and routine hearing technology appointments. Nonsupportive interpersonal communication behaviors were observed in these studies, including: nonempathically responding to psycho-social/emotional concerns of patients (Ekberg et al., 2014, 2017), dominating conversations (Grenness et al., 2015; Muñoz et al., 2017), using excessive complex language or technical jargon (Sciacca et al., 2017), and exhibiting frequent multi-tasking behaviors during appointment conversations (Ekberg, Hickson, & Grenness, 2017). The supportive interpersonal communication skills absent from these studies, include skills such as “listening carefully and responding in ways that help [patients and families] acknowledge their fears, find [their own sources] of motivation, and develop self-confidence in the face of change” (Clark & English, 2014, p. 2).

Patients and families need active therapeutic relationships with audiologists, who possess supportive and interpersonal communication skills, convey empathy, and who know how to foster working alliances (Bordin, 1979; Gelso & Hayes, 1998). Limited counseling training is likely a primary reason why audiologists fall short of patient

expectations. The next section describes current gaps in audiologic counseling education.

### **Gaps in Audiologic Counseling Education**

A growing number of studies have recently begun exploring trends and perceptions of counseling education practices in graduate audiology programs. For example, supervising audiologists in university settings have recently reported they believe it is very or extremely important (10 items; 63 to 100%;  $n = 130-205$ ) to teach audiology students counseling skills (Muñoz, Landon, & Corbin-Lewis, 2017). A survey of audiology students in their final year of study, likewise reported they believe it is very or extremely important (10 items; 51%-98%;  $n = 73-140$ ) for them to be able to address counseling in practice (Whicker, Muñoz, & Schultz, 2018). Despite the recognized importance of counseling skills in graduate training, students have reported feeling unprepared to effectively counsel patients and families prior to graduation (Phillips & Mendel, 2008). Other students have additionally reported receiving little to no feedback regarding how they should implement what they learn in coursework to their practicum experiences (English & Zoladkiewicz, 2005; Whicker et al., 2018), including less than half of the students in Whicker et al. (2018) who reported they seldom discussed or received feedback about counseling skill performance from their clinical supervisors. Regardless of previous training experiences, students have reported that they believe more counseling training would be beneficial during graduate training (Atkins, 2007; Herzfeld & English, 2001) including more emphasis in their clinical practicum experiences (Whicker et al., 2018).

The translation of counseling knowledge into clinical practice is an active process

(Moodie et al., 2011); yet, current clinical competency standards and guidelines leave expectations for audiologic counseling training and education vague. For example, two clinical competency documents set forth to guide clinical educators of graduate audiology programs provide the following statements: (a) the Proposed Academic & Performance Standards for the AuD Degree (AAA, 1997, pp. 11-12), state that students should be able to “demonstrate knowledge of...counseling” as well as “the ability to...provide ongoing counseling to patients and other relevant individuals...in patient management and treatment;” and (b) the 2012 Standards and Implementation Procedures for the Certificate of Clinical Competence in Audiology (CCC-A) (CCC-ASLP), state that students “must have knowledge of... principles and applications of counseling,” (“Standard IV-A: Foundations of Practice – Standard A26”); “knowledge and skills in... educating the consumer and family/caregivers in the use of and adjustment to... technology...” (“Standard IV-D: Intervention (Treatment) – Standard D2a”); and “knowledge and skills in... counseling relating to psychosocial aspects of hearing loss and other auditory dysfunction, and processes to enhance communication competence” (“Standard IV-D: Intervention (Treatment) – Standard D2c”). Although counseling knowledge and skills are included in both documents, there are no practice guidelines that provide any specific details regarding how counseling skills can be developed or assessed to any reliable measure substantiating competency. Counseling competencies, like other skills audiologists are expected to learn (AAA, 1997; CCC-ASLP, 2012), need intentional instruction for knowledge and skill acquisition to occur. Two areas of the literature that help to illustrate the lack of structure in audiologic counseling education include (a) research related to coursework and curricula, and (b) counseling training outcomes.



## Coursework and Curricula

Despite “repeated calls to add counseling to curriculum and practicum experiences in audiology programs,” audiology coursework has long maintained its educational roots “in the physical sciences (e.g., anatomy & physiology, hearing disorders, genetics, neuroscience, diagnostic procedures, acoustics, electroacoustics, instrumentation, evaluation of amplification systems, etc.)” (Erdman, 2013, pp. 179-180). Surveys of accredited communication science disorder programs (Culpepper, Mendel, & McCarthy 1994; McCarthy, Culpepper, & Lucks, 1986) and graduate audiology programs (Crandell, 1997; English & Weist, 2005; Herzfeld & English, 2001; Whicker et al., 2017) have revealed, with respect to responding programs, increased numbers of required counseling courses within audiology curricula in the last thirty years (see Table 2). This data additionally reveals that at least 55% (40/73) of current students in accredited university programs (ASHA, 2017a; Whicker et al., 2017) are being required to complete a separate course devoted to counseling, compared to an abysmal 9% (10/111) of graduate programs twenty years ago (Crandell, 1997). In Whicker et al. (2018), 90% (129/143) of graduate audiology students surveyed reported they had previously taken a required, dedicated counseling course in their program.

Although required courses indicate one level of improvement, the quality and scope of counseling course content has been known to vary widely from one audiology program to another. For example, Crandell (1997) found in his review of 77 courses, that only 11 (30%) examined counseling techniques, 4 (11%) focused on counseling individuals with hearing impairment, and 2 (5%) on “other” areas. English and Weist (2005) synthesized important counseling concepts (e.g., psycho-emotional effects of

Table 2

*ASHA-Accredited Programs and Dedicated Counseling Course Offerings*

Year	First author	Programs surveyed ( <i>N</i> )	Course required	
			<i>n</i>	%
Graduate speech-language pathology and audiology programs				
1986	McCarthy	98	19	20
1994	Culpepper	121	26	22
Graduate audiology programs only				
1997	Crandell	77	10	13
2001	Herzfeld	10	2	20
2005	English	56	40	71
2017	Whicker	53	40	76

*Note.* Only two thirds of the programs surveyed in McCarthy (66%) and Culpepper (69%) offered graduate degrees in audiology.

hearing loss, counseling theories, counseling skills, and the role of the audiologist) identifiable in only 13 of the 40 (33%) programs they contacted. In a recent review of 32 course syllabi (Whicker et al., 2017), counseling topics identified among the authors' highest rated courses included topics such as counseling theories (59%), clinical cultural sensitivity (50%) and defining the role of the audiologist in counseling (25%). Less frequently listed topics among their highest rated courses included how to counsel patients with other auditory/vestibular disorders (16%) or how to make appropriate referrals for patients experiencing severe mood disorders (e.g., depression, suicide ideation, self-harm, etc.). While it is possible some audiologists currently practicing have received exceptional training in counseling, it is likely the majority have had minimal experiences related to training in counseling theories and application.

## **Professional and Preservice Training Outcomes**

Practicing audiologists have long reported receiving limited or inadequate preservice or professional training in counseling (Flahive & White, 1981; Makhoba & Joseph, 2016; Martin, Barr, & Bernstein, 1992; Muñoz, Price et al., 2018; Von Almen & Blair, 1989). Notwithstanding the variance in previous training, many have also long indicated a willingness and an interest in receiving more training (Flahive & White, 1981; Makhoba & Joseph, 2016; Meibos et al., 2016; Muñoz, Nelson, Blaiser, Price, & Twohig, 2015; Muñoz et al., 2017). Although several valuable self-guided continuing education resources are available to audiologists to learn more about how to improve counseling skills in practice (e.g., ASHA's Continuing Education Unit Database [ASHA, 2017b], [www.audiologyonline.com](http://www.audiologyonline.com), professional conferences, etc.), it is unknown whether such training translates well into changes in practice. Eleven studies in the audiology literature have reported outcomes from a counseling related training, including studies related to: counseling course outcomes (3 studies), inservice outcomes (4 studies), and simulated patient outcomes (5 studies).

**Counseling course outcomes.** Pre/post-course data were collected and reported in a study exploring two cohorts of audiology students enrolled in an on-campus audiologic counseling course (English, Mendel, Rojeski, & Hornak, 1999). Student responses to an instrument were rated before and after the course. A significant improvement was identified among all students in the number of appropriate post-course rated affective responses, compared to precourse rated responses. A similar study, using almost identical methods, with mid-career audiologists seeking clinical doctorate (AuD) degrees online (English, Rojeski, & Branham, 2000), revealed virtually identical results

to the previous study (English et al., 1999), with the only difference being that the courses were offered to students online, instead of in person. Crandell and Weiner (2002) also noted self-reported improvements from mid-career audiologists seeking an AuD online; however, the authors additionally disclosed that during pre-class survey pilot testing, many of the audiologists rated themselves as good counselors prior to the class. A significant limitation of these studies is that they all relied on subjective reports of counseling knowledge, rather than more objective measures of counseling skills.

**Inservice outcomes.** Four studies recently explored the use of inservice (or seminar) trainings to help professionals and students develop counseling skills. English and Archbold (2014) explored how a 6-week seminar training might influence audiologic counseling practices in the United Kingdom. Audiologists in the study reported improvements in their practice at six months post-training, but no objective observations of skills were made. Two inservice studies were recently conducted at Utah State University (USU; Muñoz, Nelson et al., 2015; Muñoz et al., 2017). The first study recruited professional and graduate student audiologists and other professionals to participate in a one-day interdisciplinary seminar training, focused on improving communication skills related to education and support of parents of children with hearing loss (Muñoz, Nelson et al., 2015). Pre/post training surveys were used, and at one-month post training, participants reported increased levels of confidence in many areas of communication; however, no significant changes in their self-reported counseling practices were identified. The second, Muñoz et al. (2017), studied audiologist-patient communication pre/post a one-day focused counseling skills inservice training, with five follow-up online-learning support sessions over six-months, led by a clinical

psychologist. Participants reported improvements in their communication skills post-training; observer-rated counseling competency derived measures revealed significant decreases in verbal dominance overtime; however, no other changes in communication behavior were observed (e.g., reflection, planning behavior change, etc.). The fourth inservice study (Hughes, Wilson, MacBean, & Hill, 2016) is described in the next section, as it included simulated-patient training outcomes as well.

**Simulated patient outcomes.** Simulated patients are trained actors who can portray a patient in a consistent manner, and present with a variety of challenges associated with diverse health issues (Onori, Pampaloni, & Multak, 2011). Researchers have recently began exploring the use of simulated patients for teaching and evaluating skills in audiology (English, Naeve-Velguth, Rall, Uyehara-Isono, & Pittman, 2007; Naeve-Velguth, Christensen, & Woods, 2013; Wilson, Hill, Hughes, Sher, & Laplante-Lévesque, 2010), and two studies have published data related to counseling skills outcomes in graduate students (Hughes et al., 2016; Schroy, 2015).

The first study (Schroy, 2015) focused on using repeated outcome measures to evaluate the benefits of using simulated patients across five different counseling scenarios. Data was collected from the perspective of audiologists, simulated patients, and the students themselves. Perceived skills were rated by all participants and performance feedback was provided to the students between each scenario by the simulated patients and faculty. Ratings from all participants and video-recording analyses revealed students improved their use of supportive counseling skills, including using less technical jargon, allowing silence, and engaging in shared-decision making more during their last simulated patient experience compared to their first. The second study utilized

both inservice training and simulated patient training approaches with first year audiology students, to see if one approach was more effective in helping students improve their communication skills in being able to take a case history from and give feedback to simulated patients (Hughes et al., 2016). Both approaches were found to result in similar communication skill improvements, based on an independently rated outcome measure; however, it was disclosed that the simulated patient experiences were provided within the construct of a required clinical course, and students were not completely blind to the alternative approach throughout the course of the study. No objective pre/post or longitudinal measures were obtained to determine whether communication skills were maintained post-training.

Gaps in counseling education exist because educational guidance is vague; audiologists recognize the importance and want training, but many do not receive sufficient training within graduate training programs. The outcomes of two previously mentioned counseling training studies (Muñoz et al., 2017; Schroy, 2015) suggest that bridging of knowledge between counseling training and practice is likely to occur when performance feedback is provided during clinical training. A recent multiple baseline study explored the use of performance feedback by a clinical psychologist who provided counseling skills training to five graduate audiology students (Finai et al., 2018). Audio-recordings of real appointments were used to objectively measure changes in counseling behaviors over time, and to provide individualized performance feedback. Although there was variability in the five students' response to the feedback, all participants showed an overall average increase in objectively measured time spent counseling. Similar performance feedback training related to a clinical research audiologist acquiring

Motivational Interviewing skills in audiology, has likewise been shown to positively influence patient outcomes (Aazh, 2016). Therefore, the field of audiology needs a more intentional and structured approach to improving counseling education and training, and a “...shift in perspective is necessary for [the] next generation of clinicians to view counseling as a critical element of their professional identity...” (Erdman, 2013, pp. 180-181).

### **Summary and Implications**

The purpose of this chapter was to illustrate that a structured and intentional approach to counseling education is needed in the field. Regardless of previous training experiences, graduate students and audiologists are interested in receiving counseling training that will help them to better meet the needs of patients and families they serve (Herzfeld & English, 2001; Makhoba & Joseph, 2016); Meibos et al., 2016; Muñoz et al., 2015. As an allied healthcare profession, audiologists are asked to wear many hats (Erdman, 2013; Madell, 2000); but to keep their counseling hat on in every aspect of clinical practice, expert consensus needs to be established regarding important counseling knowledge, skills, and attitudes. Without careful attention to how counseling is described in our field, it is unlikely that professional and graduate training will be structured in ways that lead to successful implementation of counseling skills.

### **Purpose Statement and Research Questions**

The purpose of this study was to identify the knowledge, skills, and attitudes that are important for audiologists to possess to provide effective counseling in practice. This

purpose was achieved by answering the following research questions:

- RQ1: What knowledge is important for audiologists to possess to provide effective counseling with patients and families?
- RQ2: What skills are important for audiologists to possess to provide effective counseling with patients and families?
- RQ3: What attitudes are important for audiologists to possess to provide effective counseling with patients and families?



## **CHAPTER III**

### **METHODS**

The purpose of this study was to identify the knowledge, skills, and attitudes that are important for audiologists to possess to provide effective counseling in practice. Prior to conducting this study, a research protocol was submitted and approved by the USU Institutional Review Board (IRB; see Appendix A for the IRB Letter of Information).

