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Speech and Hearing Sciences

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Counseling Training for Audiology Students: Using Standardized Patients

by

Catherine M. Schroy

A dissertation presented to the
Graduate School of Arts and Sciences
of Washington University in
partial fulfillment of the
requirements for the degree
of Doctor of Philosophy

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List of Abbreviations

AAA – American Academy of Audiology

A – audiologist who judged select videos of encounters

ABR – auditory brainstem response

ACE – Audiologic Counseling Evaluation

ASHA – American Speech-Language and Hearing Association

Au.D. – Doctor of Audiology

BAS – Breaking bad news Assessment Schedule

dBHL – decibels hearing level

EHDI – early hearing detection and intervention

Hz – Hertz

K_w – Weighted Kappa

M - SP monitoring from outside of room during encounter

OAE – otoacoustic emissions

OSCE – Objective Structured Clinical Exam

PACS – Program in Audiology and Communication Sciences

UNHS – universal newborn hearing screening

SD – standard deviation

SLP – speech-language pathologist

SP – standardized patient; actor in the room during the encounter who completed evaluation

\bar{x} – Mean

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Catherine Schroy

Washington University

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Dedicated to my parents,

Jerry and Barbara Schroy

Without you, none of this would have been possible!

ABSTRACT OF THE DISSERTATION

Counseling training for audiology students: Using standardized patients

by

Catherine M. Schroy

Doctor of Philosophy in Speech and Hearing Sciences

Washington University in St. Louis, 2015

Professor William W. Clark, Chair

The implementation of Universal Newborn Hearing Screening (UNHS) has resulted in earlier diagnosis of hearing loss in children. Research shows that early diagnosis of hearing loss results in better outcomes in speech and language, socio-emotional, and cognitive development. Early diagnosis, however, often comes as a surprise to parents of newborns. When parents are told their child has a hearing loss, it is often before they have been able to observe behaviors that would lead to the suspicion of hearing loss. Parents are usually told about the hearing loss diagnosis by an audiologist and are often dissatisfied with how the news is delivered. Parents want someone who is compassionate, empathetic, and who will listen to them and spend time with them after the diagnosis. Audiologists often do not receive the proper training in how to deliver this news in graduate school either through coursework or practical experience. This leads to professionals who are ill-prepared to help parents with this difficult diagnosis. Medical students and other healthcare students utilize standardized patient (SP) encounters to practice counseling skills as well as clinical skills in a safe environment rich in feedback. SPs are actors trained to realistically portray a patient with varying physical symptoms and emotional reactions. The purpose of this thesis was to examine the efficacy of using SPs to train students enrolled in the Washington University Program in Audiology and Communication Sciences (PACS) Doctor

of Audiology (Au.D.) program. Eight Au.D. students completed five SP encounters in which they delivered an initial diagnosis of hearing loss to a parent of a six-week old son who was referred based on his UNHS. Each encounter consisted of a parent who expressed a different emotional response to the diagnosis (tearful, contesting, guilty, and overwhelmed), with both the first and last encounters consisting of a tearful response. Students received feedback directly from the SPs following three of the encounters, as well as completed a de-briefing session with other participating students and an audiologist to discuss their experiences. Encounters were rated by two SPs and three pediatric audiologists using the Audiology Counseling Evaluation (ACE) Questionnaire. Ratings of the students as well as measurements made of video recordings of the encounters were analyzed to determine changes in behavior from the first encounter to the final encounter. Results indicated that although results were variable across and within students, improvements were made in several areas and students felt the training was worthwhile and valuable. Based on these improvements and observations made, the use of SPs could be helpful in training Au.D. students in counseling skills. Further research is necessary to quantify further these preliminary results and expand the areas in which SP encounters could be used.

Chapter 1. Introduction

According to a 2012 survey by the Centers for Disease Control and Prevention (CDC, 2014), approximately 96% of newborns are screened for hearing loss before leaving the hospital. Approximately 1.6% of these children fail the final screening before leaving the hospital, and 1.6 per 1000 are diagnosed with a hearing loss. Universal Newborn Hearing Screening (UNHS) programs have been instituted in all 50 states as well as in most territories in the United States over the past 20 years, which require newborns to be screened for hearing loss before leaving the hospital (National Institute of Deafness and Other Communication Disorders, 2011). Years of research indicate the earlier a child with a hearing loss is diagnosed and receives intervention, the better his or her outcomes will be (Babbidge, 1965; Ewing & Ewing, 1944). Children diagnosed with hearing loss before 6 months of age score significantly higher on speech and language tests than children diagnosed with hearing loss after 6 months of age (Moeller, 2000; Yoshinaga-Itano, Sedey, Coulter, & Mehl, 1998). Before the implementation of UNHS in the late 1990s, the average age of diagnosis was 19 to 35 months of age (White, Forsman, Eichwald, & Munoz, 2010). The average age of diagnosis has been lowered to two to four months in states with UNHS and Early Hearing Detection and Intervention (EHDI) programs (White, et al., 2010), which are the combination of newborn hearing screening, diagnosis and intervention for children with hearing loss between the ages of birth to 3 years (White, 2003, 2006; White, et al., 2010). These programs are managed within each state individually and include screening all babies by one month of age, diagnosing a hearing loss if one is present by three months of age, enrolling

babies diagnosed with hearing loss and their family in an early intervention program by six months of age, and tracking data concerning those babies that refer on screening and are later diagnosed with hearing loss (White, 2003).

The implementation of UNHS has reduced not only the age at which children are diagnosed, but also the manner in which most parents find out about their child's hearing loss (Luterman, Kurtzer-White, & Seewald, 1999; Vohr, Letourneau, & McDermott, 2001). Before UNHS, diagnosis of hearing loss usually occurred after a parent or other caregiver expressed concern about behaviors the child displayed such as lack of speech development or not reacting to sounds in the environment. Parental concern then resulted in parent-initiated investigation of hearing status. Since the implementation of UNHS, parents are informed of a possible hearing loss before leaving the hospital, and the assessment of hearing status is initiated by the hospital. The possibility of a hearing loss is news the parents were not prepared for in most cases and did not request (Luterman & Kurtzer-White, 1999).

The professionals ultimately responsible for informing parents of the diagnosis are audiologists. Audiologists are hearing healthcare professionals who are trained to diagnose and treat hearing loss (American Academy of Audiology, 2004; American Speech-Language-Hearing Association, 2004). Most parents want a professional who is a skilled clinician as well as an empathetic, caring, compassionate counselor to deliver the diagnosis (Luterman & Kurtzer-White, 1999). In order for this to occur, audiologists should be highly trained in counseling parents, as well as working with infants and their families. This would require training audiology students, as well as continuing education for audiologists in the field. Unfortunately, this is often not the case. Surveys of universities offering speech and hearing degrees have been conducted to

determine how many offer counseling courses (Crandell, 1997; Culpepper, Mendel, & McCarthy, 1994) and reported that training programs often lack counseling training, although it is generally agreed that it is necessary.

In other healthcare fields, such as medicine, dentistry, and pharmacy, counseling is taught within coursework but is also taught and practiced using simulation with standardized patients. A standardized patient (SP) is “an individual who has been trained to portray a patient in a consistent manner and has the capability to present a variety of healthcare issues” (Onori, Pampaloni, & Multak, 2011, p. 24). The use of SPs allows students to train in a variety of circumstances with supervision and feedback without putting the patient at risk. The use of SPs has become standard in training medical students, as well as for formative and summative testing.

The goal of this thesis is to examine the effectiveness of using SPs to provide counseling experience for students enrolled in a training program for audiology students. Based on the experience of medical schools and other healthcare fields’ use of SPs to train students, it is hypothesized that the students’ counseling skills will improve after several SP encounters that include feedback about student performance. Before describing details of the current study, the following sections will review: current counseling training in doctoral programs in audiology, the needs of parents of children with hearing loss upon hearing the initial diagnosis, the utilization of SPs in medical schools and other healthcare fields, and the current use of SPs in speech and hearing training programs.

1.1 Current Counseling Training in Audiology Programs

It is generally agreed that teaching counseling to audiology students is important (American Speech-Language-Hearing Association, 2008; Crandell, 1997; Erdman, 1993; Luterman, 2008a; Schow & Nerbonne, 1996; Smith, Millar, Harrow, & Morgan, 2010; Vargo & McFarlane, 1994). The American Speech-Language-Hearing Association (ASHA) includes both informational counseling and personal adjustment counseling in the scope of practice of audiologists as well as publications instructing how to work with children from ages birth to five years and their families (American Speech-Language-Hearing Association, 2004, 2008; Council For Clinical Certification in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association, 2012). According to ASHA (2008), informational counseling gives patients and their families information about the hearing loss including but not limited to the audiogram, hearing aids, and communication options. Personal adjustment counseling involves providing emotional support for the patient and their family and helping them adjust to the impact hearing loss may have on their lives. The American Academy of Audiology (AAA) also includes counseling for both informational topics and psycho-social issues in their scope of practice for audiologists (AAA, 2004). Despite this fact, counseling is not taught consistently in graduate programs for speech and hearing (Crandell, 1997; Herzfeld & English, 2001), and students often feel unprepared to counsel (English & Zoladkiewicz, 2005; Phillips & Mendel, 2008).

Crandell (1997) sent an eight-question survey to 111 schools offering master's degrees in audiology. This survey was conducted before the minimum degree for audiologists changed from

a master's degree to a doctoral degree. Of the 77 programs that replied, only 48% offered counseling courses either within their own department or through another department in the university. Only 13% of the programs required the course in their curriculum. Across all the programs offering a counseling course, it was reported that only 18% of the students in the programs took the courses offered. Most of the programs (64%) expected students to learn skills in clinical practicum, while the remaining expected skills to be learned within other courses. Supervisors, settings, and clinic populations in clinical practicums for students are different, and clinical experiences are variable, making it difficult to expect all students to receive the same amount and types of clinical counseling experience. Even though only 13% of programs required courses in counseling, 54% agreed that a semester long course was necessary and should be required. The reasons given for not requiring or offering a counseling course included financial difficulty, time within the curriculum, and lack of qualified faculty to teach the course.