#### **The Delphi Technique**

To conduct this study, a modified electronic Delphi (e-Delphi) survey method/technique was used to gather consensus from a panel of expert audiologists and researchers. The Delphi technique is considered an appropriate methodology to use when one or more of the following conditions exist: (a) subjective opinions are needed on a certain topic or area where consensus is lacking; (b) participants are geographically dispersed and unable to meet in person; (c) anonymity can encourage more candid feedback; and (d) reduction of one or multiple participants dominating the conversation can be achieved (Linstone & Turoff, 1975). Delphi studies employ multiple rounds of surveys to solicit feedback from a panel of informed or expert individuals, regarding their opinions on specific real-world issues or concerns, until consensus has been reached (Balasubramanian & Agarwal, 2013; Green, Jones, Hughes, & Williams, 1999; Hsu & Sanford, 2007a; Skulmoski, Hartman, & Krahn, 2007; Vázquez-Ramos, Leahy, & Hernández, 2007; Yousuf, 2007). The “e-Delphi” approach involves the administration of a Delphi study by email or an online form, which can help gather data from an

international panel in a more efficient and cost-effective manner (Avery et al., 2005; Gill, Leslie, Grech, & Latour, 2013; Tume, van den Hoogen, Wielenga, & Latour, 2014).

Modified Delphi studies differ from a classical technique, in that they allow for the modification of items or issues to be discussed with the recruited panel (Keeney, Hasson, & McKenna, 2011). Previously identified issues of high pertinence are generally pre-selected by a researcher(s) using a modified technique and presented in the first round to a recruited panel to make judgements on (Eggers & Jones, 1998; Keeney, Hasson, McKenna, 2006). This study was modified, incorporating both a traditional first round, followed by a modified second round with the inclusion of pre-selected items that were considered relevant, but missing from responses collected during the traditional open round.

A modified e-Delphi approach was appropriate for this study because: (a) there was a lack of consensus in the literature regarding what counseling competencies are important for audiologists to possess, (b) participants were asked to rate both generated and pre-selected items, and (c) participants were recruited from various geographic locations throughout the world. Although no set standard scientific guidelines exist for conducting a Delphi study, the literature recommends that researchers disclose and follow a set of general rules, processes, procedures, and provide a definition or statement of how consensus is to be established (Keeney et al., 2011). An overview of the modified e-Delphi survey process used in this study is provided in Table 3, adapted from recommendations provided by both Vazquez et al. (2007, p. 113) and Keeney et al. (2011, p. 66).

Table 3

*Overview of the Modified e-Delphi Survey Process*

Steps	Phases	Activities
Step 1	Establish need for research	<ul style="list-style-type: none"> <li>• Review the literature</li> <li>• Confirm the Delphi technique is most appropriate research method</li> <li>• Review availability of resources</li> </ul>
Step 2	Instrumentation	<ul style="list-style-type: none"> <li>• Develop survey instrument for Round One</li> <li>• Generate a pre-selected list of evidence based counseling competencies from the literature to use for Round Two</li> <li>• Identify and define level of consensus</li> </ul>
Step 3	Selection	<ul style="list-style-type: none"> <li>• Identify potential experts</li> <li>• Obtain contact information</li> <li>• Determine sample size</li> <li>• Recruit participants</li> <li>• Develop strategies to enhance response rates</li> <li>• Develop administration procedures</li> </ul>
Step 4	Round one (exploration)	<ul style="list-style-type: none"> <li>• Distribute 1<sup>st</sup> online survey (including demographic form and open-ended questions/prompts)</li> <li>• Collect Round One responses</li> <li>• Collate and categorize results <ul style="list-style-type: none"> <li>▪ Open-ended items (content analysis)</li> <li>▪ Compare items generated by panel with list generated by researcher</li> </ul> </li> <li>• Develop Round Two survey instrument and modify with the addition of pre-selected items as needed</li> </ul>
Step 5	Round two (evaluation)	<ul style="list-style-type: none"> <li>• Distribute 2<sup>nd</sup> online survey <ul style="list-style-type: none"> <li>▪ Encourage panelists to rate items with reminders</li> </ul> </li> <li>• Collect Round Two responses, including participant name</li> <li>• Re-collate and categorize results <ul style="list-style-type: none"> <li>▪ Analysis of items rated (measures of central tendency and dispersion)</li> </ul> </li> <li>• Develop Round Three survey instrument</li> </ul>
Step 6	Round three (reevaluation)	<ul style="list-style-type: none"> <li>• Distribute 3<sup>rd</sup> online survey (provide summary statistics from Round Two) <ul style="list-style-type: none"> <li>▪ Encourage panelists to reevaluate their responses based on individual and group responses</li> </ul> </li> <li>• Collect responses</li> <li>• Re-collate and categorize results (central tendency and dispersion)</li> <li>• Calculate summary statistics</li> </ul>
Step 7	Final consensus	<ul style="list-style-type: none"> <li>• Provide summary of identified items on which consensus was obtained</li> </ul>

## **Participants**

One of the most important aspects of the Delphi technique involves setting up panel of participants considered to be “experts.” Purposive recruitment of individual experts is recommended, especially if panelists have the following characteristics in common: (a) knowledge and experience with the issues/concern under investigation, (b) capacity and willingness to participate, (c) sufficient time to participate, and (d) effective communication skills (Adler & Ziglio, 1996).

### **Inclusion Criteria**

For this study, individuals with expertise in audiologic counseling were recruited, including: research audiologists or speech-language pathologists, clinical audiologists, and audiologic counseling course instructors. Further eligibility was determined if panelists met one or more of the following criteria: (a) authored/co-authored a journal publication, book chapter, textbook, online journal or blog, discussing counseling or patient-centered practices in audiology, (b) demonstrated expertise in audiologic counseling or patient-centered practices through a history of recognized presentations, lectures, or seminars/trainings, or (c) had a history of teaching a graduate audiology counseling course in an accredited program. Names of potential panelists were identified from audiologic counseling textbooks, audiology textbook chapters, professional publications (e.g., peer-reviewed articles, trade publications, conference proceedings, presentations, etc.), and available listings of counseling course instructors in audiology programs in the U.S. (ASHA, 2017a). An online search of university websites and other research center websites was also completed to obtain available contact information for

each potential recruit.

### **Sample Size**

The size of a Delphi panel depends on the purpose of the study and level of expertise needed to contribute to the study (Clayton, 1997; Hsu & Sandford 2007a, Skulmoski et al., 2007). Most studies have panel sizes between 15 and 20 respondents, though a sample size of 10 to 15 panelists is adequate for a homogeneous population, and 5 to 10 is acceptable for a heterogeneous population (Clayton, 1997; Skulmoski et al., 2007). The goal for this study was to recruit a panel of 30 experts to remain above the adequate threshold established in the literature for a homogenous panel. Attrition between rounds of a Delphi are likely to occur (Bardecki, 1984; Clayton, 1997; Hsu & Sandford, 2007a); therefore, the attrition rates for this study between each round of the study were reported to illustrate that the panel stayed within the recommended expectations (Clayton, 1997; Hsu & Sandford, 2007b; Skulmoski et al., 2007).

## **Instrumentation**

### **Computer Software**

As an “e-Delphi” study was chosen, recruitment and communication with panel members was completed using the researcher’s student [aggiemail.usu.edu](mailto:aggiemail.usu.edu) email account, and all data and information from panelists in this study were collected using the cloud-based Qualtrics Research Suite hosted by USU. Qualtrics was selected based on its user-friendly interface, design features, and real-time data analysis tools, including a way to ensure only one unique response can come from a specific Internet Protocol (IP) address.

Any additional data (e.g., contact information, exported Qualtrics data, etc.) related to this study was stored using a secure passcode encrypted cloud-based university managed file storage system (Box@USU, 2017), providing protected access. The Microsoft Office 365 Suite and the IBM Statistical Package for the Social Sciences (SPSS) V24.0 software suite, were used for all relevant quantitative data analyses. Microsoft Office and the NVivo 11 Pro Suite were also used to analyze all relevant qualitative data.

### **Delphi Survey Instruments**

No previous research has been done to identify the knowledge, skills, and attitudes that are important for audiologists to possess to provide effective counseling in all areas of audiologic practice. Therefore, new survey instruments were required for this study. Three survey instruments were developed by the researcher. Each survey instrument was comprised of at least three sections, including a welcome section, a response section, and a completion message with reminders to watch for email announcements (see Table 4 for the study timeline).

**Round one survey instrument.** The first survey instrument was designed to help recruit panelists, gather demographic information about the panel, and to generate items for inclusion and rating in the Round Two survey instrument. The welcome section of the Round One Qualtrics survey instrument included an abbreviated message from an invitation email that was sent to each recruit, as well as a full copy of the IRB letter of information describing the purpose of the study, why the panelists were being recruited, step-by-step instructions of how to participate, and the USU IRB contact information (see Appendix A).

Table 4

*Timeline for Preparing and Conducting the Study*

Phases	Dates and activities
Recruitment and Round One	<ul style="list-style-type: none"> <li>• January 2, 2018 – Recruitment/Distribution started</li> <li>• February 6, 2018 - Recruitment completed</li> <li>• February 9, 2018 – Content analysis completed</li> </ul>
Round Two	<ul style="list-style-type: none"> <li>• February 9, 2018 – Distribution completed</li> <li>• February 23, 2018 – Response collection completed</li> <li>• February 26, 2018 – Statistical analysis completed</li> </ul>
Round Three	<ul style="list-style-type: none"> <li>• February 26, 2018 – Distribution completed</li> <li>• March 12, 2018 – Response collection completed</li> <li>• March 30, 2018 – Statistical analysis of results completed</li> </ul>
Final Consensus Report	<ul style="list-style-type: none"> <li>• April 12, 2018 – Emailed report to panelists</li> </ul>

The response section included a request for the recruits to provide their name and preferred email address, to complete a short demographic form, and to respond to three open-ended prompts. The 14-item demographic form provided asked panelists to provide information related to their: gender, age, race, geographic location, highest level of education, professional field of practice, employment status, professional responsibilities, employment setting, extent of their professional publications related to audiologic counseling, number years working with individuals and families affected by auditory/vestibular disorders, graduate audiologic counseling course teaching status, graduate audiologic supervising status, and perceived level of experience related to audiologic counseling. The open-ended prompt sections encouraged panelists to list as many counseling knowledge, skill, or attitudinal items they believed were important for audiologists to possess. Brief definitions and example competency items were provided to encourage participants to respond appropriately.

**Round two survey instrument.** The welcome section of the Round Two survey instrument provided participants with the total number of responses from Round One and a brief description regarding how the items in the Round Two instrument were generated. Items were generated from responses analyzed from Round One and from a series of sixty pre-selected items previously generated by the researcher (see Appendix C), representative of evidence based counseling competency elements found in the evidence-based professional counseling and audiologic counseling literature (ASHA, 2001, 2006a, 2006b; Blonna & Watter, 2005; Burnard, 1999; Harris, 2009; Ivey, Ivey, & Zalaquett, 2017; Meier & Davis, 2011; Rollnick, Miller, & Butler, 2008; Swank, Lambie, & Witta, 2012). Content validity of these pre-selected items was addressed by having selected items consistent with evidence based sources. For more information regarding the Round One content analysis process see Appendix D and the procedures section below.

The response section of the Round Two instrument included another request for panelists to provide their name so the researcher could send them their individual results from Round Two prior to Round Three. The remainder of the response section asked panel members to rate the 72 competency items, using a scale of importance (1 = Not at all important, 2 = Low importance, 3 = Slightly important, 4 = Moderately Important, 5 = Very Important, 6 = Extremely Important), regarding the extent they believed each item was important for audiologists to possess to provide effective counseling. A 6-point Likert agreement scale was chosen for competency items in the Round Two survey instrument because it is designed to meet the characteristics of a unipolar construct. Unipolar constructs are used to determine “the amount of importance a person attaches to a particular attitude or opinion, [ranging from] zero importance to some maximum level,



[with] no precise midpoint” (Krosnick & Fabrigar, 1997, p. 144). Although there are generally no significant central tendency differences among 4-, 5-, 6- and 11-point Likert scales, 6-point scales have been shown in previous research to better follow a normal distribution (Leung, 2011).

**Round three survey instrument.** The welcome section of the Round Three survey instrument provided participants with the response rate of Round Two and instructed panel members to compare their individual responses from Round Two (sent via email individually) to group summary statistics. The response section included the group statistics from Round Two for each competency item and asked each panel member to re-rate all 72 items again the same way they did in Round Two, or to change their ratings based on the group information provided. No contact information was requested in this instrument; however, IP addresses were collected by Qualtrics to identify any duplicate responses.

## **Procedures**

### **Recruitment Phase**

A list of 60 individuals that met the study inclusion criteria was developed by the researcher. The order of the individuals was prioritized based on the extent of identified expertise among individuals (e.g., meeting more than one area of the inclusion criteria), with the first email invitations sent to individuals who had a significant history of publishing or presenting on the topic of audiologic counseling. The recruiting process included contacting the first 30 individuals over the period of two weeks, and then continuing down the list as needed to reach 30 participants. A professional email

invitation was eventually sent to all 60 potential participants, and the email included a survey link to participate in Round One (see Appendix A). Consent to participate was obtained in Qualtrics when participants chose to start the Round One. Reminder emails were sent to any potential recruits who had not responded within one week of their initial email invitation. Delphi studies can often take up to 3 weeks for recruitment to finalize (Keeney et al., 2011). For this study, it took 5 weeks to reach at least 30 participants, due to incorrect emails and panelists who were on vacation/holidays. As recruits submitted responses during Round One, their names and preferred email addresses were saved for future communications. This list was maintained separate from individual survey responses to protect the confidentiality of panelists during the study. A timeline of recruitment and data collection procedures for all rounds of this study was provided earlier in Table 4.

**Round One procedures.** By clicking on the survey link in the recruitment emails, participants were taken to Qualtrics. As soon as they clicked the “I Agree to Participate” link at the bottom of this page, they provided their consent to participate in the study. Once at least 30 participants completed the Round One instrument, the process of content analysis began. A total of 60 individuals were sent an email invitation to participate in Round One and 33 responses were received for a recruitment response rate of 55%.

The response rate and demographic information regarding the expert panelists were summarized using descriptive statistics. A process of content-analysis was completed by the researcher regarding the responses to the open-ended prompts.

Responses were exported from Qualtrics into Microsoft Word and Excel documents and reviewed to identify sub-themes and to separate and expand responses to

generate single item statements. For example, if a response had two or more relevant items, such as “Identifying pertinent communication and adjustment problems,” two separate item statements were generated (i.e., “identifying pertinent communication problems” and “identifying pertinent adjustment problems”). Other items were also expanded as necessary (e.g., if a panelist wrote “all of those listed above,” these statements were expanded into 3-4 individual item statements, based on the number of sample items provided to the participant within that section of the survey). The wording of each statement was then further modified to generate items that could complete the following three statements related to the broader theme in context: (a) “It is important for audiologists to have knowledge of... *knowledge item*,” (b) “It is important for audiologists to have the ability to... *skills item*,” and (c) “It is important for audiologists to... *attitudinal item*.”

Word maps were generated for each of the competency sections using NVivo, and all items were then condensed and coded by the researcher using Microsoft Excel to eliminate redundancy and to identify items that were consistent with or differed from the pre-selected items. For an example of how this condensing process was completed, there were 18 open-ended responses that were all condensed under the pre-selected item of *counseling theories*; of these responses, 12 panelists used only the words "counseling theories," and the remaining 6 included responses such as "Counseling theories (cognitive, behavioral, humanistic/affective, integrative)" or "counseling theories related to audiological practice.” After condensing was completed, the researcher met together with a clinical research audiologist, who had expertise in counseling, to further refine and eliminate any duplicate/redundant items. Both reached verbal consensus regarding what

items agreed with the pre-selected evidence-based competency items as well as any new items to be included in the final Round Two survey instrument (see the Results chapter for more details regarding the condensing process). New items that were generated by fewer than three panel members, or that did not match the definition of the section determined by the reviewers, were removed from the study. For example, two knowledge items were generated by panel members only once: “learning theories” and “learning mode preferences (auditory, visual, tactile).” They were additionally perceived as not being specific enough to counseling and were thus removed from inclusion in the final Round Two survey instrument. See Appendix B for the 72 revised items included in the Round Two and Three survey instruments.

**Round Two procedures.** The 33 participants who completed the Round One survey instrument were sent an email with a new survey link, and given 12 days to complete the Round Two survey instrument. A reminder email was sent to panelists who had not responded within five days after the initial email, and a similar reminder was sent within one day of the closing date. An extension of two days was provided for at least one additional panel member to be able complete this round. A total of 32 panel members completed the Round Two instrument (32/33; 97%).

The means, standard deviations, and frequency distributions of each item were calculated using Qualtrics, and were included within the Round Three survey instrument. Additional analyses not sent to the panelists were completed using Microsoft Excel and SPSS, including measures of Cronbach’s alpha reliability coefficients to measure the degree of internal consistency of items in each competency area (i.e., knowledge items, skills items, attitudinal items), central tendency (median and mode), and levels of

dispersion (inter-quartile range).

**Round Three procedures.** For Round Three, 32 participants who completed the Round Two instrument were sent (a) individual emails with a copy of their individual responses, (b) group statistics from Round Two (see Appendix E), and (c) a new survey link to the Round Three instrument. They were given 12 days to complete the final round of the study anonymously, with the same email reminder schedule as outlined previously in Round Two. An extension request of two days was provided by the researcher for two panel members to complete this round.

Participants were provided with an explanation of how to interpret the statistics provided from Round Two (i.e., mean, standard deviation, and frequency distribution of each item), and explicitly instructed that it would be their choice to rate each item the same way they did in Round Two or to change their rating based on the additional information provided. A total of 28 anonymous responses were collected by the close of Round Three; however, the recorded IP addresses in Qualtrics revealed that one panel member had completed this round twice. Only their first response was included for analysis, making the response rate for Round Three 84% (27/32).

All analyses completed in Round Two were repeated after Round Three for comparison. Consensus was also determined to generate a final list of items based on the guidelines set forth below (see Appendix F). Items in this round that did not meet the consensus level criteria were discarded from the final list of items.

For this study, the concept of consensus was considered a “condition of homogeneity or consistency of opinion among the panelists” (Graham, Regehr, & White, 2003, pp. 1152-1153). Consensus level for each item in this study was equated with items

having at least 70% of the panel members rating an item as *very* or *extremely important* (i.e., a score of 5-6 on Likert scale). Additionally, an interquartile range (IQR) of less than or equal to 1.0 was chosen alongside the percentage definition, based on the Delphi literature (Alexandrov, Pullicino, Meslin, & Norris, 1996; Raskin, 1994; Rayens & Hahn, 2000). Although no standard scientific threshold of consensus level exists (Keeney et al., 2011), studies in related healthcare literature have suggested that 70% is a strong cut-off point for measuring consensus (Sumison, 1998), including rating clinical skills of importance (McIlrath, Keeney, McKenna, & McLaughlin, 2010; McKenna, Hasson, & Smith, 2002).

## CHAPTER IV

### RESULTS

The purpose of this study was to identify effective counseling competencies audiologists need to possess in clinical practice, within the broad categories of knowledge, skills, and attitudes. This purpose was realized by using a three-round modified e-Delphi survey, administered to a sample of researchers and clinicians with expertise in audiologic counseling. Demographic characteristics of the panel and results from the survey rounds of the study are provided.

#### **Characteristics of the Sample**

A total of 33 recruits responded in Round One of the survey and summary demographic characteristics are provided in Table 5. Responses came from panel members living in the U.S., Australia, Canada, Denmark, and South Africa. All reported a white racial background. The majority (>70%) reported they were female, possessed a doctoral degree, worked in the field of audiology, and in a university setting. The reported age range of the panel members who chose to respond ( $n = 32$ ), spanned fifty-one years between the ages of 32 and 83 years, with a median age of 57.5 years. The number of years all panel members reported working with or providing services to individuals and families affected by auditory/vestibular disorders, ranged from 0 to 60 years, with a median number of 30 years. Professional responsibilities reported by panel members included those of teaching (85%), research (73%), administration (42%), clinic

Table 5

*Demographic Characteristics*

Round one panel members ( $N = 33$ )	<i>n</i>	%
Gender		
Female	24	73
Male	9	27
Geographic location		
United States (Northeast = 5   Midwest = 6   South = 8   West = 5)	24	73
Australia (Queensland = 3   Victoria = 1   Southern = 1   Western = 1)	6	18
Canada (Ontario)	1	3
South Africa (Western Cape)	1	3
Denmark	1	3
Highest level of education		
Doctoral degree (AuD, PhD, EdD, etc.)	30	91
Master's degree (MA, MS, MEd, etc.)	3	9
Professional field		
Audiology	25	76
Speech-language pathology	5	15
Audiology & speech-language pathology	2	6
Speech language pathology & deaf education	1	3
Employment status		
Full time	22	67
Part time	6	18
Semi-retired	3	9
Retired	1	3
PhD student	1	3
Employment setting		
University	20	61
University & other (hospital = 2   private practice = 1   research organization = 1)	4	12
Private practice	3	9
Research organization	2	6
Other (industry = 1   non-profit = 2   consulting = 1)	4	12
Approximate number of audiologic counseling related publications		
None	2	6
1 to 5	10	31
6 to 10	5	16
11 to 15	1	3
More than 20	14	44

*(table continues)*



Round one panel members ( <i>N</i> = 33)	<i>n</i>	%
Number of years working with or providing services to individuals and families affected by auditory/vestibular disorders		
None	3	9
1-20	10	30
21-40	16	49
41 to 60	4	12
Rating of personal knowledge and experience related to audiologic counseling		
Novice (limited knowledge)	1	3
Intermediate (practical application)	5	15
Advanced (applied theory)	17	52
Expert (recognized authority)	10	30

(33%), consulting (9%), and other activities such as service (3%), textbook writing (3%), executive directing (3%), and project management (3%).

Of the 15 (46%) panel members who reported they were currently teaching a graduate audiologic counseling course, six reported they had cumulatively taught a course between 1-9 years, five had cumulatively taught a course between 10-19 years, and four cumulatively taught a course between 20-35 years. Of the eighteen (54%) who reported they were not currently teaching a counseling course, five reported that had previously taught a course between a cumulative number of 1-5 years, two reported they previously had taught a course for a cumulative number of 10 years, one reported they had previously taught a counseling course for 10 years to SLP students, and one reported that they had previously “taught counseling as part of other courses, but not counseling as a dedicated course.” The remaining nine did not provide an answer regarding their previous teaching experience.

Of the eight panel members (24%) who reported they were currently providing supervision to graduate audiology students, three reported they had cumulatively

supervised students between 8-20 years, four had cumulatively supervised students between 25-32 years, and one reported that they supervised but could not “sign off on hours.” Of the remaining 25 panel members (76%) who reported they were not currently supervising audiology students, two reported that had never previously supervised, six reported they had supervised between 1-5 years, seven reported they had previously supervised between 6-20 years, and six reported they had previously supervised between 20-50 years.

The last item of the demographic form asked panel members to rate their personal knowledge and experience related to audiologic counseling on a 6-point Likert scale of experience [1 = None, 2 = Fundamental Awareness (basic knowledge), 3 = Novice (limited experience), 4 = Intermediate (practical application), 5 = Advanced (applied theory), and 6 = Expert (recognized authority)]. The twenty-seven panel members who rated their experience as either *Advanced* or *Expert* were asked an additional follow up question to see whether they agreed other professionals considered them as someone who had *Advanced* or *Expert* experience related to audiologic counseling on a 6-point Likert scale of agreement (1 = strongly disagree, 2 = agree, 3- somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree). Of the seventeen who rated their experience as *Advanced*, their answers to the follow up question included five who somewhat agreed, nine who agreed, and two who strongly agreed others considered them as someone who had advanced experience. Of the 10 who rated their experience as *Expert*, four agreed, and six strongly agreed others considered them as someone who had expert experience.

## The Modified e-Delphi Survey

### Round One

As previously stated, 33 out of 60 recruits completed the Round One survey instrument for a response rate of 55%. A total of 338 knowledge, 291 skills, and 190 attitudinal items were generated from the open-ended responses (819 total). Word maps of each section were generated using NVivo, and specific words were removed [e.g., any word less than four letters (a, an, the, and, etc.)] to better represent common words and themes found most frequently within each section (see Figures 1-4).

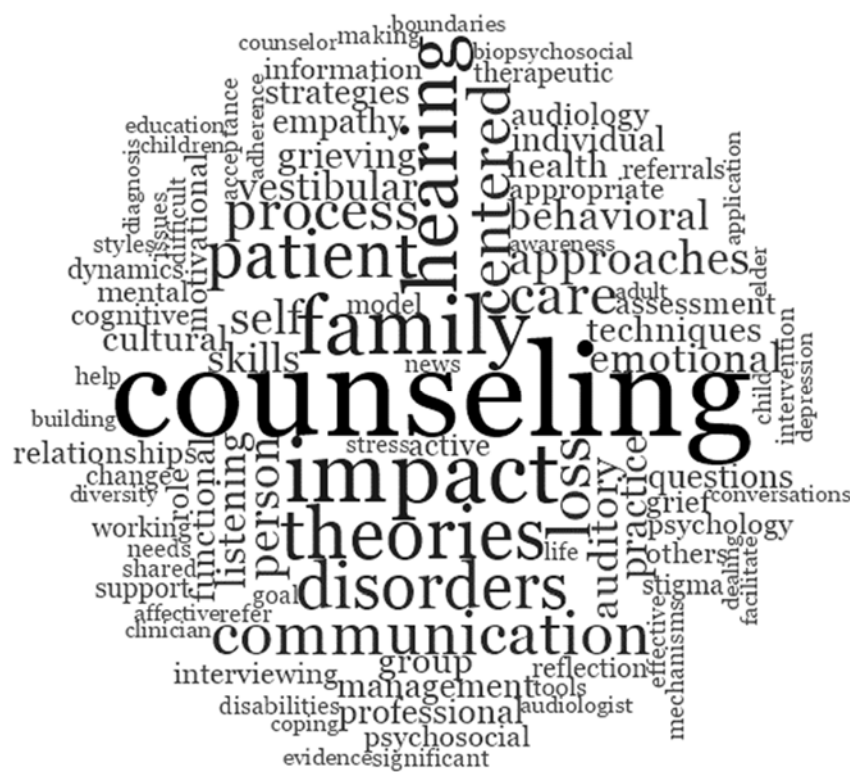


Figure 1. Knowledge word map #1 (with any word <4 letters removed)



Figure 2. Knowledge word map #2 (with the word *counseling* and any word <4 letters removed).



Figure 3. Skills word map (with any word <4 letters removed).



Figure 4. Attitudinal word map (with the words *possess*, *desire*, and any word <4 letters removed).

The reviewers expanded one pre-selected knowledge item into two items (i.e., “The WHO ICF” item to “functional impact” and “psycho-social impact of auditory/vestibular disorders”) and combined redundant items for a total of 67 items. Of these, 54 were consistent with pre-selected items and 13 were new. Five preselected items (not identified or generated by the panel; see Table 6) were added by the reviewers, bringing the total number of revised items to be rated in the Round Two survey instrument to 72 (21 knowledge items, 38 skills items, and 13 attitudinal items).

### **Rounds Two and Three**

To estimate the internal consistency of the items rated within each competency

Table 6

*Five Preselected Items Added*

Preselected item (Appendix C)	Revised item added (Appendix D)	Final consensus
<i>Knowledge Items</i>		
8. External barriers a patient/family may experience (e.g., lack of knowledge)	9. External barriers a patient/family may experience that interferes with the rehabilitation process (e.g., lack of knowledge)	Met
<i>Skills Items</i>		
6. Identify patient coping strategies	7. Identify patient/family coping strategies (flexibility/rigidity)	Met
28. Ask permission before providing information (being sensitive to how much information patient/family is ready to accept/absorb)	28. Ask permission before providing information or moving on (e.g., "I've finished discussing the hearing test results, can I move on to what they mean and what we can do about it? Or do you have more questions?")	Not Met
<i>Attitudinal Items</i>		
9. Desire to collaborate with counseling professionals (e.g., psychologists, marriage and family counselors, rehabilitation counselors, social workers, etc.)	10. Desire to collaborate with counseling professionals (e.g., psychologists, marriage and family counselors, rehabilitation counselors, social workers, etc.)	Met
10. Reject stereotypes/stigma toward a patient/family affected by auditory/ vestibular disorders	13. Reject stereotypes/stigma toward a patient/family affected by auditory/ vestibular disorders	Met

area, Cronbach's alpha reliability coefficients were computed after Round Two and Three. The result indicated high internal consistency of the items rated within each competency area for both rounds (see Table 7).

Following the consensus level definition outlined in the previous chapter, in Rounds Two and Three of the study, 64 (89%) items met the consensus criteria (16 knowledge, 35 skills, and 13 attitudinal items) (See Appendix F for final list). Of the 8 items that did not meet final consensus, seven were generated by the panel and consistent

Table 7

*Rounds 2 and 3 Cronbach's Alpha Reliability Coefficients*

Competency sections	Round 2 ( $N = 32$ ) Cronbach's $\alpha$	Round 3 ( $N = 27$ ) Cronbach's $\alpha$
Knowledge items (21)	.895	.923
Skills items (38)	.944	.946
Attitudinal items (13)	.885	.875

with preselected items; one was an added item (see Table 6). Of the 13 new items generated by the panel (knowledge items 20 and 21; skills items 3, 5, 33-35, and 37-38; attitudinal items 2, 4, and 11-12), all met final consensus after Round Three (see Tables 8-10).