In a similar survey, Culpepper, Mendel, and McCarthy (1994) surveyed speech and hearing programs including both speech-language pathology (SLP) and audiology programs. Results were similar to those of Crandell (1997). Of the 121 surveys returned, 69% of the audiology programs offered a counseling course either within or outside of the department, but the course was most often an elective. A majority of those surveyed agreed that it should be a requirement even though their program did not require it.

Herzfeld and English (2001) surveyed 20 students enrolled in a distance learning doctor of audiology (Au.D.) program. These students were masters level audiologists and were asked about their experience with counseling courses before taking their distance course as well as after. Results of the survey revealed that 15 out of the 20 students had never taken a counseling

course before in their undergraduate or graduate programs. Only 11 of the students said they would have taken the counseling course through the distance Au.D. program if it had not been required. After the course was completed, all 20 students agreed that a counseling course should be required and that the counseling course had an impact on how they practiced in their current clinical setting.

English and Weist (2005) examined the curriculum of 56 universities with Au.D. programs accredited by ASHA's Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) and found that 71% required a counseling course in their curriculum and 14% offered a course as well as integrating counseling training into other courses. This is a substantial increase in the number of counseling courses offered in Au.D. programs when compared to previous findings (Crandell, 1997; Culpepper, et al., 1994). English and Weist also asked instructors of these counseling courses about what particular learning objectives were addressed in the course. General course content across universities was similar and included topics such as psycho-emotional effects of hearing loss, counseling theories and skills, and the role of audiologists in counseling.

English and Zoladkiewicz (2005) surveyed 290 Au.D. students regarding concerns they have about communicating with patients and their families. Results of the survey revealed that students are uncomfortable counseling in sensitive situations. The situations most concerning for students were talking to patients who became hostile or angry, not knowing an answer when a patient asked a question, and telling a parent that his or her child has a hearing loss. Students' primary concerns involved personal adjustment counseling and not informational counseling. When open-ended write-in responses were required, students' responses included comments

about difficulty assessing when it was okay to ask patient about their feelings, what the boundaries are for counseling, and when to refer to a mental health professional. Students also suggested that although counseling courses are helpful, they do not receive enough practice in clinical practicum while being supervised. Students reported either supervisors did not provide enough of a model for them before they had to counsel or the supervisor did not step back enough and allow the student to counsel on their own. Counseling classes are offered at different points of the Au.D. curriculum across programs leaving much of the counseling training to supervisors in practicum settings who may not have adequate training themselves. Because the student may not have the experience counseling on difficult topics and in difficult situations, supervisors may not feel comfortable allowing students to take the lead in these situations. This results in students' first experience counseling for certain topics possibly occurring unsupervised in their first clinical position as a licensed audiologist.

1.2 Parents' Needs and Expectations

Luterman has often spoken and written about how speech and hearing professionals counsel patients and especially the parents of children with hearing loss (Kurtzer-White & Luterman, 2003; Luterman, 1979, 1999, 2006, 2008a; Luterman & Kurtzer-White, 1999). Luterman focuses on the need for clinicians, as “helping” professionals, to provide information to clients as well as support the patients emotionally (Luterman, 2006). Many audiologists feel that the emotional well-being of their patients is the responsibility of a psychologist or social worker. They may have even been trained that this is true and that an audiologist's job includes providing informational counseling only (Luterman, 2008a). Most of the parents receiving

services from audiologists are emotionally upset, not emotionally disturbed, and therefore do not need psychological help, but emotional support (Luterman, 1979, 2008b). In addition, more than 90% of children with hearing loss are born to parents with normal hearing who know little or nothing about hearing loss and its implications (Mitchell & Karchmer, 2004).

When emotions run high, it is difficult for patients to process information that is being given to them (Luterman, 1976, 1999, 2006). The amount of information retained by patients and family members is well established in the literature in general medicine as well as in audiology (Kessels, 2003; Margolis, 2004a, 2004b). As a person receives news that is distressing, his brain's ability to take in new information diminishes and he is unable to process it. Research indicates that patients may immediately forget anywhere from 40-80% of what their healthcare provider tells them, and the information they do remember is only 50% accurate (Kessels, 2003). Because of this, if parents are not counseled in a way that allows them to process the emotions they are experiencing, they may not understand or remember the information being conveyed by the audiologist (Luterman, 1999, 2006).

Watermeyer, Kanji, and Cohen (2012) interviewed parents and audiologists following a pediatric audiologic evaluation and counseling session. Parents were asked to recall information presented about results, recommendations, and technical information such as anatomy of the ear and the audiogram, the visual representation of hearing loss in graph format. Most parents could recall the final diagnosis and the recommendations made, but the technical information about the audiogram and anatomy of the ear they recalled was often inaccurate. Audiologists were asked about their perceptions of the counseling session as well as challenges. Audiologists felt that parents understood everything and had often not picked up on subtle nonverbal cues indicating

parents' confusion that were observed by the researchers such as minimal nodding, staring at the audiogram, and not asking questions. Watermeyer et al. (2012) concluded that audiologists should consider not focusing on the audiogram and a detailed description of the mechanics of the ear, but should focus on the diagnosis and recommendations since this is the most important information the parents need. This may result in parents leaving appointments less confused.

Williams and Darbyshire (1982) interviewed 25 parents and found that a majority of the parents (84%) did not understand the information given to them by the audiologist, and 72% did not understand what having a hearing loss meant for their child's future. When asked to restate the explanation the audiologist gave to the parents about their child's hearing loss, 40% of parents were unable to and 24% did so incorrectly. In general, the more information presented to a patient, the less they are likely to remember (Margolis, 2004a). Audiologists are responsible to parents and patients to help them with emotional processing if the goal is for parents to listen to and retain the information being conveyed. This may be an uncomfortable concept for some audiologists, but this may improve services provided for children with hearing loss and improve compliance by parents (Erdman, 1993; Luterman, 2008a). Patients who understand their diagnosis and its implications tend to be more compliant with recommendations, are more satisfied, and have better outcomes with treatment (Margolis, 2004a).

Given that audiologists are not always trained well to be counselors and are often not comfortable counseling, it is not surprising to find that families are often not satisfied with how audiologists counsel. Haas and Crowley (1982) surveyed parents of children with hearing loss to discover which professionals were most helpful throughout the diagnosis and intervention process and reported that educators were more helpful than audiologists, doctors, or SLPs.

Sweetow and Barrager (1980) surveyed parents of children with hearing loss about how the parents perceived audiologists. The survey comprised of questions about all aspects of audiologic care including taking a case history, diagnosis, emotional support, and hearing aid orientation. Parents were satisfied overall with the care their child received from the audiologist, but they did indicate areas that could be improved such as simplifying technical information so it could be easily understood and taking parents' observations more seriously. Parents also reported that they felt uncomfortable asking questions of the audiologists working with their child because they felt too emotional or did not know what to ask.

When a child is first diagnosed with a hearing loss, parents may experience many different emotional reactions such as guilt, anger, and confusion (Luterman, 1999). Many compare the parents' reactions to hearing their child's initial diagnosis to that of someone who is grieving the diagnosis of a terminal illness referring to Kübler-Ross's (1969) stages of grief (Clark & Brueggeman, 2009; Mendel, 1997; Tanner, 1980). These stages include denial, anger, depression, bargaining, and acceptance. Others caution against using these stages because they end in acceptance and parents may never reach this stage when living with a chronic disability such as hearing loss (Bruce & Schultz, 2001; Kurtzer-White & Luterman, 2003; Luterman, 2008a). No matter which stages are accepted, audiologists need to understand that parents are grieving a loss, and they need to be sensitive to this when delivering the news of a hearing loss to parents. Audiologists also need to be aware that the initial experience of delivering this news can impact the future relationship with the parents, as it sets the tone for future interactions (Roush, 2001).

It is well recognized in the field of speech and hearing that the age at which a child is diagnosed with a hearing loss and receives intervention impacts that child's success when compared to hearing peers (Moeller, 2000; Nicholas & Geers, 2006; Yoshinaga-Itano, et al., 1998). Nicholas and Geers (2006) measured the language ability of children with profound hearing loss who used cochlear implants at three and a half years of age. Children implanted at younger ages scored significantly higher on language tests than children implanted later. Yoshinaga-Itano et al. (1998) compared the language skills of children with hearing loss identified before six months of age and children with hearing loss identified after six months of age. Results indicated that language scores were significantly higher in children identified before six months of age. Yoshinaga-Itano et al. observed that all of the children in their study began early intervention soon after being identified with a hearing loss and concluded that it was not identification alone that accounted for the difference in language abilities of the two groups, but the enrollment in early intervention soon after identification. Moeller (2000) obtained similar results when she compared the vocabulary scores of children with hearing loss and discovered that better vocabulary scores correlated with earlier enrollment in intervention. She also found that family involvement in a child's intervention increases the child's benefits from early intervention and results in higher language scores. The goal of speech and hearing professionals is to facilitate intervention to assist in the child's future success with communication. How the initial news of a hearing loss is delivered and understood by parents may impact this success (Yoshinaga-Itano & Abdala de Uzategui, 2001). Therefore improving how we train audiologists to deliver this news may improve outcomes for children with hearing loss.

1.3 Standardized Patients in Medical Training and Evaluation

Simulation has been used for years in fields such as law, the military, and flight training to train students before putting them into real-life situations. This is done both for the safety of the trainee as well as their future consumers (Barrows, 1968). In 1963, Barrows, a neurologist at the University of Southern California, felt a similar simulation could be used with neurology fellows and trained the first “programmed patient,” now referred to as SPs (Barrows & Abrahamson, 1964). Barrows trained an artist’s model used for anatomy drawings to be a neurology patient and undergo an examination that could be recorded and reviewed by a supervisor and/or student for feedback. This soon spread to other fields of medicine and into other healthcare fields. There are many advantages to using SPs to train and test students including: a patient can be examined repeatedly by different students; patient’s reactions can be scripted to see what type of reaction the student has; and scenarios can be stopped, restarted, and repeated if necessary to teach a skill. Specific patient issues can be taught or evaluated, and there is no concern about the student harming the patient, making inappropriate comments, or using poor techniques (Barrows, 1968, 1993).

SPs can be used to practice a skill that has been taught, evaluate if a new skill has been learned, evaluate the overall skill level of a student clinician, remediate a student’s clinical behavior, and evaluate if a skill or concept has been missed in an educational setting. SPs are not intended to replace experience with real patients, but to help transition students from a role-playing model (SP) to a real patient without putting the patient in harm’s way or causing the

students to be embarrassed by their lack of skills (Barrows, 1993). There is no way to effectively assess a student's bedside manner or skills with history taking and patient treatment using written or even oral exams without patients present. The addition of a third person in the room acting as observer can change the dynamics in the room just by their presence (Barrows & Abrahamson, 1964). The use of SPs can overcome these issues. SPs are very authentic in their portrayal of patients and in many cases are not recognized as simulations when they are sent into the field to assess communication and diagnostic skills of practicing physicians (Glassman, Luck, O'Gara, & Peabody, 2000).

SPs and simulation training have been used in a variety of ways in medical school settings (Rosenbaum, Ferguson, & Lobas, 2004). Some instructors develop scenarios for students to act out with each other in role-playing activities. This allows students to participate as both practitioner and patient and to experience the encounter from both perspectives. The advantage of this is that it requires few resources since it takes place within a course. Some disadvantages are that students are often not comfortable role-playing in front of their classmates and experiences are not very realistic because the students know each other. A second type of simulation training is using SPs with small groups of students. This is more realistic since the SP is unknown to the students and more like a real patient, but anxiety about performing in front of fellow students can still be an issue. Finally, one-on-one SP encounters are an option for simulation training. These can take place in a classroom or in a simulation center within a university. These are the most realistic of the three simulation experiences since the SP is unknown to the student and there is typically not an observer in the room to affect student's performance. These encounters are observed through two-way glass or videotaped for later

viewing by an instructor and/or the student. Feedback is immediately available in all three of these simulation training scenarios. Feedback can come from the instructor, the SP or student playing the role of the patient, and other classmates or supervisors observing. This feedback is not available through didactic learning in a classroom lecture setting (Arnold & Koczwara, 2006). This is especially valuable in situations involving elevated emotions such as anger or grief.

Several publications have described the use of SPs to teach communication skills such as breaking bad news in which these emotions may appear (i.e. cancer diagnosis; Arnold & Koczwara, 2006; L. Colletti, Gruppen, Barclay, & Stern, 2001; Rosenbaum, et al., 2004). Even if the news is not viewed as particularly “bad” by the person delivering it, “bad news” may be any news that changes the patient’s outlook and even plans for the future (Buckman, 1984). Colletti et al. (2001) compared two groups of third year medical students to investigate if encounters with an SP delivering bad news would make a difference in scores on a comprehensive exam at the end of their third year. Twenty-one medical students underwent encounters with SPs delivering either a cancer diagnosis or news of a lost pregnancy. When comprehensive exams were completed at the end of the students’ third year, the scores of the students who took part in the SP encounters were compared to a group of students who did not have any experience with the SPs and revealed significantly higher scores for the group with the SP experience. This difference in performance carried over to other settings such as clinical observations as well.

Johnson and Kopp (1996) and Stillman, Wang, Ouyang, Zhang, Yang, and Sawyer (1997) used SPs to train first year students and compared their performance to students in the second or third year of their programs. Johnson and Kopp (1996) used three different SP

encounters to train first year dental students in record keeping, communication, and examinations using SP encounters. Second year students, who had learned through traditional clinical training, were used as a control group. The two groups of dental students completed an evaluation involving three SP encounters and scores for the two groups were compared. The first year dental students scored higher in all three areas assessed: communication, examination, and record keeping. Stillman et al. (1997) completed a similar study involving a new curriculum using SPs with first year medical students. First, second, and third year medical students were evaluated at the beginning of the year to assess their current skill level before the curriculum was implemented. At the end of one year, all three classes of students were evaluated again. The first year students, who were the only group who had experience with SPs, outperformed the second and third year students, who completed the traditional curriculum.

Prior to the use of SPs, evaluation of medical students typically took place by observation of clinical skills with a real patient and oral examination (Stillman et al., 1986). This assessment was problematic because it was extremely variable from student to student. Patients varied in their symptoms and the difficulty of the diagnosis. In addition, the full scope of a resident's or student's skills could not be assessed with one observation of one case. In the 1970s, the Objective Structured Clinical Examination (OSCE) was developed to assess medical students' clinical skills (Harden & Gleeson, 1979; Harden, Stevenson, Downie, & Wilson, 1975). The OSCE allowed universities to test all students using multiple standardized cases developed for use with SPs instead of one case being observed by one supervising physician. This also made it possible to evaluate specific skills including examination, communication, and diagnostic skills. OSCEs are currently used in most medical schools for formative testing throughout the

curriculum as well as summative testing before students graduate and are considered the “gold standard” of medical education evaluations (Hodges, 2003).

1.4 Standardized Patients in Audiology and Speech-Language Pathology Training and Evaluation

SPs have been used for over 50 years in the medical education system, but the use of SPs is just beginning to spread to other allied health professionals such as pharmacy, dentistry, nursing, and nutrition (Beshgetoor & Wade, 2007; Koerber, Crawford, & O'Connell, 2003; Kruijver et al., 2001; Watson, Norris, & Granas, 2006; Yoo & Yoo, 2003). Speech and hearing professions, including SLP and audiology, have only recently begun to use SPs in their training programs (Hill, Davidson, & Theodoros, 2010; Syder, 1996; Wilson, Hill, Hughes, Sher, & Laplante-Levesque, 2010). Most of this work has been done using SLP students. Hill, Davidson and Theodoros (2010) reviewed the literature concerning clinical practicum and the value of learning clinical skills with a clinician educator. SLP programs are expanding, creating more need for clinical placements, while clinicians are less willing to supervise students. Supervisors are under increased pressure to see more patients and complete more work in less time making them reluctant to supervise a student. Also, many clinicians have responsibilities other than clinical care that make it difficult to give practicum students ample opportunity for clinical experience. And finally, national healthcare changes in some countries have led to shortages of placements because clinics are often under-staffed. Hill et al. (2010) discuss the potential that SP education has in filling the void for clinical education left by these changes in the profession. The program needs to include good evaluation techniques and well trained SPs but can lead to a

more standardized clinical experience for students in a safe environment with immediate feedback opportunities from both the “patient” and the clinical instructor.

Syder (1996) also cites several reasons for using simulation and SPs including variance in quality of practicum sites and supervision, lack of practicum sites for the growing number of students in their program, and providing a variety of learning experiences for students. She reported that students do not always take role-play in class seriously and do not feel the situations are real enough to simulate what it will be like with a client. Syder trained SPs to be used as part of her Adult Clinical Methods course for use in role playing scenarios in which the student was taking a case history for a new client. She did this in a group setting in two different ways. In one situation, one student began taking the case history from the SP until the instructor called time out and asked another student to continue. In the second situation, one student took the entire case history from the SP while the rest of the group of students watched. In both situations, the student was able to call “time out” if a question arose or they had difficulty with something. After these sessions, students were asked about the experience. Overall, students stated that the situation was very real with the SP and they were impressed with how convincing the actor was. They also liked the immediacy of the feedback from the group, actor, and instructor, but they felt performing the task in front of the class did cause anxiety. Syder concluded that the use of SPs in coursework was a partial solution to difficulties in practicum placements, but this did not replace real clinical experience.

Research in the area of SP use with audiology students is limited and often includes reports of students’ feelings or responses to using SPs in their clinical training or coursework. Wilson et al. (2010) used both computer simulations alone and computer simulations with SPs

and evaluated which method students preferred and why. Students reported that while SPs were more realistic, both modes of education were valuable and improved their skills and confidence in different ways. Computer simulations improved most of their clinical skills, although some testing was rated as unrealistic. SPs improved communication skills and client interaction.

The instructors at the University of Leeds used SPs in a course on counseling to help teach students active listening, responsive cues, and engaging behaviors (Killan, Brooke, & Gilmartin, 2010). Students took turns taking a history and counseling a patient portrayed by a SP, while the other students in class and the instructor observed. Feedback from the teacher of the class, the SP, and the students in class were discussed, as well as the student completing a self-evaluation. The authors reported that lectures, readings and clinical experience did not provide enough feedback to prepare students so that they know how well they counsel. Using SPs was reported to be beneficial by students, and they found it to be a good way to practice their counseling skills and receive direct feedback.

A study out of Central Michigan University surveyed 29 Au.D. students about their experience with SPs in a counseling class (Naeve-Velguth, Christensen, & Woods, 2013). Students were given seven statements about their experience with the SPs and were asked to rate them from Strongly Disagree to Strongly Agree on a five-point Likert-type scale in addition to one question about future topics for use with SPs. Overall, a majority of the students (76-100%) rated all seven of the statements in a very positive way either agreeing or strongly agreeing. Results for which topics to cover with SPs in the future were more mixed, revealing that students were interested in seeing patients with different emotional reactions (i.e., hostile or

uncommunicative patient), but they were less likely to want encounters for other experiences like tinnitus evaluation or hearing aid evaluation.