Between rounds, one knowledge item (#17) moved into the consensus range based on an IQR change from 2.0 to 1.0, and one knowledge item (#13) was lost due to an IQR change from 1.0 to 2.0 (see Table 8). No items moved into or were lost from the consensus range between rounds in either of the skills (Table 9) or attitudinal (Table 10) sections. Items in Tables 8-10 are listed in priority of items with the strongest final consensus met after Round Three.

Table 8

*Knowledge Items: Round 2 and Round 3 Consensus Level Results*

Item	Round 2 (N = 32)		Round 3 (N = 27)		Between round status
	%	IQR	%	IQR	
Consensus met					
7. The psycho-social impact of auditory/vestibular disorders	94	0	96	1	Stable
8. Developing therapeutic relationships (e.g., therapeutic alliance, helping alliance, working alliance, etc.)	91	1	96	1	Stable
20. Reactions to the plight of others (e.g., pity, sympathy, empathy, compassion)	94	1	93	1	Stable
2. Evidence-based counseling techniques (e.g., motivational interviewing [MI], acceptance and commitment therapy [ACT], group counseling, etc.)	81	1	89	1	Stable
6. The functional impact of auditory/vestibular disorders	88	0	89	1	Stable
10. How to educate a patient/family effectively related to external barriers	81	1	89	1	Stable
12. How to educate a patient/family effectively related to internal barriers	88	1	89	1	Stable
14. Emotions	84	1	89	1	Stable
15. Coping strategies	94	1	89	1	Stable
16. Stereotypes/stigma surrounding auditory/vestibular disorders	88	1	89	1	Stable
9. External barriers a patient/family may experience that interferes with the rehabilitation process (e.g., lack of knowledge)	84	1	85	1	Stable
11. Internal barriers a patient/family may experience that interferes with the rehabilitation process (e.g. fears, thoughts)	94	1	85	1	Stable
18. The use of appropriate culturally and linguistically diverse communication strategies	84	1	85	1	Stable
19. Referring to a mental health professional (recognizing professional/scope of practice boundaries)	91	1	85	1	Stable
21. Clinical Counseling Resources (e.g. assessment tools, screening tools, questionnaires, etc.)	84	1	85	1	Stable
17. The impact of sociocultural diversity	75	2	82	1	Gained
Consensus not met					
13. The grieving process	78	1	74	2	Lost
3. Theories of behavior change (e.g., health belief model, social learning, self-efficacy, trans-theoretical or stages of change, reasoned action, etc.)	66	2	70	2	Stable
4. Family dynamics theories (e.g., family systems, family development, social exchange, ecological, etc.)	63	2	59	2	Stable
1. Counseling theories (e.g. person-centered, behavioral, cognitive behavior, humanistic, etc.)	59	1	56	2	Stable
5. Child and human development theories (e.g., psycho-sexual, psycho-social, behavioral, cognitive, attachment, social learning, sociocultural, etc.)	41	1	44	1	Stable



Table 9

*Skills Items: Round 2 and Round 3 Consensus Level Results*

Item	Round 2 (N = 32)		Round 3 (N = 27)		Between round status
	%	IQR	%	IQR	
Consensus met					
1. Empathically listen (e.g., open or empty one's mind, listen with full attention and focus, avoid judgmental thoughts, etc.)	100	0	100	0	Stable
7. Identify patient/family coping strategies (flexibility/rigidity)	94	1	100	1	Stable
12. Validate patient/family thoughts, feelings, or experiences (e.g., normalizing, extending understanding, warmth, encouraging them to see they can still act, etc.)	100	1	100	0	Stable
17. Collaborate with a patient/family to establish a plan of shared priorities (e.g., shared agendas, decisions, goals, etc.)	97	0	100	0	Stable
31. Assess patient/family understanding	100	0	100	0	Stable
34. Involve/Engage third-parties (e.g., family members, caregivers, spouses, significant others, peers, social network, etc.)	100	1	100	1	Stable
35. Establish a therapeutic relationship (rapport, trust, mutual understanding)	100	0	100	0	Stable
37. Identify strengths of a patient/family	91	1	100	1	Stable
38. Manage challenging conversations/situations (e.g., bad news, crisis situations, defensiveness, resistance, etc.)	91	0	100	0	Stable
6. Identify patient/family emotions	91	1	96	1	Stable
9. Reflect, paraphrase, or restate patient/family thoughts, feelings, experiences using own words	97	1	96	1	Stable
11. Use door openers (e.g., tell me more about...)	97	1	96	1	Stable
13. Resist the righting reflex (e.g., setting the priorities/agenda or desiring to persuade/problem solve for a patient/family)	97	1	96	1	Stable
14. Ask appropriate questions (e.g., open-ended, closed-ended, funneling, clarifying, etc.)	97	1	96	0	Stable
27. Maintain objectivity with a patient/family, even with those who are less adherent to clinical recommendations or whose decisions conflict with audiologists' professional judgment	94	1	96	1	Stable
29. Individualize results, implications, and recommendations to the patient/family	97	1	96	0	Stable
30. Use simple and easy to understand language	100	0	96	0	Stable

*(table continues)*

Item	Round 2 (N = 32)		Round 3 (N = 27)		Between round status
	%	IQR	%	IQR	
2. Use nonverbal communication appropriately (e.g., body position, posture, eye contact, physical distance, space, facial expressions, touch, etc.)	100	1	93	1	Stable
4. Use appropriate vocal qualities (e.g., tone, inflection, rate, volume of speech, etc.)	88	1	93	1	Stable
10. Summarize large amounts of information into meaningful statements	94	1	93	1	Stable
18. Help a patient/family problem-solve anticipated problems	91	1	93	1	Stable
26. Serve as an unconditional source of support for all patients/families, both traditional and non-traditional	81	1	93	1	Stable
36. Structure a welcoming counseling environment	100	1	93	1	Stable
3. Attend to nonverbal communication of the patient/family appropriately	100	1	89	1	Stable
8. Use minimal encouragers appropriately (e.g., head nods, uh-huh, directly restate/mirror patient/family statements using their words, etc.)	94	1	89	1	Stable
19. Problem-solve concerns with a patient/family	91	1	89	1	Stable
22. Identify internal barriers with a patient/family (e.g. fears)	88	1	89	1	Stable
32. Recognize the need for referral to other professionals	91	1	89	1	Stable
33. Use silence or breaks in communication appropriately	88	1	89	1	Stable
20. Identify external barriers with a patient/family (e.g. lack of knowledge)	88	1	85	1	Stable
15. Discuss realistic expectations	84	1	82	1	Stable
21. Structure interpersonal communication to help a patient/family regarding external barriers	78	1	82	1	Stable
24. Identify needs related to networks of patient/family support (e.g., spouse, family, friend, others who have similar experiences, etc.)	88	1	82	1	Stable
5. Attend to vocal qualities of the patient/family	81	1	78	1	Stable
23. Structure interpersonal communication to help a patient/family regarding internal barriers	88	1	78	1	Stable
Consensus not met					
25. Work toward the patient/family taking on an advocacy role	72	2	74	2	Stable
28. Ask permission before providing information or moving on (e.g., "I've finished discussing the hearing test results, can I move on to what they mean and what we can do about it? Or do you have more questions?")	66	2	67	2	Stable
16. Appropriately challenge a patient/family member	72	2	59	2	Stable

Table 10

*Attitudinal Items: Round 2 and Round 3 Consensus Level Results*

Item	Round 2 (N = 32)		Round 3 (N = 27)		Between round status
	%	IQR	%	IQR	
Consensus Met					
1. Possess empathy toward a patient/family affected by auditory/vestibular disorders	100	1	100	0	Stable
3. Respect different patient/family world views/values	100	0	100	0	Stable
5. Value importance of patient/family engagement in the intervention process	100	0	100	1	Stable
13. Reject stereotypes/stigma toward a patient/family affected by auditory/vestibular disorders	94	1	100	1	Stable
2. Possess a genuine interest in and concern for a patient/family affected by auditory/vestibular disorder	97	0	96	0	Stable
6. Desire to develop a working alliance with a patient/family	97	1	96	0	Stable
9. Desire to help a patient/family overcome external/internal barriers they experience, related to their auditory/vestibular disorders	84	1	96	1	Stable
7. Desire to focus on patient/family needs with no hidden agenda	91	1	93	1	Stable
8. Desire to see a patient/family succeed in overcoming the negative functional, social, and emotional impacts of their disorders	88	1	93	1	Stable
12. Be willing to admit uncertainty	91	1	93	1	Stable
4. Value their role as counselors to assist patients/families in the intervention process	94	1	89	1	Stable
11. Desire to pursue learning opportunities related to audiologic counseling	88	1	89	1	Stable
10. Desire to collaborate with counseling professionals (e.g., psychologists, marriage and family counselors, rehabilitation counselors, social workers, etc.)	81	1	85	1	Stable

## **CHAPTER V**

### **DISCUSSION**

The purpose of this study was to gain insight into what counseling competencies (i.e., knowledge, skills, and attitudes) are needed for audiologists to provide effective counseling in practice. This study was completed in response to the lack of consensus that exists in the field and within current audiologic counseling guidelines. The expert panel members who participated in this study included research audiologists/speech-language pathologists and clinical audiologists considered to be experts on counseling, and as such, provided information leading to an understanding of what types of counseling competencies play an important role in helping individuals and families negatively impacted by ear related disorders. Study limitations, summarized key findings, implications for audiologists, and future research are discussed.

#### **Study Limitations**

Consensus results of a Delphi study do not necessarily constitute scientific truth or the best answer to a problem or issue being studied; rather, they suggest that a panel of experts have come to an agreement regarding the problem/issue (Keeney et al., 2011). The design limitations of this study included the potential bias in the phrasing of survey instrument questions, bias in the self-report answers that were received, and pressure to conform through group decision making (Stewart, 1987; Woudenberg, 1991). Experts who participated in this study included at least three panel members who reported never having provided clinical services to individuals. Panel members provided representation

from only 6 countries, missing experts from other countries where additional audiologic counseling research has been conducted in the literature. Most of the panel were experts in audiologic rehabilitation, with very few if any having expertise in hearing conservation or vestibular rehabilitation.

### **Audiologic Counseling Competencies**

Sixty-four competency items met consensus in this study and in general lined up well with the 60 pre-selected evidence based counseling competency items generated by the researcher prior to the survey rounds (ASHA, 2001, 2006a, 2006b; Blonna & Watter, 2005; Burnard, 1999; Harris, 2009; Ivey et al., 2017; Meier & Davis, 2011; Rollnick et al., 2008; Swank et al., 2012). Many of these counseling competencies provide an important level of detail that is missing from the clinical standards established by the professional associations in audiology (i.e., AAA, 1997; CCC-ASLP, 2012). Within the attitudinal section of this study specifically, none of the items ever fell below 80% of panel members rating an item within the consensus criteria. This suggests counseling experts in this study agree with the recent paradigm shift occurring in the field (Cherry, 2015; English, 2005; Erdman, 2013; Hickson, 2012; Meibos et al., 2017; Schow & Nerborne, 2013; Sharma, 2016; Singh et al., 2016), recognizing the need of placing patients/families at the center of audiologic services to improve outcomes (see Figure 4 in Chapter IV). The eight knowledge and skills items that did not meet consensus were consistent with a lack of consensus surrounding theoretical knowledge and elements of the patient-audiologist relationship.

### **Theoretical Knowledge**

Theoretical knowledge items generated in this study included knowledge related to counseling theories (e.g. person-centered, behavioral, cognitive behavior, humanistic, etc.), the grieving process (Kübler-Ross, 1969), behavior change theories (e.g., health belief model, social learning, self-efficacy, trans-theoretical or stages of change, reasoned action, etc.), family dynamics theories (e.g., family systems, family development, social exchange, ecological, etc.), and human development theories (e.g., psycho-sexual, psycho-social, behavioral, cognitive, attachment, social learning, sociocultural, etc.). A fascinating finding in this study was that none of these theory related items were found to meet final consensus. Although 44-74% of the panel rated these items as *very important* or *extremely important* after Round Three, and consensus was met regarding knowledge of “evidence based counseling techniques,” the lack of consensus on these items reflects uncertainty among experts regarding the importance of foundational theory information in audiologic education and practice.

**Counseling theories.** In Whicker et al. (2017) recent syllabi review of audiologic counseling courses, counseling theories were the most common content area included in the syllabi reviewed. Blonna and Watter (2005, p. 19) suggest that “[a] counselor needs not only to be proficient in using the skills of counseling but also to have knowledge of theories used to explain, and change, behavior.” A similar description from Meier and Davis (2011, p. 64) explains: “theory provides a basis for making-choices and increases the likelihood that they will be of help to [a] client,” and “beginning counselors should become familiar with the basic theory and practice of many approaches. Only then can [they] make the informed choices necessary to create, integrate, and structure [a] method

with [a] particular client.” Current counseling practices and standards in audiology do not rely on a shared fundamental understanding based on evidence, which may explain why for decades a lack of consensus regarding counseling has prevailed.

**Behavior theories.** Many researchers have been exploring the application of health behavior change theories within audiologic research, including the areas of hearing-conservation (Sobel & Meikle, 2008), audiologic rehabilitation (Coulson, Ferguson, Henshaw, Heffernan, 2016; Ferguson, Coulson, Henshaw, & Heffernan, 2016; Laplante-Lévesque, Hickson, & Worrall, 2013; Meyer, Hickson, Lovelock, Lampert, & Khan, 2014; Ridgway, Hickson, & Lind, 2015, 2016; Saunders, Frederick, Silverman, & Papesh, 2013), and vestibular rehabilitation (Barker, 2015). Each day, audiologists work with patients/families whose hearing health or adjustment to ear related disorders could be greatly improved by behavior change. Without training or preparation in how to promote health behavior change, it is unlikely audiologists can move toward shared decision making or motivating change. Evidence of motivational counseling techniques (rooted in behavior change theories) in the literature have been shown to improve audiologic outcomes (Meibos et al., 2017), but only when the critical element of expert training has been attained.

**The theoretical ICF framework.** As described in Chapter II, individuals affected by ear related disorders are impacted in diverse ways; because of the “types of activities they do, [the] societal roles they have, who they are, and the [environments] in which they participate” (Meyer et al., 2016, p. 163). The audiology scope of practice (ASHA, 2004) emphasizes audiologic rehabilitation can be guided by the theoretical ICF framework, with intentional patient/family-centered focus on functional and

social/emotional impacts of ear related disorders. Family systems and human development theories may help to guide audiologists with greater insight into how ear related disorders play impact individual patient/family experiences.