Zraick, Allen, and Johnson (2003) developed a performance-based evaluation for SLP students' communication skills with patients with aphasia. This evaluation was developed to be similar to the OSCEs used in medical schools. The group developed OSCEs for use in a course training communication skills with patients with different types of aphasia. Half of the students in the class used course lectures and SPs to train, and half of the students used only course lectures followed by an OSCE halfway through the course. After the first OSCE, course lectures continued and a second OSCE was given to all of the students. Although there was no significant difference between the groups on rating scales used, judges noted a qualitative difference between the students who had experience with the SPs and those who did not. They noted that the students who had experience with the SPs did a better job transitioning during communication and were more understandable in their directions to patients. The rating scale did not capture this difference. Students also responded positively to the experience with SPs as part of training as well as in the OSCE experience. Zraick has continued to be an advocate for using OSCEs with SLP students as a formative evaluation tool (Zraick, 2002, 2004, 2012).

In 2013, Dinsmore, Bohnert, and Preminger published an article discussing the lack of consistency across Au.D. training programs in how audiology students are evaluated to fulfill requirements of ASHA and demonstrate that students meet proficiencies required by the accreditation organization. They recommend using assessments similar to the OSCEs. They encouraged universities to develop cases for SPs that can be used nationwide to standardize assessments of audiology students in a similar way to medical schools. This would make

assessment and training more uniform across programs and help ensure the quality of audiologists being trained.

The Audiologic Counseling Evaluation (ACE) is a rating scale developed for use with audiology students or practicing audiologists to evaluate how well the student or audiologist counsels the parent of a child with a newly diagnosed hearing loss (English, Naeve-Velguth, Rall, Uyehara-Isono, & Pittman, 2007). The form was developed using a SP to evaluate the usefulness of the tool and test inter-rater reliability. Ten students completed an encounter with a SP in which they delivered the news of the hearing loss diagnosis to the “mom.” The encounters were recorded and reviewed by three audiologists acting as judges. Judges’ scores were compared and inter-rater reliability was measured to be moderate to good. Judges agreed that the form was comprehensive in its assessment of a counseling encounter with a parent as well as being easy to use. Students rated the experience with the SP highly and reported that they found it a valuable learning experience that would be valuable to other students as well. The form can be used by clinical supervisors to evaluate students as well as by audiologist for peer or self-evaluation.

Overall, SPs have been used as a valuable tool in medical and allied health professional training for many years. The field of audiology is still in its infancy using this technique for teaching and evaluating students. Although SPs are used by some universities in their coursework, published accounts of SPs encounters and their effectiveness with audiology students are not available. Successful use of SPs in other healthcare fields suggests that SPs will be beneficial in teaching audiology students, especially interpersonal skills, as well as possibly

evaluating students in a standard way across universities. However, there have been no published reports to confirm this.

Chapter 2. Aims and Rationale

The diagnosis of a child with a hearing loss is often devastating to parents and needs to be handled with care and empathy (Luterman, 1990). Because it is often not directly taught in graduate schools (Crandell, 1997; Herzfeld & English, 2001), Au.D. students do not gain experience practicing this skill (English & Zoladkiewicz, 2005; Phillips & Mendel, 2008), and parents are less than satisfied with how the news is delivered (Luterman & Kurtzer-White, 1999). Many students are anxious about telling parents their child has a hearing loss and feel unprepared to do so (English & Zoladkiewicz, 2005). Students have reported they are not given enough guidance or adequate demonstration of how to counsel parents by supervisors in practicum settings or are not given the opportunity to try to counsel without the supervisors interceding. Since counseling courses are offered at different times during the curriculum of various Au.D. programs, students will most likely participate in clinical practicum before completing the course. The supervisor's confidence in the Au.D. student's abilities will most likely have an effect on how much the student is given the opportunity to counsel. There are no published data to confirm that coursework provided in a counseling course is enough to prepare a student to deliver news such as the diagnosis of a hearing loss. The way the news of a hearing loss is delivered can potentially affect the outcomes of the child if the parents do not understand the diagnosis and its consequences (Margolis, 2004a; Yoshinaga-Itano & Abdala de Uzcategui, 2001). The use of SPs in training Au.D. students may be beneficial in providing students with practice counseling parents without doing harm to parents or the relationship between the parents and the professional.

The aim of this proof-of-concept study is to measure the efficacy of using SP encounters to train Au.D. students from the Washington University Program in Audiology and Communication Sciences (PACS) to counsel parents on the initial diagnosis of an infant with a hearing loss. Previous studies have shown that questionnaire data do not necessarily capture changes in behaviors of students participating in SP encounters (Zraick, et al., 2003). This study will also examine measurements outside of questionnaires and rating forms to determine if changes in performance between encounters can be measured using more objective methods.

Literature in the medical field has demonstrated that medical students' communication and examination skills improve over time when using SP encounters as a teaching and evaluation tool (Arnold & Koczwara, 2006; V. Colletti et al., 2000; Johnson & Kopp, 1996; Stillman, et al., 1997). The use of SPs is not standard in the field of audiology, and no published literature exists demonstrating whether audiology students could benefit from this form of education. It has been recommended as a tool for evaluation of students (Dinsmore, Bohnert, & Preminger, 2013), but with no evidence to show whether it is advantageous or not, it is unlikely to be adopted readily. Students' experiences through multiple SP encounters were assessed using rating data as well as measurements of behavior to determine how useful this method may be as a teaching tool with audiology students.

Chapter 3. Methods

3.1 Participants

Participants included students enrolled in Washington University's PACS Au.D. program. To qualify for this study, students were required to have completed a two-week counseling course between the second and third year of the PACS program. This intercession course is taught by an audiologist with experience working with adults and children in both school and private otolaryngology settings. Participation in this project was voluntary. Two groups of students were recruited for data collection in January 2014 (Group 1) and June 2014 (Group 2). Group 1 consisted of four female students who were in their third year of the Au.D. program and had completed their counseling course approximately six months earlier. Group 2 consisted of four female students at the end of their second year of the Au.D. program having just completed their counseling course a week before data collection. Table 1 displays details about participants collected through a pre-encounter questionnaire (Appendix 1), which included information about participant's degree(s), practicum experience, and experience delivering the news of a hearing loss to parents. Participants were paid \$150 for their time after participating in the study. Study participation involved three to four visits lasting one to three hours each. Visits were held outside of students' class and clinic times. The study was approved by the Washington University Human Research Protection Office (HRPO).

Table 1. Participant Details. CSD = Communication Sciences and Disorders

Details on Participants in Study								
<u>Participant number</u>	<u>Gender</u>	<u>Semesters of Au.D. Program Completed (out of 6)</u>	<u>Time of study</u>	<u>Experience giving news of initial diagnosis</u>	<u>Felt prepared to deliver initial diagnosis</u>	<u>Completed pediatric rotation</u>	<u>Degree(s)</u>	
Group 1	S1	Female	5	January 2014	No	No	Yes	Bachelor's degree in CSD
	S2	Female	5	January 2014	No	No	Yes	Bachelor's degree in CSD
	S3	Female	5	January 2014	No	No	Yes	Bachelor's degree in Linguistics
	S4	Female	5	January 2014	Yes	No	Yes	Bachelor's degree in Brain, Behavior, and Cognitive Science
Group 2	S5	Female	4	June 2014	No	No	Yes	Bachelor's degree in CSD
	S6	Female	4	June 2014	No	Yes	Yes	Bachelor's degree in CSD
	S7	Female	4	June 2014	No	No	No	Bachelor's degree in CSD
	S8	Female	4	June 2014	No	No	Yes	Master's degree in Biology and PhD in Horticulture

3.2 Materials

3.2.1 SP Scripts and Training

Scripts for the five encounters (Appendices 2-6) completed by participants were written by the medical director of the Standardized Patient Center (a pediatric psychiatrist), the SP Program Coordinator (an actress with a degree in theater arts), and a pediatric audiologist (the author). Each script included the same diagnosis and case history for the infant that was being diagnosed, with only the emotional response of the parent changing between scripts. A bilateral

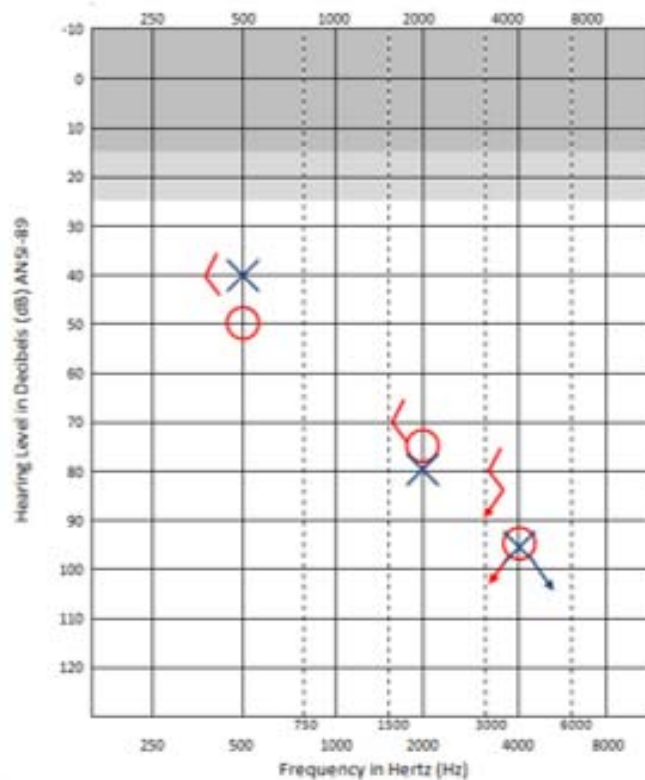
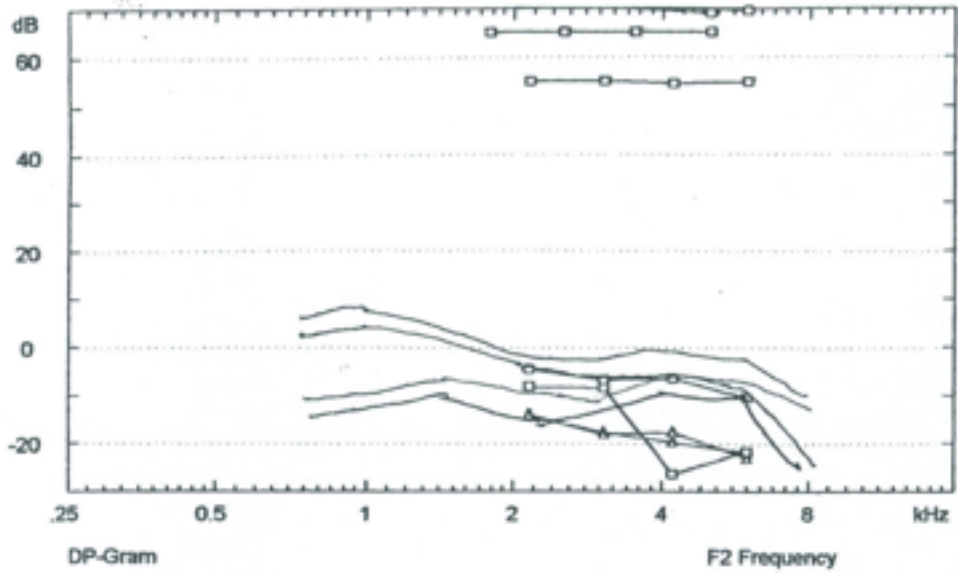


Figure 1. Audiogram results for infant in encounter. ABR revealed a bilateral mild sloping to profound sensorineural hearing loss.

Right DPOAE Results



Left DPOAE Results

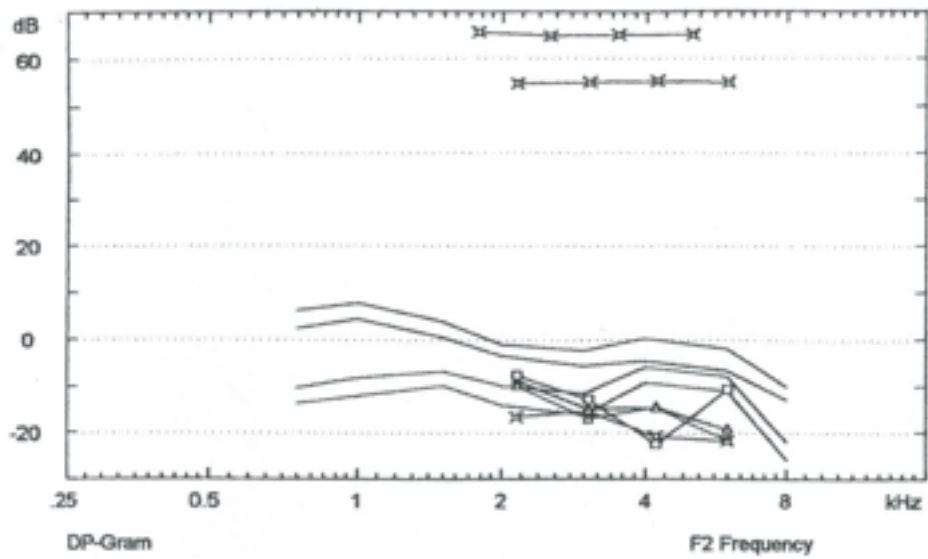


Figure 2. OAE results for infant in encounter. OAEs are absent for both ears.

mild to profound sensorineural hearing loss was chosen because responses to auditory input may be evident to parents, the infant would benefit from hearing aids and early intervention, and a cochlear implant would not be an option at the time of diagnosis. The infant was described as a six-week old boy with no risk factors for hearing loss, born after a healthy pregnancy, and weighed 7 pounds, 8 ounces at birth. He failed his newborn hearing screening at the hospital resulting in a referral for further testing, and the parent is returning on the day of the encounter for the full diagnostic testing recommended by the hospital. Results of the auditory brainstem response testing (ABR; Figure 1) and otoacoustic emission testing (OAE; Figure 2) were included with information given to SPs and participants. The ABR and OAE are electrophysiologic tests typically performed as part of a diagnostic hearing evaluation on children under the age of six months before behavioral testing can be completed (Cunningham, Cox, Committee on Practice and Ambulatory Medicine, & Section on Otolaryngology and Bronchoesophagology, 2003).

Scripts differed in the emotional response from the parent to whom the student had to respond as she delivered the news of the diagnosis. The responses included a “tearful mother,” a “contesting father,” a “guilty mother,” an “overwhelmed mother,” and a “tearful father.” These responses were chosen because they are common responses of parents to the initial diagnosis (Yoshinaga-Itano & Abdala de Uzcategui, 2001) and because students are often concerned with how to respond to these reactions (English & Zoladkiewicz, 2005). Questions asked by the parents were taken from the “Concern List” developed by English et al. (2007). Scripts for each of the encounters included a different occupation and education level for the parent as well as different names for the parent and the infant to increase realism of the encounters as separate

patients. Table 2 summarizes the five sessions and details the amount of time spent with SPs. Encounters included 20 to 25 minutes to complete the counseling session. The first three sessions included a 10 minute face-to-face feedback session with the SP.

Table 2. Encounter details

Session Number	SP Gender	SP Reaction	SP Behavior	Maximum Time in Encounter	Maximum Time in Feedback with SP
1	Female	Tearful	Mother cries in response to diagnosis	25 minutes	10 minutes
2	Male	Contesting	Father does not believe hearing test results	25 minutes	10 minutes
3	Female	Guilty	Mother blames herself for hearing loss	25 minutes	10 minutes
4	Female	Overwhelmed	Mother shuts down in response to diagnosis	20 minutes	None
5	Male	Tearful	Father cries in response to diagnosis	20 minutes	None

A three-hour training session for the SPs took place a week before the encounters. Scripts were provided to the actors before the training session took place. This was the first time for all of the actors to take part in SP encounters involving an audiologic case. During the training session, the pediatric audiologist reviewed what the parent of an infant referred on a newborn hearing screening would have experienced before the audiologist delivered the results of the diagnostic testing. This review included a video of the newborn hearing screening process done in the hospital room as well as a video of the sleep deprived diagnostic ABR testing which they would have completed just before the audiologist came in to give the results. SPs were apprised

of instructions they would have received following the referral on the hearing screening in the hospital, as well as instructions on how to “sleep deprive” their baby in preparation for the diagnostic ABR. Feelings of the parents of an infant who referred on a hearing screening were discussed. These included concern and anxiety in the weeks following the screening up to the diagnostic testing, as well as overall anxiety. The anxiety may be because this is their first child

Table 3. Details on SPs used in encounters

Standardized Patient	Age	Gender	Years of Experience as SP	Session(s) Actor Participated In	
				January 2014	June 2014
SP1	32	F	5	X	X
SP2	31	M	5	X	X
SP3	28	F	3	X	X
SP4	41	F	5+	X	
SP5	37	M	5	X	X
SP6	23	M	1	X	X
SP7	33	F	5	X	X
SP8	23	M	5	X	
SP9	25	F	3	X	
SP10	29	F	1	X	
SP11	36	F	3		X
SP12	28	F	1		X
SP13	56	M	2		X
SP14	44	M	5		X
SP15	47	F	7	X	

and they are most likely not getting a lot of sleep and spent the previous night sleep depriving their infant. During the training session, all five scripts were reviewed and reactions for each session were discussed including questions they needed to ask, behaviors that would be common for the parent within the encounter, and what to avoid. Results of the testing including explaining the audiogram and OAE results were not reviewed purposely to make the information as “new” to the actors as possible when the students first presented it. Role playing and demonstrations of the reactions were completed during training. When training the SPs for the second session of data collection in June, video recordings of the sessions in January were used to give examples of how the parent should react. Table 3 shows details of SPs trained for this project which included 14 actors (8 women and 6 men) ages 23-56 years with one to more than five years of experience as SPs. SP4 had experience at another institution before coming to Washington University, and her total amount of experience was unknown. A fifteenth actor was trained and reviewed encounters as a monitor, but never portrayed the parent during an encounter.

3.2.2 Evaluation Tools

Several evaluation tools used to measure differences between encounters and to document behaviors of the audiology students during encounters are described below. These included an evaluation developed specifically for the purpose of evaluating students counseling parents of a newly diagnosed child as well as questionnaires developed specifically for this project.

The Audiology Counseling Evaluation

The Audiology Counseling Evaluation (ACE; English, et al., 2007) is a 23 question tool developed to evaluate students giving a parent the news that his/her child has a hearing loss. English et al. developed the form based on the Breaking bad news Assessment Schedule (BAS; Miller, Hope, & Talbot, 1999), which was developed to evaluate medical students giving a diagnosis of breast cancer. The goal of the form was to evaluate students' ability to give information as well as emotional support to the patient. The ACE was reviewed by five nationally recognized pediatric audiologists to be sure the content of the form was appropriate to evaluate students' performance counseling parents. The experts found the form to be accurate in assessing the skills an audiologist should exhibit to be an effective counselor. Twenty-two of the 23 questions were included for the purposes of this study. Question number 12 asked about how many of the "Concern List" items at the end of the evaluation form were expressed by the parent. Because each of the concerns listed on the "Concern List" were included in one of the five scripts developed for the project, this question was removed. Each question is rated on a five-

<p>Did the audiologist arrange the environment well? The audiologist may have:</p> <ul style="list-style-type: none">• Selected a room with a closed door and comfortable lighting• Placed the chairs at an angle to allow for eye contact• Ensured that the desk was not in between him/her and parents• Ensured wastebasket, other items were out of the way• Arranged to have tissues within reach• Taken measures to prevent interruptions• Ensured that files, paperwork were put aside but easily accessible
--

Figure 3. ACE question #1 (English, et al., 2007, p. 682)

point Likert-type scale with 1 representing *not at all*, and 5 representing *definitely or always*. Ratings on all of the items are tabulated to yield a total score. Each question lists examples of what behaviors the student might perform to consider the task completed (i.e., Figure 3).