### **Patient-Audiologist Relationships**

Several counseling skills items maintained high consensus between rounds of this study; five specifically did not change between rounds (1, 12, 31, 34, and 35; see Table 8) and were consistent with supportive interpersonal communication skills promoting active interpersonal and therapeutic relationships in audiology (Clark & English, 2014). These items were also found to be consistent with the literature, citing the need for audiologists to include more emotionally focused communication in their service delivery (Ekberg et al., 2014; Erdman, 2013). In allied healthcare professions, therapeutic relationships can be defined as helping relationships based on mutual trust and respect, nurturing hope, being sensitive to differences, and assisting with physical, emotional, and spiritual needs of a patient (Pullen & Mathias, 2010). Three counseling skills items that did not meet the consensus (16, 25, and 28) appeared to conflict with the items that promoted therapeutic relationships.

The first of these items was the one pre-selected item added by the reviewers that did not meet consensus (see Table 6 in Chapter IV), related to the ability to “ask permission” before informing or moving on. It is possible that the wording of this item may have been misunderstood; or, it is also possible that slightly less than 40% of the panel members really did not see the role of this action as promoting patient engagement in the development/maintenance of a therapeutic relationship. Rollnick et al. (2008, pp.



91-92) caution that informing or moving on to the next stage of a shared-agenda in healthcare settings without permission has the potential “to elicit resistance when [a] patient is unready or unwilling; [whereas, asking for permission] directly honors and reinforces patients’ autonomy and active involvement in their own health care...lowers resistance...[and] often makes the patient more willing to [listen].” Recent evidence illustrates how common it is for audiologists to move from one phase of hearing assessment to intervention within appointment conversations, ignoring shared-agenda approaches to the rehabilitation process that likely influence strong emotional concerns and ambivalence (Ekberg et al., 2014).

Another skills item (#25) not meeting consensus criteria during both Rounds Two and Three, indicated panel members were less certain whether it was important for audiologists to assist a patient/family in working toward taking on an advocacy role. The process of a patient/family working toward self-advocacy or other advocacy roles in audiology is essentially helping them to take responsibility for their own personal hearing, communication, vestibular, or other related needs. Although the field of audiology has adopted several external motivation tactics to persuade patients to change their hearing related health behaviors (e.g., incentives, manufacturer discounts/promotions, celebrity endorsements, etc.), research has demonstrated that sustained changes in hearing health behavior are more often a result of internal motivation, and seldom directly influenced by audiologists (Ridgway et al., 2015, 2016). More research is warranted to explore how the development of a patient/family advocacy role may fall within the shared-responsibility of audiologists.

The final item not meeting consensus in the skills section (#16), dealt with the

ability to appropriately challenge a patient/family. The wording of this item may not have had a specific enough context to warrant reaching consensus. For example, one context that may have yielded a different result is evident in a recent survey of pediatric audiologists (Meibos et al., 2016). In the survey, one question asked audiologists whether they had received and or desired counseling training regarding challenging a “parent who denies hearing loss.” Of the fourteen counseling training items pediatric audiologists rated, this was the highest rated item where they desired more training (265/336; 79%). Other instances where an audiologist might feel the need to challenge a patient/family include when a patient is feigning a hearing loss, or when a patient refuses to adhere to critical recommendations that may have significantly negative impacts on their own or others’ health or quality of life (e.g., medical referral, psychological referral, etc.). Had there been more context to draw from, it is possible this item may have produced a response consistent with what practicing pediatric audiologists would like more counseling training in.

### **Future Research**

While the importance of counseling in audiology has been cited for decades, as mentioned previously, it has not developed. Evidence in the literature, and this study, suggest there has been a significant lack of a foundational structure, regarding the vision and definition of what audiologic counseling is or what it should look like in practice. As the scope of this problem has become more relevant, audiology researchers and professional associations have begun exploring ways to implement patient-centered approaches and the development of competency measures into audiologic education (e.g.,

the ASHA 2016 AuD Education Summit, [www.asha.org/Academic/2016-AuD-Education-Summit/](http://www.asha.org/Academic/2016-AuD-Education-Summit/)); however, future research is needed to focus on the improvement of audiologic counseling specifically.

To achieve this, there is a need to systematically structure counseling education in audiology. Student clinicians begin developing their mindset for clinical care from the time they enter training. Not only do students need to learn new technical skills, they need to learn how to develop effective working alliances with their patients, engaging them in their care, and guiding them as they learn how to cope and manage their hearing loss in their daily lives. Although it may not be feasible for programs to provide a counseling course during the first year of graduate training, clinicians can begin learning essential attitudes and skills through clinical instruction. Research is needed to guide graduate training programs related to implementation of learning strategies in the classroom and in the clinic. Importantly, this includes addressing continuing education needs of teaching faculty. Empirical studies focusing on outcomes for patients, families, and providers, are additionally needed related to audiologic counseling.

Last, there is a saying that alludes to the idea that: when performance has been measured and reported, the rate of improvement accelerates. The identification and measurement of professional counseling competencies has been gaining attention in the professional counseling literature (Bhat, 2005; Eriksen & McAuliffe, 2003), including the development of psychometric measures to assess competencies during training (Swank et al., 2012). Looking at trends from among the populations mentioned and exploring the application of professional counseling research within audiologic counseling studies, together will help future researchers and clinicians in the development of standardized/

easy-to-use clinical supervision measures, supporting an evidence based structure and framework for the training, acquisition, and maintenance of counseling competencies within graduate training programs.

### **Conclusion**

The audiologic counseling competencies identified in this study confirmed that current practice guidelines in the field have been lacking in clarity and detail to help audiologists provide effective counseling in practice. Important knowledge, skills, and attitudes are outlined in this study, along with suggestions for future research that can help to move the field forward in developing a structural framework that can assist in the implementation of these competencies within graduate training, and measure their efficacy in practice. The results of this study are the first step toward improving functional/psycho-social outcomes and long-term success of patients/families in audiology, with the intentional focus of effective counseling at the forefront of all audiology practices.

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APPENDICES

Appendix A

Invitation Letter and IRB Letter of Information



Special Education  
and Rehabilitation



Dear Sir/Madam/Professional Title and Name,

**Re: Help improve audiologic counseling practices!**

We've developed a consensus study (IRB Study #9038) to identify important counseling competencies needed in audiology. Based on your professional background, experience, and international contributions to the audiologic counseling literature, we are inviting you to provide your expert opinion as someone who knows about this area extensively. The knowledge and perspectives you share could positively impact the experience of future graduate audiology students and audiologists in their acquisition of important counseling knowledge, skills, and attitudes.

If you're interested and can spare 15 minutes today, and at two additional times over the next two months, please follow the link below to begin providing your expert opinion on this important issue.

[usuaudiology.com/counseling](https://usuaudiology.com/counseling)

Thank you for your time and for helping us learn how to improve counseling practices in audiology.

**Karen Muñoz, Ed.D.**

Associate Professor  
Interim Department Head | NCHAM Associate Director  
Communicative Disorders and Deaf Education  
2620 Old Main Hill | Logan, UT 84322-2620  
435-797-3701 | [karen.munoz@usu.edu](mailto:karen.munoz@usu.edu)

**Alex Meibos, B.S.**

Au.D./Ph.D. Candidate  
Communicative Disorders and Deaf Education  
Special Education & Rehabilitation  
2620 Old Main Hill | Logan, UT 84322-2620  
801-787-7384 | [alex.meibos@aggiemail.usu.edu](mailto:alex.meibos@aggiemail.usu.edu)

P.S. If you are unable to participate but know of any audiologists who might be eligible for this study, please reply with their names and contact information.



Page 1 of 1  
 Protocol #  
 IRB Approval Date:  
 Consent Document Expires:  
 IRB Password Protected per IRB X

v.8 3 Mar2017

## Letter of Information

### Counseling Competencies in Audiology: Important Knowledge, Skills, and Attitudes

#### Introduction

You are invited to participate in a research study conducted by Karen Muñoz, Ed.D. in the Department of Communicative Disorders and Deaf Education and Alex Meibos, B.S., in the Department of Special Education and Rehabilitation at Utah State University. The purpose of this research is to identify the knowledge, skills and attitudes that are important for audiologists to possess to provide effective audiologic counseling.

This form includes detailed information on the research to help you decide whether to participate in this study. Please read it carefully and ask any questions you have before you agree to participate. If you are a research audiologist, research speech-language pathologist, clinical audiologist, or audiologic counseling course instructor, with professional experience related to audiologic counseling (e.g., author/co-author of a publication(s), presentation(s), training(s), etc.), you are eligible to complete this study.

#### Procedures

Your participation will involve taking part in a Delphi study, which is a three-round survey designed to gather consensus from an expert panel about what counseling competencies audiologists need to possess to provide effective audiologic counseling in clinical practice. If you agree to participate, you will be asked to provide your name and preferred email address to provide you with direct survey links to the second and third survey rounds. In the first round, you will be asked to respond to several basic demographic questions and to three open-ended prompts. After the analysis of the first round, you will be sent an email request to participate in the second round of the study, which will involve rating a series of items based on their perceived importance. After the analysis of the second round, you will be sent an electronic copy of your individual results from round two and an email request to participate in the third round of the study, which will involve re-rating a series of items based on their perceived importance. This study will be conducted over a period of approximately two months, beginning in late-January of 2018. You will have 12 days to complete and return each round of the survey. You will have control over the place and time that you complete the three rounds and it is estimated that each round will take 15 minutes to complete. We anticipate that up to 30 people will participate in this research study.

#### Risks

This is a minimal risk research study. That means that the risks of participating are no more likely or serious than those you encounter in everyday activities. The foreseeable risks or discomforts include loss of confidentiality and survey fatigue. To minimize those risks and discomforts, the researchers will provide clear instructions on how to complete each survey round and ask only essential questions that directly support the purpose of the research. More information on confidentiality is provided below.

#### Benefits

There is no direct benefit to you for participating in this research study. More broadly, your expertise in audiologic counseling is valuable in helping us better understand this issue. The knowledge and perspectives you share could positively impact the experience of future graduate audiology students and practicing audiologists who are interested in understanding what counseling competencies are needed to support individuals and families impacted by auditory, vestibular, and ear related disorders. Your contributions may also help provide a conceptual counseling education framework that could be used guide future audiologic counseling research.

#### Confidentiality

The researchers will make every effort to ensure that the information you provide as part of this study remains confidential. To protect your privacy, your identity will not be revealed in any publications, presentations, or reports resulting from this research study. Personal/identifiable information collected will only be used to contact you



Page 1 of 1  
 Protocol #  
 IRB Approval Date:  
 Consent Document Expires:  
 IRB Password Protected per IRB X

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throughout the duration of study. Only the researchers will have access to the data collected, which will be kept on a password protected computer or password protected survey account. Potential identifiers within the instruments (i.e., geographic location) are broad enough to prevent identification of respondents. To protect your individual privacy, we ask that you do NOT identify yourself by name when responding to open-ended prompts in the first round. While we will ask all group members to keep the information they see or read in this group confidential, we cannot guarantee that everyone will do so.

We will collect your information through Qualtrics, an online survey tool. This information will be securely stored in a restricted-access folder on Box.com, an encrypted, cloud-based storage system and/or a [and/or] in a locked drawer in a restricted-access office. Any identifiable data collected as part of this will be destroyed 3 years after the conclusion of the study. It is unlikely, but possible, that others (Utah State University, or state or federal officials) may require us to share the information you give us from the study to ensure that the research was conducted safely and appropriately. We will only share your information if law or policy requires us to do so.

The researchers will work to ensure confidentiality to the degree permitted by technology. It is possible, although unlikely, that unauthorized individuals could gain access to your responses because you are responding online.

### **Voluntary Participation & Withdrawal**

Your participation in this research is completely voluntary. If you agree to participate now and change your mind later, you may withdraw at any time by informing the researchers that you will be withdrawing from the study. If you choose to withdraw after we have already collected information about you, any information that you provided that is not anonymous will be properly disposed of.

### **IRB Review**

The Institutional Review Board (IRB) for the protection of human research participants at Utah State University has reviewed and approved this study. If you have questions about the research study itself, please contact the Principal Investigator at (435) 797-3701 or [karen.munoz@usu.edu](mailto:karen.munoz@usu.edu). If you have questions about your rights or would simply like to speak with someone other than the research team about questions or concerns, please contact the IRB Director at (435) 797-0567 or [irb@usu.edu](mailto:irb@usu.edu).

---

Karen Muñoz, Ed.D  
 Principal Investigator  
 (435) 797-3701; [karen.munoz@usu.edu](mailto:karen.munoz@usu.edu)

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Alex Meibos  
 Student Investigator  
 (801) 787-7384; [alex.meibos@aggiemail.usu.edu](mailto:alex.meibos@aggiemail.usu.edu)

### **Informed Consent**

By clicking the "I Agree to Participate" radial button below, you agree to participate in this study. You indicate that you understand the risks and benefits of participation, and that you know what you will be asked to do. You also agree that you have asked any questions you might have, and are clear on how to stop your participation in the study if you choose to do so. Please be sure to retain a copy of this form for your records.