The ACE breaks the assessment of informing a parent about a child's hearing loss into seven subsections: getting started, breaking the news, assessing parents' understanding of/reaction to the situation, eliciting concerns, giving a time frame for action, suggesting specific actions while waiting for the follow-up appointment, and general considerations. The "Getting started" section includes questions about setting up the environment to be comfortable and appropriate for the purpose. "Breaking the news" section assesses how well the audiologist leads into the news, delivers the news, and reacts to parent's response. In the next section, "Assessing parents' understanding of /reaction to the situation," raters are asked how well the audiologist responded to the parent's reaction by keeping pace with them, acknowledging the response and tailoring the language and information to the parent's needs. In "Eliciting concerns," the audiologist's request for questions and response to the parent's questions is evaluated. Questions about how well the audiologist informed parents of future goals and appointments are assessed in the "Giving a time frame for action" section. "Suggesting specific actions while waiting for follow-up appointments" assesses whether the audiologist informs the parents how to behave with their child until they return. And finally, the "General considerations" section assesses nonverbal communication, such as body language and compassion, as well as time management. There is also a comment section in which judges may describe any behaviors they observed or overall impressions of the encounter between the student and the "parent."

The ACE was developed and validated using one SP and 10 Au.D. students. The SP completed one encounter with each student and these encounters were recorded. The video recordings of the encounters were then reviewed by three experienced pediatric audiologists and scores were compared. The ACE was found to have high internal consistency with a Cronbach's alpha score of 0.91, and the judges liked the questionnaire overall. English et al. calculated the inter-rater reliability between judges using a weighted Kappa (K_w) to determine how well the judges agreed with each other. Results indicated judges agreed in a moderate to good range (0.572 to 0.673) on a scale of poor to excellent (0 to 1). A two-way analysis of variance (ANOVA) was used to measure the Intraclass Correlation Coefficient (ICC) to determine what caused differences in judges' ratings and indicated that differences between students accounted for 66% of the variance. Evaluation of the ACE was similar to that of the BAS, on which it was based. English et al. reported that the ACE serves as a good evaluation form for students' current skill level and as a feedback tool to be used with students. The ACE was used in this study as an assessment tool completed by SPs involved in the encounters with students, SP monitors observing the encounters, and audiologists who viewed video recordings of encounters.

After all of the encounters were completed for both groups of students, video recordings of the first encounter (tearful mother), the second encounter (contesting father), and the final encounter (tearful father), totaling 24 video recordings, were sent to three audiologists to review and evaluate. The audiologists had nine to 22 years of experience, and all had experience in pediatrics. All three audiologists reported completing a counseling course as part of their master's degree, Au.D. training, or as continuing education while in practice. The video recordings were randomized so all three audiologists viewed them in a different order. After

reviewing each video, the audiologist completed the ACE and post-encounter questionnaire (Appendix 9). When all 24 video recordings were complete, the audiologist completed the final questionnaire (Appendix 12) concerning the SP encounters in general and their impressions of them overall.

Post-Encounter Evaluations

Two evaluation forms were developed for use immediately following each of the students' encounters with the SPs. One form was developed for the Au.D. students (Appendix 7) to evaluate how well they felt they handled the encounter and their immediate feelings about what could be improved. The second evaluation form was developed by the Washington University School of Medicine Standardized Patient Center for use with SPs in all of their encounters with medical students. This form (Appendix 8) asks the SP to choose a rating for the students from the following choices: *outstanding*, *very good*, *good*, *needs improvement*, *marginal* and *unacceptable*. Outstanding is defined as: "I would seek out this person for my future care needs and would personally recommend this person to my friends seeking care." Unacceptable is defined as: "I would absolutely refuse to see this person again for further care and would personally advise my friends to avoid seeking care from this person." It also asks SPs to describe any concerns they have about the students' clinical or communication skills.

Three audiologists were chosen as raters to view select video recordings of the encounters and rate them using the ACE form. They also filled out a form asking about their perception of the student and the SP after each encounter they viewed. This form (Appendix 9) was developed for this study and included a question about at what point in her Au.D. program

the student appeared to be. They were also asked to rate the performance of the SP from 1 (*not believable at all*) to 5 (*believed it could be a real parent*) and asked what emotion she felt the SP was portraying.

Final Questionnaires

After completion of all of the encounters, students filled out a final questionnaire (Appendix 10 and 11). This questionnaire asked about their experience with the SPs, if they felt these encounters would be helpful in coursework, and other types of encounters they felt might be helpful. Based on feedback from Group 1, some questions were added to the questionnaire filled out by Group 2, which included whether they felt the experience would have an impact on how they currently work with patients.

After viewing all of the video recordings, the audiologists also completed a final questionnaire (Appendix 12). Included were questions about their impression of the SP encounters, how helpful they felt this type of training could be for students, and several questions to gather information about the judges' experience and counseling training.

3.2.3 Video Recording Analysis

Video recordings were reviewed to measure several of the students' behaviors. These measures included when the diagnosis was delivered during an encounter, the amount of silence during an encounter, the amount of time the audiologist spent using the audiogram, the amount of time the parent talked during an encounter, and the amount of time the audiologist talked during the encounter. InqScribe software was used to view video recordings and time stamp behaviors that were being measured. The InqScribe software also calculated the amount of time

spent on behaviors that were highlighted. As video recordings were viewed, a time stamp was placed at the beginning and end of each behavior measured. These video recordings were reviewed twice by the author to confirm that time stamps were as accurate as possible. The time stamps were exported from the software to determine the lengths of time for measures where appropriate (i.e., amount of silence, amount of time on the audiogram). The time for the full encounter was determined by placing a time stamp at the beginning of the encounter (as soon as the student entered the room) and at the end of the encounter (as the student left the room). The difference between these two time stamps was the total encounter time and was used to determine percentages of other timed measures. For the measure of time of diagnosis, a time stamp was placed as soon as the student entered the room in the video and introduced herself, and a second time stamp was placed as soon as the student began to state the diagnosis. The first measure was subtracted from the second to determine the time of diagnosis. For the measure of silence in the encounter, a time stamp was placed when one of the speakers stopped speaking, and a second time stamp was placed when one of the speakers began speaking again. If the silence was less than one second, it was not counted as part of the overall silence in the encounter, but it was regarded as a normal pause in conversation between speakers. These times were added together to determine the total amount of silence, and a percentage of silence was determined using the silence divided by the total encounter time. To measure how much the student or parent talked, time stamps were placed at the beginning and end of each turn taken. The length of these turns was then added together to determine the total student- and parent-talk-time. Percentage of talk time was determined by dividing the talk time by the total encounter time.

3.3 Procedures

Encounters were completed in January 2014 and June 2014 by using the same scripts and order of encounters, though timing of the encounters varied slightly due to availability of the SP Center and a technical issue during the second round of data collection. Each group's experience is described separately. All encounters took place at the Washington University School of Medicine Standardized Patient Center.

3.3.1 Round 1 – January 2014

Figure 4 is a flowchart of the order and timing of encounters for Group 1. On day one of data collection, students arrived at the SP Center and completed consent forms and pre-encounter questionnaires. Students were briefed on the case they would be discussing with the parent and were instructed on how encounters would take place. They were given a packet with the information about the case including: the infant's name, the parent's name and occupation, the case history and test results, the audiogram, the OAE results, a visual of the anatomy of the ear, and a familiar sounds audiogram. A familiar sounds audiogram is an audiogram with pictures of common environmental sounds as well as speech sounds plotted on the chart at the frequency and intensity level at which they occur in everyday life. It is often used to help demonstrate what a person is able to hear and what he is missing due to his hearing loss. Each student was assigned to a room which would remain the room they used for all five encounters. Students experienced a different SP during each encounter. The first encounter was considered a "baseline" measure of the students' abilities to counsel before having any intervention other than their counseling

course. Students signed into the computer system outside of the encounter room and were informed over an intercom when they could enter the room and begin.

The first encounter involved a mother who cried when she heard the news (tearful mother). Student encounters were timed, and students were given a maximum of 25 minutes to complete their counseling session. A warning announcement was made when 10 minutes remained. Sessions were videotaped from two angles: one showing the student and one showing the SP. After completing the session, students exited the room, and both the student and the SP were given 15 minutes to complete the post-encounter forms and assessments. During encounters 1 through 3, when these were completed, students were instructed to re-enter the room and completed a face-to-face feedback session with the SP. During encounters 4 and 5, students did not receive face-to-face feedback. After all the students completed each encounter and feedback session, they reassembled as a group for a brief session to discuss immediate reactions to the encounter and what would happen next. Students were given access to their video recordings on a secure website and were instructed to view the video recordings and return for the next session with a video clip from their encounter that they would like to share. This clip could be something they felt they did well, something they felt they needed to work on based on their observation, or something they learned during their feedback session with the SP. Students arrived early to sessions two, three, and four to complete a debriefing session in which all of the students shared their experience, a clip from their video, and feedback they received from the SP that they found helpful. Debriefing has often been used as a useful tool in SP encounters (Barry Issenberg, McGaghie, Petrusa, Lee Gordon, & Scalese, 2005; McGaghie, Barry Issenberg, Petrusa, & Scalese, 2010). Video playback only showed the view of the student so that none of

Round 1 (January 2014)