Appendix B

Round One Survey Instrument Content

Please provide your first and last name: *open response*

Please provide your preferred e-mail address: *open response*

*this information will only be used to send links to the second and third rounds of the survey directly to you*

### **PART A. Demographic Questions**

- |  |   |  |   |  |  |  |          |
|--|---|--|---|--|--|--|----------|
| 1. Gender  | <i>open response</i>  |  |   |  |  |  |          |
| 2. Age   | <i>open response</i>  |  |   |  |  |  |          |
| 3. Race<br>(select multiple as needed)   | <table border="0"> <tr> <td>a. White</td> <td>d. Asian</td> </tr> <tr> <td>b. Black or African American</td> <td>e. Native Hawaiian or other Pacific Islander</td> </tr> <tr> <td>c. American Indian or Alaskan Native</td> <td>f. Other</td> </tr> </table>    | a. White                                   | d. Asian  | b. Black or African American                     | e. Native Hawaiian or other Pacific Islander | c. American Indian or Alaskan Native                     | f. Other |
| a. White   | d. Asian  |  |   |  |  |  |          |
| b. Black or African American   | e. Native Hawaiian or other Pacific Islander  |  |   |  |  |  |          |
| c. American Indian or Alaskan Native   | f. Other  |  |   |  |  |  |          |
| 4. Geographic Location   | <table border="0"> <tr> <td>a. State/Province: <i>open response</i></td> </tr> <tr> <td>b. Country: <i>open response</i></td> </tr> <tr> <td>c. Other (please describe): <i>open response</i></td> </tr> </table>   | a. State/Province: <i>open response</i>    | b. Country: <i>open response</i>                    | c. Other (please describe): <i>open response</i> |  |  |          |
| a. State/Province: <i>open response</i>  |   |  |   |  |  |  |          |
| b. Country: <i>open response</i>   |   |  |   |  |  |  |          |
| c. Other (please describe): <i>open response</i>   |   |  |   |  |  |  |          |
| 5. Highest Level of Education  | <table border="0"> <tr> <td>a. Master's Degree (MA, MS, MEd, or other)</td> </tr> <tr> <td>b. Doctoral Degree (AuD, PhD, EdD, CISCd, or other)</td> </tr> <tr> <td>c. Other (please describe): <i>open response</i></td> </tr> </table>                         | a. Master's Degree (MA, MS, MEd, or other) | b. Doctoral Degree (AuD, PhD, EdD, CISCd, or other) | c. Other (please describe): <i>open response</i> |  |  |          |
| a. Master's Degree (MA, MS, MEd, or other)   |   |  |   |  |  |  |          |
| b. Doctoral Degree (AuD, PhD, EdD, CISCd, or other)  |   |  |   |  |  |  |          |
| c. Other (please describe): <i>open response</i>   |   |  |   |  |  |  |          |
| 6. Professional Field<br>(select multiple as needed)   | <table border="0"> <tr> <td>a. Audiology</td> </tr> <tr> <td>b. Speech-Language Pathology</td> </tr> <tr> <td>c. Other (please describe): <i>open response</i></td> </tr> </table>  | a. Audiology                               | b. Speech-Language Pathology                        | c. Other (please describe): <i>open response</i> |  |  |          |
| a. Audiology   |   |  |   |  |  |  |          |
| b. Speech-Language Pathology   |   |  |   |  |  |  |          |
| c. Other (please describe): <i>open response</i>   |   |  |   |  |  |  |          |
| 7. Employment Status<br>(select multiple as needed)  | <table border="0"> <tr> <td>a. Part-time</td> </tr> <tr> <td>b. Full-time</td> </tr> <tr> <td>c. Unemployed</td> </tr> <tr> <td>d. Retired</td> </tr> <tr> <td>e. Other (please describe): <i>open response</i></td> </tr> </table>                             | a. Part-time                               | b. Full-time  | c. Unemployed                                    | d. Retired                                   | e. Other (please describe): <i>open response</i>         |          |
| a. Part-time   |   |  |   |  |  |  |          |
| b. Full-time   |   |  |   |  |  |  |          |
| c. Unemployed  |   |  |   |  |  |  |          |
| d. Retired   |   |  |   |  |  |  |          |
| e. Other (please describe): <i>open response</i>   |   |  |   |  |  |  |          |
| 8. Professional Responsibilities<br>(select multiple as needed)  | <table border="0"> <tr> <td>a. Clinic</td> </tr> <tr> <td>b. Research</td> </tr> <tr> <td>c. Teaching</td> </tr> <tr> <td>d. Administration</td> </tr> <tr> <td>e. Other (please describe): <i>open response</i></td> </tr> </table>                            | a. Clinic                                  | b. Research   | c. Teaching                                      | d. Administration                            | e. Other (please describe): <i>open response</i>         |          |
| a. Clinic  |   |  |   |  |  |  |          |
| b. Research  |   |  |   |  |  |  |          |
| c. Teaching  |   |  |   |  |  |  |          |
| d. Administration  |   |  |   |  |  |  |          |
| e. Other (please describe): <i>open response</i>   |   |  |   |  |  |  |          |
| 9. Employment Setting<br>(select multiple as needed)   | <table border="0"> <tr> <td>a. Private Practice</td> </tr> <tr> <td>b. Hospital</td> </tr> <tr> <td>c. University</td> </tr> <tr> <td>d. Research Organization</td> </tr> <tr> <td>e. Other Setting (please describe): <i>open response</i></td> </tr> </table> | a. Private Practice                        | b. Hospital   | c. University                                    | d. Research Organization                     | e. Other Setting (please describe): <i>open response</i> |          |
| a. Private Practice  |   |  |   |  |  |  |          |
| b. Hospital  |   |  |   |  |  |  |          |
| c. University  |   |  |   |  |  |  |          |
| d. Research Organization   |   |  |   |  |  |  |          |
| e. Other Setting (please describe): <i>open response</i>   |   |  |   |  |  |  |          |
| 10. Approximate Number of Professional Audiologic Counseling Related Publications (articles, presentations, trainings, etc.) | <table border="0"> <tr> <td>a. None</td> </tr> <tr> <td>b. 1- 5</td> </tr> <tr> <td>c. 5-10</td> </tr> <tr> <td>d. 10-15</td> </tr> <tr> <td>e. 15-20</td> </tr> <tr> <td>f. &gt;20</td> </tr> </table>   | a. None                                    | b. 1- 5   | c. 5-10  | d. 10-15                                     | e. 15-20   | f. >20   |
| a. None  |   |  |   |  |  |  |          |
| b. 1- 5  |   |  |   |  |  |  |          |
| c. 5-10  |   |  |   |  |  |  |          |
| d. 10-15   |   |  |   |  |  |  |          |
| e. 15-20   |   |  |   |  |  |  |          |
| f. >20   |   |  |   |  |  |  |          |



11. Number Years Working with or Providing Services to Individuals and Families Affected by Auditory/Vestibular Disorders: *open response*
12. Do you currently teach an audiologic counseling course to graduate audiology students?
- a. No
    - a. If you have taught previously, how many cumulative years would you estimate you taught a counseling course (even if at different institutions): *open response*
  - b. Yes
    - a. How many cumulative years would you estimate you have taught a counseling course (even if at different institutions): *open response*
13. Do you currently provide clinical supervision to graduate audiology students?
- a. No
    - a. If you have supervised students previously, how many cumulative years would you estimate you provided supervision (even if at different institutions): *open response*
  - b. Yes
    - a. How many cumulative years would you estimate you have supervised graduate students (even if in different clinics): *open response*
14. How would you rate your personal knowledge and experience related to audiologic counseling?
- a. None
  - b. Fundamental Awareness (basic knowledge)
  - c. Novice (limited experience)
  - d. Intermediate (practical application)
  - e. **Advanced (applied theory)**
  - f. **Expert (recognized authority)**
    - a. Other professionals consider you as someone who has advanced or expert experience related to audiologic counseling:
      - i. Strongly disagree
      - ii. Disagree
      - iii. Somewhat disagree
      - iv. Somewhat agree
      - v. Agree
      - vi. Strongly agree

**OPEN ENDED PROMPTS:**

<p><b>PART B. COUNSELING KNOWLEDGE</b></p> <p>Please list the counseling <i>knowledge</i> you think audiologists need to provide effective counseling in practice.</p> <p>Counseling Knowledge refers to a general awareness or familiarity with effective counseling facts, information, or skills that can be acquired through experience or education. Some common examples of knowledge in this context may include knowledge related to: (a) counseling theories, (b) the grieving process, (c) the functional impacts of auditory/vestibular disorders, (d) the stereotypes surrounding auditory/vestibular disorders, etc.</p>
<p><b>PART C. COUNSELING SKILLS</b></p> <p>Please list the counseling <i>skills</i> you think audiologists need to provide effective counseling in practice.</p> <p>Counseling Skills refer to interpersonal communication abilities of audiologists during interactions with patients, and how they assess for and address barriers that patients experience. In this context, skills may include the ability for audiologists to: (a) attentively listen, (b) ask open-ended questions, (c) discuss realistic expectations, etc.</p>
<p><b>PART D. COUNSELING ATTITUDES</b></p> <p>Please list the counseling <i>attitudes</i> you think audiologists need to provide effective counseling in practice.</p> <p>Counseling Attitudes refer to personal values, beliefs, characteristics, or personality traits you think would help audiologists to provide effective counseling in practice. Some examples of counseling attitudes may include audiologists who possess: (a) empathy toward a patient/family affected by auditory/vestibular disorders; (b) desire to focus on patient/family needs with no hidden agenda; (c) respect for different patient/family worlds views/values, etc.</p>

## Appendix C

### Lists of Preselected Competency Items

## COUNSELING KNOWLEDGE

*Please rate the extent you believe each of the following counseling knowledge items is important:*

**(1 = Not at all important, 2 = Low importance, 3 = Slightly important, 4 = Moderately Important, 5 = Very Important, 6 = Extremely Important)**

<b>It is important for audiologists to have knowledge of...</b>						
1. Counseling theories (e.g. person-centered, behavioral, cognitive behavior)	1	2	3	4	5	6
2. Evidence-based counseling techniques (e.g., motivational interviewing [MI], acceptance and commitment therapy [ACT])	1	2	3	4	5	6
3. Theories of behavior change (e.g., health belief model, social learning, self-efficacy, transtheoretical (stages of change), reasoned action)	1	2	3	4	5	6
4. Family dynamics theories (e.g., family systems, family development, the life course perspective, social exchange, ecological)	1	2	3	4	5	6
5. Child and human development theories (e.g., psychosexual, psychosocial, behavioral, cognitive, attachment, social learning, sociocultural)	1	2	3	4	5	6
6. The World Health Organization's (WHO) International Classification of Functioning, Disability and Health (ICF) theoretical framework (WHO, 2001)	1	2	3	4	5	6
7. Developing therapeutic relationships (also known as therapeutic alliance, helping alliance, or the working alliance)	1	2	3	4	5	6
8. External barriers a patient/family may experience (e.g. lack of knowledge)	1	2	3	4	5	6
9. How to educate a patient/family effectively related to their external barriers	1	2	3	4	5	6
10. Internal barriers a patient/family may experience (e.g. fears, thoughts)	1	2	3	4	5	6
11. How to educate a patient/family effectively related to their internal barriers	1	2	3	4	5	6
12. The grieving process	1	2	3	4	5	6
13. Emotions	1	2	3	4	5	6
14. Coping strategies	1	2	3	4	5	6
15. Stereotypes/stigma surrounding auditory/vestibular disorders	1	2	3	4	5	6
16. The impact of sociocultural diversity	1	2	3	4	5	6
17. The use of appropriate culturally and linguistically diverse communication strategies	1	2	3	4	5	6
18. Referring patients/family member(s) to a mental health professional	1	2	3	4	5	6

## COUNSELING SKILLS

*Please rate the extent you believe each of the following counseling skill items is important:*  
**(1 = Not at all important, 2 = Low importance, 3 = Slightly important, 4 = Moderately Important, 5 = Very Important, 6 = Extremely Important)**

<b>It is important for audiologists to have the ability to...</b>						
1. Empathically listen (open or empty one's mind, listen with full attention and focus, avoid judgmental thoughts)	1	2	3	4	5	6
2. Use nonverbal communication appropriately (body position/posture, eye contact, physical distance/space, facial expressions, touch, silence)	1	2	3	4	5	6
3. Structure a welcoming counseling environment	1	2	3	4	5	6
4. Attend to appropriate vocal qualities (tone, inflection, rate and volume of speech)	1	2	3	4	5	6
5. Identify patient emotions	1	2	3	4	5	6
6. Identify patient coping strategies	1	2	3	4	5	6
7. Use minimal encouragers appropriately (e.g., head nods, uh-huh, mirror or directly restate patient statements using their words)	1	2	3	4	5	6
8. Reflect (paraphrase or restate) a patient's thoughts, feelings, experiences using own words (including patient/family resistance, change talk, ambivalence)	1	2	3	4	5	6
9. Summarize large amounts of information into meaningful statements	1	2	3	4	5	6
10. Use door openers (e.g., tell me more about...)	1	2	3	4	5	6
11. Validate patient thoughts, feelings, or experiences (normalizing, extending understanding, respect, warmth, encouraging them to see they can still act)	1	2	3	4	5	6
12. Resist the righting reflex (setting patient/family priorities or the desire to persuade/problem solve for them)	1	2	3	4	5	6
13. Ask appropriate open-ended questions	1	2	3	4	5	6
14. Ask appropriate closed-ended questions	1	2	3	4	5	6
15. Discuss realistic expectations	1	2	3	4	5	6
16. Appropriately challenge a patient/family member	1	2	3	4	5	6
17. Collaborate with a patient to establish a plan of shared priorities (shared agenda, shared decisions, shared goals)	1	2	3	4	5	6
18. Help a patient/family problem-solve anticipated problems	1	2	3	4	5	6
19. Problem-solve concerns with a patient/family	1	2	3	4	5	6
20. Identify external barriers with a patient/family (e.g. lack of knowledge)	1	2	3	4	5	6
21. Structure interpersonal communication to help a patient/family regarding external barriers	1	2	3	4	5	6
22. Identify internal barriers with a patient/family (e.g. fears)	1	2	3	4	5	6
23. Structure interpersonal communication to help a patient/family regarding internal barriers	1	2	3	4	5	6
24. Identify needs related to networks of support (e.g., spouse, family, friend, others who have similar experiences)	1	2	3	4	5	6

Please rate the extent you believe each of the following counseling *skill* items is important:  
(1 = Not at all important, 2 = Low importance, 3 = Slightly important, 4 = Moderately Important, 5 = Very Important, 6 = Extremely Important)

It is important for audiologists to have the ability to...						
25. Work toward the patient/family taking on an advocacy role	1	2	3	4	5	6
26. Serve as an unconditional source of support for all families, both traditional and non-traditional	1	2	3	4	5	6
27. Maintain objectivity with a patient/family (even those who are less adherent to clinical recommendations or whose decisions conflict with audiologists' professional judgment)	1	2	3	4	5	6
28. Ask permission before providing information (being sensitive to how much information patient/family is ready to accept/absorb)	1	2	3	4	5	6
29. Individualize results, implications, and recommendations to patient/family	1	2	3	4	5	6
30. Use simple and easy to understand language	1	2	3	4	5	6
31. Assess patient/family understanding	1	2	3	4	5	6
32. Recognize the need for referral to other professionals						

## COUNSELING ATTITUDES

Please rate the extent you believe each of the following counseling *attitudinal* items is important:  
(1 = Not at all important, 2 = Low importance, 3 = Slightly important, 4 = Moderately Important, 5 = Very Important, 6 = Extremely Important)