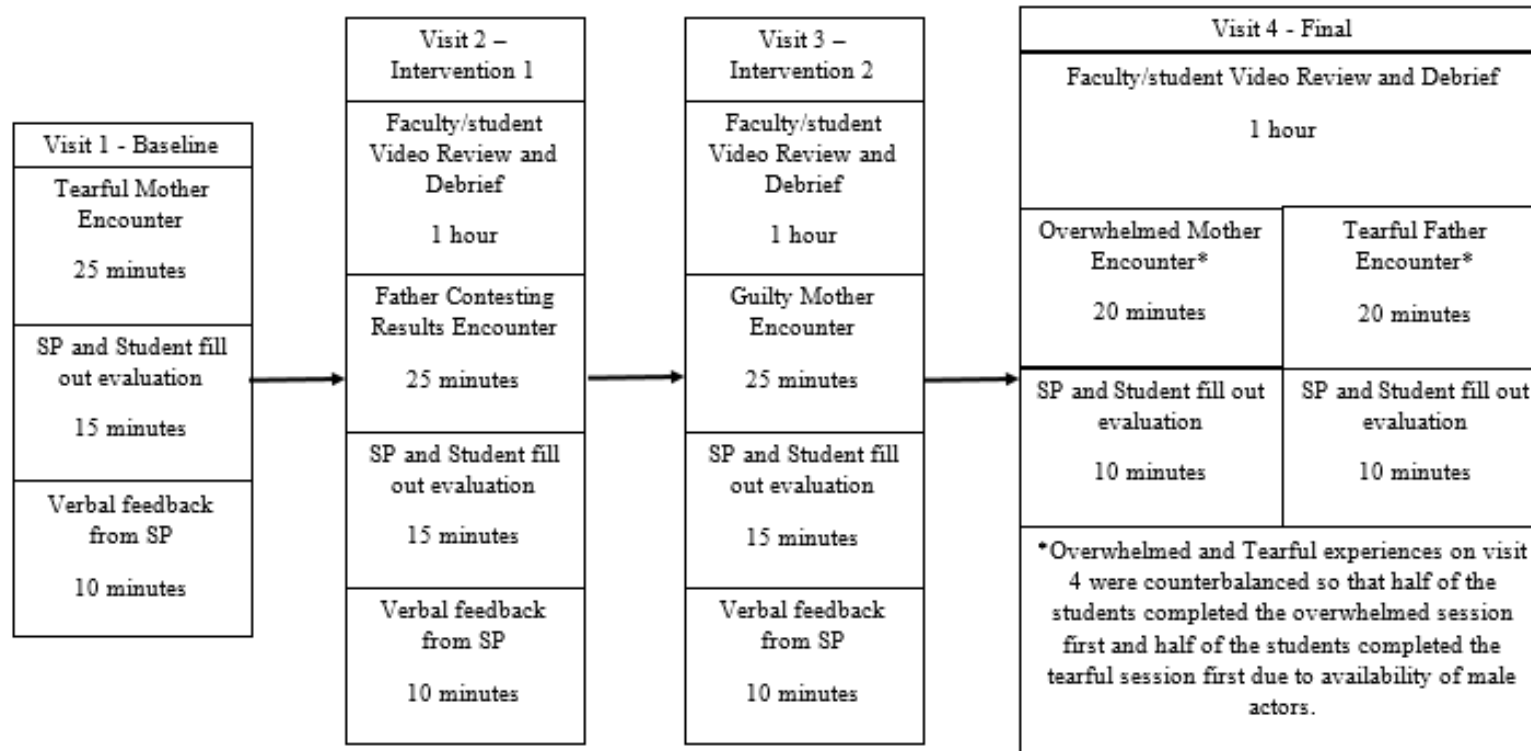


Figure 4. Flowchart of round one of data collection

the students were exposed to the SPs before seeing them in their own session. Students then repeated this process for each of the next sessions. Day two involved a father who did not believe the results (contesting father) and day three involved a mother who felt like she caused the hearing loss (guilty mother). These were considered intervention sessions in which the students received feedback and gained experience. On the final day, students completed their debriefing session and then completed two “evaluation” sessions (overwhelmed mother and tearful father). These sessions were slightly shorter (20 minutes) in order to complete both encounters in one hour. These sessions were also presented in different orders to different students due to SP availability. Only two male SPs were available for the last session, so half of the students completed the overwhelmed mother encounter first and half the students completed the tearful father encounter first. When students completed these sessions, they were asked to complete the final questionnaire about their experience (Appendix 10). One student, participant S4, was called for jury duty during the second week of encounters and was unable to attend. She completed encounter two and three on week three of the encounters. The timing of her experience was similar to students in round two (Figure 5). Encounters were presented in the same order for all students so that they all had similar experiences and were able to discuss them freely. During debriefing sessions, students were all discussing the same experience and not exposing others to future session details. If the sessions had been presented in different orders, it would have impeded discussion during debriefing sessions since each student would have had a different experience.

3.3.2 Round 2 – June 2014

The second round of encounters took place with four different students than in round one. Figure 5 shows the flowchart for this set of encounters. Encounters for this group were similar to round one with a few exceptions. On day one of the encounters, the audio system in the SP Center did not work due to a lightning strike over the weekend, and the encounters had to be cancelled. Because of availability issues with the SP Center as well as the SPs and students, this session could not be rescheduled. Instead, the second day of the four that had been scheduled became day one and students completed their “baseline” session. On day two, students completed two sessions with a debrief session in between. Students were not able to view video recordings in between sessions, but they did discuss feedback from the SPs and what they felt their strengths and weaknesses were. The fact that the students could not view videos before this debriefing may have impacted recall of events during the first session slightly. However, the discussion between the two sessions covered many of the behaviors viewed later in the debriefing session on day three. On day three, the debriefing session before the “evaluation” sessions included video from both the second and third encounters (contesting father and guilty mother). The encounters on the final day were counterbalanced as they were in round one for consistency. When all of the encounters were complete, students filled out their final questionnaire (Appendix 11). This questionnaire is slightly longer than the questionnaire used in round one (Appendix 10) as a few questions were added based on the feedback of Group 1. Again, students experienced the sessions in the same order so that experiences of the same type of encounter could be compared during debriefing sessions.

Round 2 (June 2014)

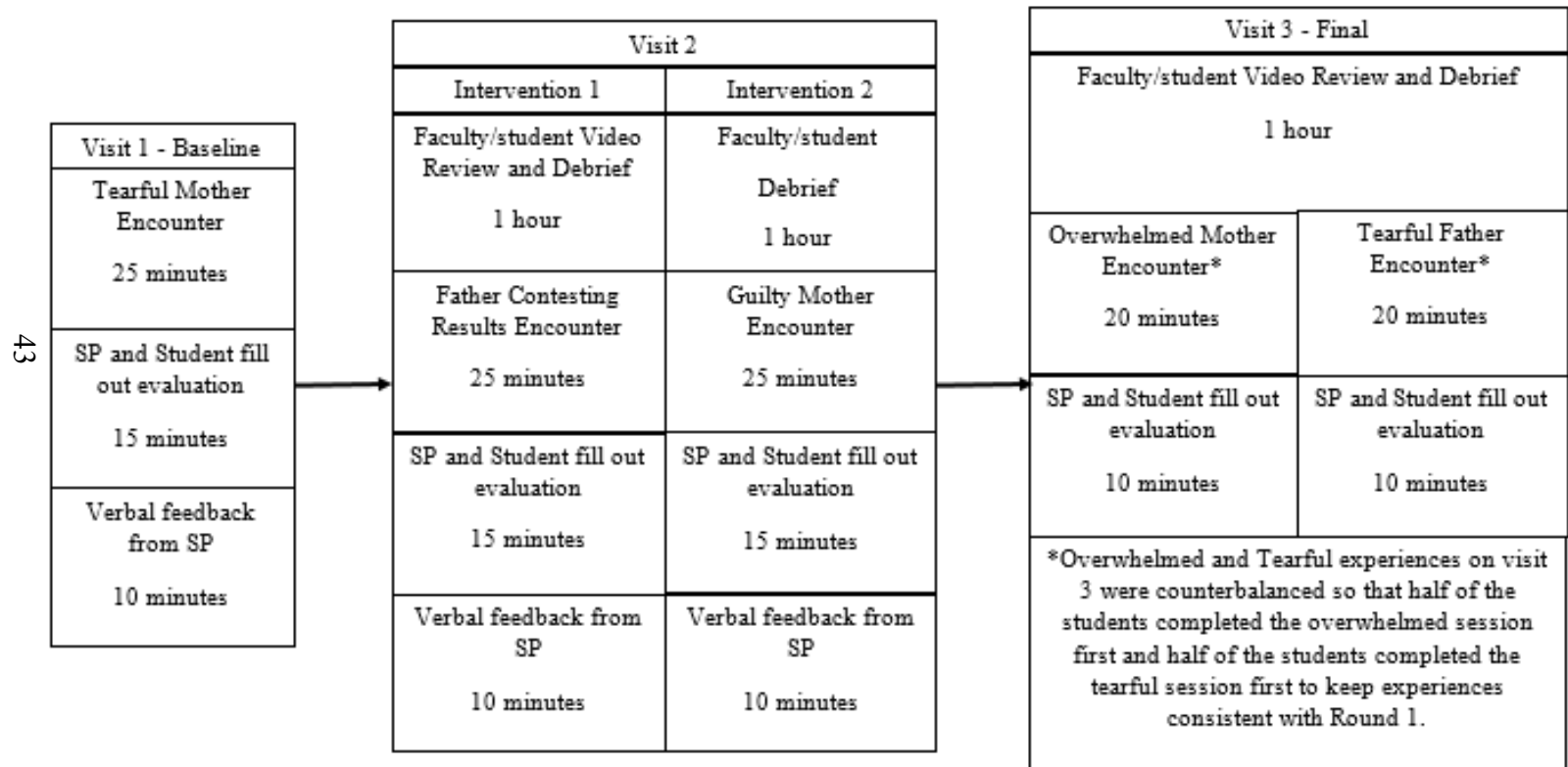


Figure 5. Flowchart of round two of data collection

Chapter 4. Results

Individual data are presented for the eight students. They were divided into two groups based on when they completed their encounters. Group 1 consisted of participants S1 to S4 and included the students who completed the project in January 2014, approximately six months after completing their counseling course. Group 2 consisted of participants S5 to S8 and included students who completed the project in June 2014, immediately after completing their counseling course. Comparisons of the first encounter (tearful mother), which measured the students' baseline behavior, and the last encounter (tearful father), which measured if there were changes in behavior following all of the encounters and feedback sessions, were made for all measurements. These two encounters were chosen because the behavior of the SP was similar and made more direct comparisons of the students' behavior and response to the parent more reliable.