It is important for audiologists to...						
1. Possess a compassionate attitude toward a patient/family affected by auditory/vestibular disorders	1	2	3	4	5	6
2. Possess empathy toward a patient/family affected by auditory/vestibular disorders	1	2	3	4	5	6
3. Respect different patient/family world views/values	1	2	3	4	5	6
4. Value importance of patient/family engagement in the intervention process	1	2	3	4	5	6
5. Desire to develop a working alliance with a patient/family	1	2	3	4	5	6
6. Desire to focus on patient/family needs with no hidden agenda	1	2	3	4	5	6
7. Desire to see a patient/family succeed in overcoming the negative functional, social, and emotional impacts of their disorders	1	2	3	4	5	6
8. Desire to help a patient/family overcome external/internal barriers they experience, related to their auditory/vestibular disorders	1	2	3	4	5	6
9. Desire to collaborate with counseling professionals (e.g., psychologists, marriage and family counselors, rehabilitation counselors, social workers, etc.)	1	2	3	4	5	6
10. Reject stereotypes/stigma toward a patient/family affected by auditory/vestibular disorders	1	2	3	4	5	6

## Appendix D

Revised and Final Competency Items Used in Rounds Two and Three

## COUNSELING KNOWLEDGE

*Please rate the extent you believe each of the following counseling knowledge items is important:*

**(1 = Not at all important, 2 = Low importance, 3 = Slightly important, 4 = Moderately Important, 5 = Very Important, 6 = Extremely Important)**

<b>It is important for audiologists to have a knowledge of...</b>						
<b>1</b> Counseling theories (e.g. person-centered, behavioral, cognitive behavior, humanistic, etc.)	1	2	3	4	5	6
<b>2</b> Evidence-based counseling techniques (e.g., motivational interviewing [MI], acceptance and commitment therapy [ACT], group counseling, etc.)	1	2	3	4	5	6
<b>3</b> Theories of behavior change (e.g., health belief model, social learning, self-efficacy, trans-theoretical or stages of change, reasoned action, etc.)	1	2	3	4	5	6
<b>4</b> Family dynamics theories (e.g., family systems, family development, social exchange, ecological, etc.)	1	2	3	4	5	6
<b>5</b> Child and human development theories (e.g., psycho-sexual, psycho-social, behavioral, cognitive, attachment, social learning, sociocultural, etc.)	1	2	3	4	5	6
<b>6</b> The functional impact of auditory/vestibular disorders	1	2	3	4	5	6
<b>7</b> The psycho-social impact of auditory/vestibular disorders	1	2	3	4	5	6
<b>8</b> Developing therapeutic relationships (e.g., therapeutic alliance, helping alliance, working alliance, etc.)	1	2	3	4	5	6
<b>9</b> External barriers a patient/family may experience that interferes with the rehabilitation process (e.g., lack of knowledge)	1	2	3	4	5	6
<b>10</b> How to educate a patient/family effectively related to external barriers	1	2	3	4	5	6
<b>11</b> Internal barriers a patient/family may experience that interferes with the rehabilitation process (e.g. fears, thoughts)	1	2	3	4	5	6
<b>12</b> How to educate a patient/family effectively related to internal barriers	1	2	3	4	5	6
<b>13</b> The grieving process	1	2	3	4	5	6
<b>14</b> Emotions	1	2	3	4	5	6
<b>15</b> Coping strategies	1	2	3	4	5	6
<b>16</b> Stereotypes/stigma surrounding auditory/vestibular disorders	1	2	3	4	5	6
<b>17</b> The impact of sociocultural diversity	1	2	3	4	5	6
<b>18</b> The use of appropriate culturally and linguistically diverse communication strategies	1	2	3	4	5	6
<b>19</b> Referring to a mental health professional (recognizing professional/scope of practice boundaries)	1	2	3	4	5	6
<b>20</b> Reactions to the plight of others (e.g., pity, sympathy, empathy, compassion)	1	2	3	4	5	6
<b>21</b> Clinical Counseling Resources (e.g. assessment tools, screening tools, questionnaires, etc.)	1	2	3	4	5	6



## COUNSELING SKILLS

*Please rate the extent you believe each of the following counseling skill items is important:*  
**(1 = Not at all important, 2 = Low importance, 3 = Slightly important, 4 = Moderately Important, 5 = Very Important, 6 = Extremely Important)**

<b>It is important for audiologists to have the ability to...</b>							
<b>1</b>	Empathically listen (e.g., open or empty one's mind, listen with full attention and focus, avoid judgmental thoughts, etc.)	1	2	3	4	5	6
<b>2</b>	Use nonverbal communication appropriately (e.g., body position, posture, eye contact, physical distance, space, facial expressions, touch, etc.)	1	2	3	4	5	6
<b>3</b>	Attend to nonverbal communication of the patient/family appropriately	1	2	3	4	5	6
<b>4</b>	Use appropriate vocal qualities (e.g., tone, inflection, rate, volume of speech, etc.)	1	2	3	4	5	6
<b>5</b>	Attend to vocal qualities of the patient/family	1	2	3	4	5	6
<b>6</b>	Identify patient/family emotions	1	2	3	4	5	6
<b>7</b>	Identify patient/family coping strategies (flexibility/rigidity)	1	2	3	4	5	6
<b>8</b>	Use minimal encouragers appropriately (e.g., head nods, uh-huh, directly restate/mirror patient/family statements using their words, etc.)	1	2	3	4	5	6
<b>9</b>	Reflect, paraphrase, or restate patient/family thoughts, feelings, experiences using own words	1	2	3	4	5	6
<b>10</b>	Summarize large amounts of information into meaningful statements	1	2	3	4	5	6
<b>11</b>	Use door openers (e.g., tell me more about...)	1	2	3	4	5	6
<b>12</b>	Validate patient/family thoughts, feelings, or experiences (e.g., normalizing, extending understanding, warmth, encouraging them to see they can still act, etc.)	1	2	3	4	5	6
<b>13</b>	Resist the righting reflex (e.g., setting the priorities/agenda or desiring to persuade/problem solve for a patient/family)	1	2	3	4	5	6
<b>14</b>	Ask appropriate questions (e.g., open-ended, closed-ended, funneling, clarifying, etc.)	1	2	3	4	5	6
<b>15</b>	Discuss realistic expectations	1	2	3	4	5	6
<b>16</b>	Appropriately challenge a patient/family member	1	2	3	4	5	6
<b>17</b>	Collaborate with a patient/family to establish a plan of shared priorities (e.g., shared agendas, decisions, goals, etc.)	1	2	3	4	5	6
<b>18</b>	Help a patient/family problem-solve anticipated problems	1	2	3	4	5	6
<b>19</b>	Problem-solve concerns with a patient/family	1	2	3	4	5	6
<b>20</b>	Identify external barriers with a patient/family (e.g. lack of knowledge)	1	2	3	4	5	6
<b>21</b>	Structure interpersonal communication to help a patient/family regarding external barriers	1	2	3	4	5	6
<b>22</b>	Identify internal barriers with a patient/family (e.g. fears)	1	2	3	4	5	6
<b>23</b>	Structure interpersonal communication to help a patient/family regarding internal barriers	1	2	3	4	5	6

Please rate the extent you believe each of the following counseling *skill* items is important:  
(1 = Not at all important, 2 = Low importance, 3 = Slightly important, 4 = Moderately Important, 5 = Very Important, 6 = Extremely Important)

It is important for audiologists to have the ability to...							
24	Identify needs related to networks of patient/family support (e.g., spouse, family, friend, others who have similar experiences, etc.)	1	2	3	4	5	6
25	Work toward the patient/family taking on an advocacy role	1	2	3	4	5	6
26	Serve as an unconditional source of support for all patients/families, both traditional and non-traditional	1	2	3	4	5	6
27	Maintain objectivity with a patient/family, even with those who are less adherent to clinical recommendations or whose decisions conflict with audiologists' professional judgment	1	2	3	4	5	6
28	Ask permission before providing information or moving on (e.g., "I've finished discussing the hearing test results, can I move on to what they mean and what we can do about it? Or do you have more questions?")	1	2	3	4	5	6
29	Individualize results, implications, and recommendations to the patient/family	1	2	3	4	5	6
30	Use simple and easy to understand language	1	2	3	4	5	6
31	Assess patient/family understanding	1	2	3	4	5	6
32	Recognize the need for referral to other professionals	1	2	3	4	5	6
33	Use silence or breaks in communication appropriately	1	2	3	4	5	6
34	Involve/Engage third-parties (e.g., family members, caregivers, spouses, significant others, peers, social network, etc.)	1	2	3	4	5	6
35	Establish a therapeutic relationship (rapport, trust, mutual understanding)	1	2	3	4	5	6
36	Structure a welcoming counseling environment	1	2	3	4	5	6
37	Identify strengths of a patient/family	1	2	3	4	5	6
38	Manage challenging conversations/situations (e.g., bad news, crisis situations, defensiveness, resistance, etc.)	1	2	3	4	5	6

## COUNSELING ATTITUDES

*Please rate the extent you believe each of the following counseling attitudinal items is important:*  
**(1 = Not at all important, 2 = Low importance, 3 = Slightly important, 4 = Moderately Important, 5 = Very Important, 6 = Extremely Important)**

It is important for audiologists to...						
<b>1</b> Possess empathy toward a patient/family affected by auditory/vestibular disorders	1	2	3	4	5	6
<b>2</b> Possess a genuine interest in and concern for a patient/family affected by auditory/vestibular disorder	1	2	3	4	5	6
<b>3</b> Respect different patient/family world views/values	1	2	3	4	5	6
<b>4</b> Value their role as counselors to assist patients/families in the intervention process	1	2	3	4	5	6
<b>5</b> Value importance of patient/family engagement in the intervention process	1	2	3	4	5	6
<b>6</b> Desire to develop a working alliance with a patient/family	1	2	3	4	5	6
<b>7</b> Desire to focus on patient/family needs with no hidden agenda	1	2	3	4	5	6
<b>8</b> Desire to see a patient/family succeed in overcoming the negative functional, social, and emotional impacts of their disorders	1	2	3	4	5	6
<b>9</b> Desire to help a patient/family overcome external/internal barriers they experience, related to their auditory/vestibular disorders	1	2	3	4	5	6
<b>10</b> Desire to collaborate with counseling professionals (e.g., psychologists, marriage and family counselors, rehabilitation counselors, social workers, etc.)	1	2	3	4	5	6
<b>11</b> Desire to pursue learning opportunities related to audiologic counseling	1	2	3	4	5	6
<b>12</b> Be willing to admit uncertainty	1	2	3	4	5	6
<b>13</b> Reject stereotypes/stigma toward a patient/family affected by auditory/vestibular disorders	1	2	3	4	5	6

Appendix E

Round Two Group Statistics from Qualtrics Included in the Round Three  
Survey Instrument

	<b>Knowledge Items</b>	<i>N</i>	<b>Mean</b>	<i>SD</i>
1	Counseling theories (e.g. person-centered, behavioral, cognitive behavior, humanistic, etc.)	32	4.6	0.93
2	Evidence-based counseling techniques (e.g., motivational interviewing [MI], acceptance and commitment therapy [ACT], group counseling, etc.)	32	5.2	0.74
3	Theories of behavior change (e.g., health belief model, social learning, self-efficacy, trans-theoretical or stages of change, reasoned action, etc.)	32	5.0	0.83
4	Family dynamics theories (e.g., family systems, family development, social exchange, ecological, etc.)	32	4.9	0.95
5	Child and human development theories (e.g., psycho-sexual, psycho-social, behavioral, cognitive, attachment, social learning, sociocultural, etc.)	32	4.4	0.86
6	The functional impact of auditory/vestibular disorders	32	5.5	0.79
7	The psycho-social impact of auditory/vestibular disorders	32	5.7	0.68
8	Developing therapeutic relationships (e.g., therapeutic alliance, helping alliance, working alliance, etc.)	32	5.6	0.66
9	External barriers a patient/family may experience that interferes with the rehabilitation process (e.g., lack of knowledge)	32	5.3	0.81
10	How to educate a patient/family effectively related to external barriers	32	5.4	0.86
11	Internal barriers a patient/family may experience that interferes with the rehabilitation process (e.g. fears, thoughts)	32	5.4	0.7
12	How to educate a patient/family effectively related to internal barriers	32	5.5	0.71
13	The grieving process	32	5.2	0.99
14	Emotions	32	5.3	0.81
15	Coping strategies	32	5.5	0.61
16	Stereotypes/stigma surrounding auditory/vestibular disorders	32	5.3	0.67
17	The impact of sociocultural diversity	32	5.1	0.83
18	The use of appropriate culturally and linguistically diverse communication strategies	32	5.3	1.03
19	Referring to a mental health professional (recognizing professional/scope of practice boundaries)	32	5.5	0.75
20	Reactions to the plight of others (e.g., pity, sympathy, empathy, compassion)	32	5.6	0.6
21	Clinical Counseling Resources (e.g. assessment tools, screening tools, questionnaires, etc.)	32	5.1	0.89

	<b>Skills Items</b>	<b><i>N</i></b>	<b>Mean</b>	<b><i>SD</i></b>
1	Empathically listen (e.g., open or empty one's mind, listen with full attention and focus, avoid judgmental thoughts, etc.)	32	6.0	0.17
2	Use nonverbal communication appropriately (e.g., body position, posture, eye contact, physical distance, space, facial expressions, touch, etc.)	32	5.6	0.48
3	Attend to nonverbal communication of the patient/family appropriately	32	5.7	0.46
4	Use appropriate vocal qualities (e.g., tone, inflection, rate, volume of speech, etc.)	32	5.5	0.71
5	Attend to vocal qualities of the patient/family	32	5.3	0.76
6	Identify patient/family emotions	32	5.5	0.66
7	Identify patient/family coping strategies (flexibility/rigidity)	32	5.4	0.60
8	Use minimal encouragers appropriately (e.g., head nods, uh-huh, directly restate/mirror patient/family statements using their words, etc.)	32	5.4	0.61
9	Reflect, paraphrase, or restate patient/family thoughts, feelings, experiences using own words	32	5.6	0.66
10	Summarize large amounts of information into meaningful statements	32	5.5	0.61
11	Use door openers (e.g., tell me more about...)	32	5.7	0.53
12	Validate patient/family thoughts, feelings, or experiences (e.g., normalizing, extending understanding, warmth, encouraging them to see they can still act, etc.)	32	5.8	0.43
13	Resist the righting reflex (e.g., setting the priorities/agenda or desiring to persuade/problem solve for a patient/family)	32	5.5	0.56
14	Ask appropriate questions (e.g., open-ended, closed-ended, funneling, clarifying, etc.)	32	5.6	0.54
15	Discuss realistic expectations	32	5.2	1.22
16	Appropriately challenge a patient/family member	32	4.9	1.20
17	Collaborate with a patient/family to establish a plan of shared priorities (e.g., shared agendas, decisions, goals, etc.)	32	5.8	0.46
18	Help a patient/family problem-solve anticipated problems	32	5.4	0.83
19	Problem-solve concerns with a patient/family	32	5.5	0.93
20	Identify external barriers with a patient/family (e.g. lack of knowledge)	32	5.3	0.76
21	Structure interpersonal communication to help a patient/family regarding external barriers	32	5.2	0.85
22	Identify internal barriers with a patient/family (e.g. fears)	32	5.4	0.70
23	Structure interpersonal communication to help a patient/family regarding internal barriers	32	5.3	0.68
24	Identify needs related to networks of patient/family support (e.g., spouse, family, friend, others who have similar experiences, etc.)	32	5.3	0.68
25	Work toward the patient/family taking on an advocacy role	32	4.9	1.12

	<b>Skills Items</b>	<b><i>N</i></b>	<b>Mean</b>	<b><i>SD</i></b>
26	Serve as an unconditional source of support for all patients/families, both traditional and non-traditional	32	5.3	0.91
27	Maintain objectivity with a patient/family, even with those who are less adherent to clinical recommendations or whose decisions conflict with audiologists' professional judgment	32	5.5	0.83
28	Ask permission before providing information or moving on (e.g., "I've finished discussing the hearing test results, can I move on to what they mean and what we can do about it? Or do you have more questions?")	32	4.9	1.17
29	Individualize results, implications, and recommendations to the patient/family	32	5.7	0.51
30	Use simple and easy to understand language	32	5.9	0.29
31	Assess patient/family understanding	32	5.8	0.39
32	Recognize the need for referral to other professionals	32	5.6	0.86
33	Use silence or breaks in communication appropriately	32	5.4	0.70
34	Involve/Engage third-parties (e.g., family members, caregivers, spouses, significant others, peers, social network, etc.)	32	5.6	0.49
35	Establish a therapeutic relationship (rapport, trust, mutual understanding)	32	6.0	0.00
36	Structure a welcoming counseling environment	32	5.7	0.46
37	Identify strengths of a patient/family	32	5.6	0.66
38	Manage challenging conversations/situations (e.g., bad news, crisis situations, defensiveness, resistance, etc.)	32	5.7	0.73

<b>Attitudinal Items</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>
1 Possess empathy toward a patient/family affected by auditory/vestibular disorders	32	5.8	0.40
2 Possess a genuine interest in and concern for a patient/family affected by auditory/vestibular disorder	32	5.7	0.60
3 Respect different patient/family world views/values	32	5.8	0.40
4 Value their role as counselors to assist patients/families in the intervention process	32	5.6	0.60
5 Value importance of patient/family engagement in the intervention process	32	5.8	0.40
6 Desire to develop a working alliance with a patient/family	32	5.7	0.50
7 Desire to focus on patient/family needs with no hidden agenda	32	5.6	0.70
8 Desire to see a patient/family succeed in overcoming the negative functional, social, and emotional impacts of their disorders	32	5.5	0.80
9 Desire to help a patient/family overcome external/internal barriers they experience, related to their auditory/vestibular disorders	32	5.4	0.70
10 Desire to collaborate with counseling professionals (e.g., psychologists, marriage and family counselors, rehabilitation counselors, social workers, etc.)	32	5.1	1.00
11 Desire to pursue learning opportunities related to audiologic counseling	32	5.3	1.00
12 Be willing to admit uncertainty	32	5.6	0.70
13 Reject stereotypes/stigma toward a patient/family affected by auditory/vestibular disorders	32	5.6	0.60



Appendix F

List of Final Items Meeting Consensus

#	<i>Knowledge Items</i>
2	Evidence-based counseling techniques (e.g., motivational interviewing [MI], acceptance and commitment therapy [ACT], group counseling, etc.)
6	The functional impact of auditory/vestibular disorders
7	The psycho-social impact of auditory/vestibular disorders
8	Developing therapeutic relationships (e.g., therapeutic alliance, helping alliance, working alliance, etc.)
9	External barriers a patient/family may experience that interferes with the rehabilitation process (e.g., lack of knowledge)
10	How to educate a patient/family effectively related to external barriers
11	Internal barriers a patient/family may experience that interferes with the rehabilitation process (e.g. fears, thoughts)
12	How to educate a patient/family effectively related to internal barriers
14	Emotions
15	Coping strategies
16	Stereotypes/stigma surrounding auditory/vestibular disorders
17	The impact of sociocultural diversity
18	The use of appropriate culturally and linguistically diverse communication strategies
19	Referring to a mental health professional (recognizing professional/scope of practice boundaries)
20	Reactions to the plight of others (e.g., pity, sympathy, empathy, compassion)
21	Clinical Counseling Resources (e.g. assessment tools, screening tools, questionnaires, etc.)
#	<i>Skills Items</i>
1	Empathically listen (e.g., open or empty one's mind, listen with full attention and focus, avoid judgmental thoughts, etc.)
2	Use nonverbal communication appropriately (e.g., body position, posture, eye contact, physical distance, space, facial expressions, touch, etc.)
3	Attend to nonverbal communication of the patient/family appropriately
4	Use appropriate vocal qualities (e.g., tone, inflection, rate, volume of speech, etc.)
5	Attend to vocal qualities of the patient/family
6	Identify patient/family emotions
7	Identify patient/family coping strategies (flexibility/rigidity)
8	Use minimal encouragers appropriately (e.g., head nods, uh-huh, directly restate/mirror patient/family statements using their words, etc.)
9	Reflect, paraphrase, or restate patient/family thoughts, feelings, experiences using own words
10	Summarize large amounts of information into meaningful statements
11	Use door openers (e.g., tell me more about...)
12	Validate patient/family thoughts, feelings, or experiences (e.g., normalizing, extending understanding, warmth, encouraging them to see they can still act, etc.)
13	Resist the righting reflex (e.g., setting the priorities/agenda or desiring to persuade/problem solve for a patient/family)
14	Ask appropriate questions (e.g., open-ended, closed-ended, funneling, clarifying, etc.)
15	Discuss realistic expectations
17	Collaborate with a patient/family to establish a plan of shared priorities (e.g., shared agendas, decisions, goals, etc.)
18	Help a patient/family problem-solve anticipated problems
19	Problem-solve concerns with a patient/family

- 20 Identify external barriers with a patient/family (e.g. lack of knowledge)
- 21 Structure interpersonal communication to help a patient/family regarding external barriers
- 22 Identify internal barriers with a patient/family (e.g. fears)
- 23 Structure interpersonal communication to help a patient/family regarding internal barriers
- 24 Identify needs related to networks of patient/family support (e.g., spouse, family, friend, others who have similar experiences, etc.)
- 26 Serve as an unconditional source of support for all patients/families, both traditional and non-traditional
- 27 Maintain objectivity with a patient/family, even with those who are less adherent to clinical recommendations or whose decisions conflict with audiologists' professional judgment
- 29 Individualize results, implications, and recommendations to the patient/family
- 30 Use simple and easy to understand language
- 31 Assess patient/family understanding
- 32 Recognize the need for referral to other professionals
- 33 Use silence or breaks in communication appropriately
- 34 Involve/Engage third-parties (e.g., family members, caregivers, spouses, significant others, peers, social network, etc.)
- 35 Establish a therapeutic relationship (rapport, trust, mutual understanding)
- 36 Structure a welcoming counseling environment
- 37 Identify strengths of a patient/family
- 38 Manage challenging conversations/situations (e.g., bad news, crisis situations, defensiveness, resistance, etc.)

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**# Attitudinal Items**

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- 1 Possess empathy toward a patient/family affected by auditory/vestibular disorders
  - 2 Possess a genuine interest in and concern for a patient/family affected by auditory/vestibular disorder
  - 3 Respect different patient/family world views/values
  - 4 Value their role as counselors to assist patients/families in the intervention process
  - 5 Value importance of patient/family engagement in the intervention process
  - 6 Desire to develop a working alliance with a patient/family
  - 7 Desire to focus on patient/family needs with no hidden agenda
  - 8 Desire to see a patient/family succeed in overcoming the negative functional, social, and emotional impacts of their disorders
  - 9 Desire to help a patient/family overcome external/internal barriers they experience, related to their auditory/vestibular disorders
  - 10 Desire to collaborate with counseling professionals (e.g., psychologists, marriage and family counselors, rehabilitation counselors, social workers, etc.)
  - 11 Desire to pursue learning opportunities related to audiologic counseling
  - 12 Be willing to admit uncertainty
  - 13 Reject stereotypes/stigma toward a patient/family affected by auditory/vestibular disorders
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## CURRICULUM VITAE

ALEX R. MEIBOS

2620 Old Main Hill  
 Utah State University  
 Logan, UT 84322-2620  
 (801) 787-7384

**EDUCATION**

Utah State University	Logan, UT
Ph.D. in Disability Disciplines   Specialization: Audiology	May 2018
Adviser: Karen Muñoz, Ed.D., CCC-A	
Au.D., Doctor of Audiology	May 2018
B.S., Communicative Disorders and Deaf Education, Music minor	May 2013

**RESEARCH EXPERIENCE**

Utah State University	Logan, UT
Graduate Research Assistant	May 2016 – present
National Center for Hearing Assessment & Management (NCHAM)	
Director: Karl White, Ph.D.   Associate Director: Karen Muñoz, Ed.D., CCC-A	
Laboratory Manager	Aug 2015 – Apr 2016
Spoken Language Processing Laboratory	
Director: Brittan Barker, Ph.D.	
Graduate Clinical Research Assistant	May 2014 – Aug 2015
Listening & Spoken Language Lab & Graduate Training Program	
Director: Karen Muñoz, Ed.D., CCC-A	

**PEER-REVIEWED PUBLICATIONS**

Meibos, A., Muñoz, K., Schultz, J., Price, T., Whicker, J. J., Caballero, A., & Graham, L. (2017). Counselling users of hearing technology: a comprehensive literature review. *International Journal of Audiology*, 56(12), 903-908. doi:10.1080/14992027.2017.1347291

Meibos, A., Muñoz, K., White, K., Preston, E., Pitt, C., & Twohig, M. (2016). Audiologist Practices: Parent Hearing Aid Education and Support. *Journal of the American Academy of Audiology*, 27(4), 324–332. doi:10.3766/jaaa.15007

## PUBLICATIONS SUBMITTED

Jex, E., Galdamez, C.R., Caballero, A.B., Meibos, A.R., & Christensen, K.M. (*submitted*). WIOA, Supported and Customized Employment: A perspective on the implementation from the perspective of three models of disability. *Journal of Disability Policy Studies*.

## PRESENTATIONS

Meibos, A., & Muñoz, K. (2017, November). Evidence of Counseling Practices in Audiology. Poster presented at the Regional Audiology Student Poster Symposium, Utah State University, Logan, UT.

Meibos, A. (2018, March). Hear to Learn: An Online Resource for Parents of Young Children with Hearing Loss and Professionals. Invited lecture for the Annual Utah Speech-Language-Hearing Association Conference, Salt Lake City, UT.

Meibos, A. (2018, March). Motivational Interviewing in Audiology: An Approach to Increase Patient Adherence. Invited lecture for the Annual Utah Speech-Language-Hearing Association Conference, Salt Lake City, UT.

Meibos, A., & Muñoz, K. (2017, November). Evidence of Counseling Practices in Audiology. Poster presented at the Annual American Speech-Language-Hearing Association Convention, Los Angeles, CA.

Meibos, A., Whicker, J.J., & Holbrook, S. (2017, November). Clinical Supervision Practices in Graduate SLP/AuD Training: More Evidence Needed. Poster presented at the Annual American Speech-Language-Hearing Association Convention, Los Angeles, CA.

Meibos, A., & Larsen, J.B. (2017, October). University-Based Adult Group Aural Rehabilitation: Clinical Insights. Poster presented at the Intermountain Area Speech and Hearing Convention, Boise, ID.

Meibos, A., & Muñoz, K. (2015, September). New Jersey EHDI Program, Pediatric Hearing Health Care Webinar: National and State Information from *Audiologist Practices: Parent Hearing Aid Education & Support*. Invited Webinar Presentation Online.

Meibos, A. (2015, April). Pediatric Audiologist Practices: Providing Parent Hearing Aid Education & Support. Poster presented at the Regional Audiology Student Poster Symposium, Primary Children's Hospital, Salt Lake City, UT.

Meibos, A., & Muñoz, K. (2014, November). Audiologist Practices: Parent Hearing Aid Education & Support. Paper presented at the Annual American Speech-Language-Hearing Association Convention, Orlando, FL.

## TEACHING EXPERIENCE

Utah State University | Department of Communicative Disorders and Deaf Education

### Instructor

Pediatric Audiology (In-person and Online) Aug 2017 – Dec 2017  
 Introduction to Education of the Deaf and Hard of Hearing Aug 2015 – Dec 2016

### Teaching Assistant

Introduction to Clinical Practice in Audiology Aug 2015 – Dec 2015  
 Basic Audiology (Online) Aug 2013 – Aug 2014  
 Language Science (Online) May 2012 – May 2014  
 Language, Speech, and Hearing Development Aug 2012 – Dec 2012

### Technical Assistant and Distance Learning Support

Continuing Education Summer Seminars (In-person and Online) June 2012- June 2017

## TEACHING ADVANCEMENT

Utah State University

ETE: Empowering Teaching Excellence | USU Teaching Workshops Fall: 2016, 2017

## CLINICAL EXPERIENCE

USU Audiology Clinics Aug 2013 – present  
 Bridgerland Audiology, L.L.C., Logan May 2015 – present  
 The House of Hearing, Logan Sep 2016 – Jan 2017  
 Logan Regional Hospital, ENT & Audiology Department Aug 2016 – Dec 2016  
 Peak ENT Associates, Provo May 2015 – Aug 2015  
 Logan Regional Hospital, Newborn Nursery Sep 2014 – Dec 2014

## PROFESSIONAL SERVICE

Student Board Member, Utah Speech-Language Hearing Association 2015 – present  
 Student State Officer (SSO), NSSLHA Oct 2016 – Aug 2017  
 Student Volunteer, Starkey Hearing Foundation (SHF), Kenya May 2016  
 Officer, Public Relations & Media Specialist, USU SAA Chapter Jan 2014 – May 2016  
 Student Volunteer, USU Humanitarian Mission from the hEARt, Costa Rica May 2015  
 Student Volunteer, USU Humanitarian Mission from the hEARt, El Salvador May 2014  
 Co-President, USU NSSLHA Chapter May 2012 – May 2013

**HONORS & AWARDS**

Sallie Mae Scholarship   Amount: \$2000	2016 – 2017
Eleanor Foley Scholarship   Amount: \$1200	2015
Karl White Scholarship   Amount: \$1500	2014 – 2015

**MEMBERSHIPS**

American Speech-Language Hearing Association  
American Academy of Audiology  
American Cochlear Implant Alliance  
American Auditory Society  
National Hearing Conservation Association  
Utah Speech-Language Hearing Association