4.1 ACE Results

The Audiology Counseling Evaluation (ACE) questionnaire (English, et al., 2007) was completed by two actors, and three audiologists for each student for the first encounter (tearful mother), the second encounter (contesting father), and the last encounter (tearful father). The actor in the room (SP), an actor observing the encounter from outside the room via a video monitor (M), and three audiologists (A1, A2 and A3) acted as raters for these encounters. The SP and M also completed ACE questionnaires for the third encounter (guilty mother) and

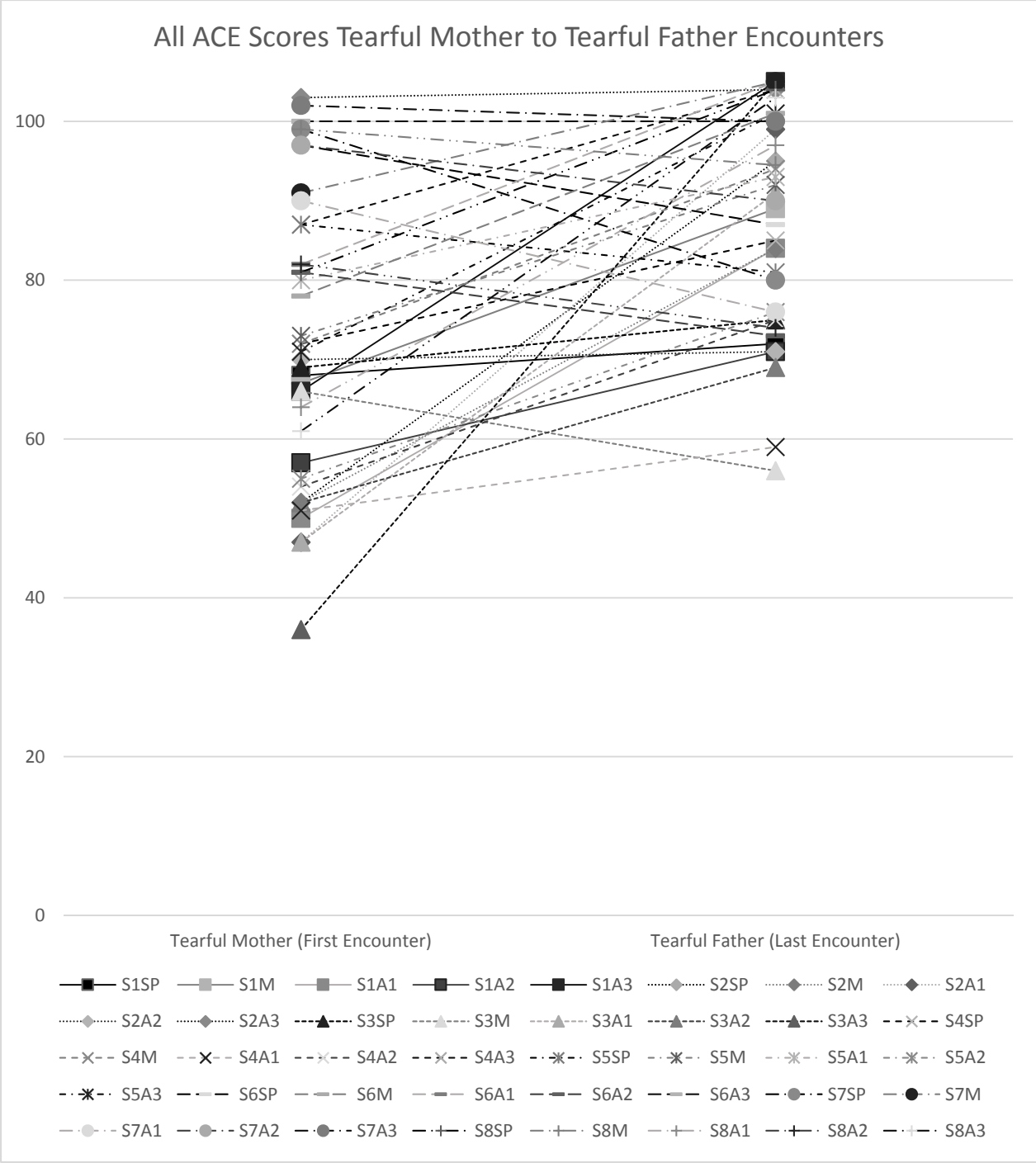


Figure 6. ACE Scores from all actors and judges. SP=Standardized Patients' Rating, M=Monitors' Rating (outside of room), A1-A3=Audiologists' Ratings. Group 1: tearful mother $\bar{x}=62$, $SD=15.376$; tearful father $\bar{x}=84$, $SD=13.353$. Group 2: tearful mother $\bar{x}=84$, $SD=13.755$; tearful father $\bar{x}=92$, $SD=11.270$.

the fourth encounter (overwhelmed mother). Full scores for each student are included in appendices 13 through 20. Although this thesis was limited to only a small group of students, an extensive number of variables were collected for each examination. Figure 6 includes a composite of all of the raters' data for all 8 students for the first and last encounter. These comparisons were made to determine if the use of SP encounters as an intervention or teaching tool results in improvement in the counseling skills of students as observed by raters representing the patient (SPs and Ms) and audiologists representing a student's supervisor or instructor (A1 through A3). It is evident from this figure that there are a number of trajectories for scores of students. Group 1 (S1 through S4) had a mean of 62 points for the tearful mother encounter (SD = 15.375) and a mean of 84 points for the tearful father encounter (SD = 15.353). Group 2 (S5 through S8) had a mean of 84 points on the tearful mother encounter (SD = 13.755) and a mean of 92 points for the tearful father encounter (SD = 11.270). Some students displayed substantial improvement, some students' scores declined slightly, and some students exhibited a possible ceiling effect due to higher scores in their first encounter. The following pages will describe these data in smaller pieces to determine how students' performances changed from the first to the last encounter.

Data for the contesting father are not included in Figure 6, but it should be noted that Group 1 improved from the tearful mother to the contesting father encounter ($\bar{x}=79$; SD=13.974). Group 2's scores decreased very slightly from the tearful mother to the contesting father encounter ($\bar{x}=80$; SD=17.097).

4.1.2 ACE Scores from Standardized Patients

ACE questionnaires were completed by at least two actors for each of the SP encounters: the SP in the room (SP) and a trained SP monitoring from a computer outside the room or viewing the video at a later date (M). Figure 7 displays the scores of ACE evaluations for the first encounter (tearful mother) and the last encounter (tearful father) completed by the SPs for Group 1 and Group 2. Although it is difficult to know whether these differences are statistically significant, Group 1 shows an increase in scores of varying degrees for all four students (tearful mother \bar{x} =65.25; SD=9.00/tearful father \bar{x} =81.75; SD=10.44). Students in Group 2 (tearful mother \bar{x} =91; SD=8.49/tearful father \bar{x} =88; SD=11.11) exhibited higher scores overall on their

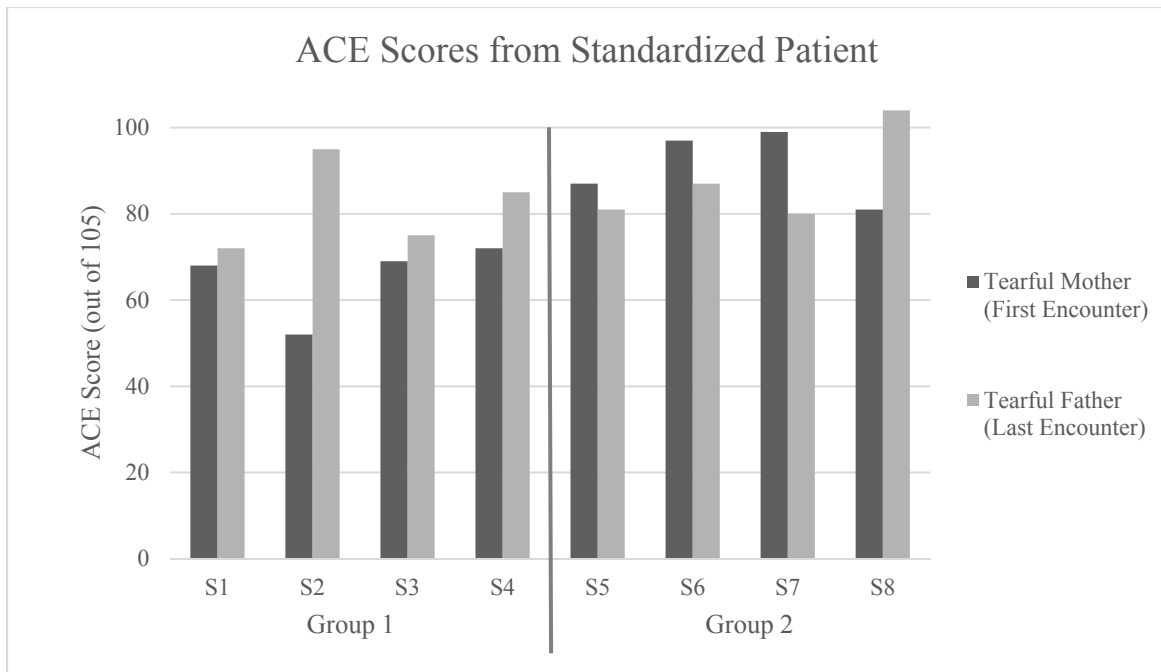


Figure 7. ACE Scores from SPs. SPs were in the room during the encounter. Group 1: tearful mother \bar{x} =65.25; SD=9.0/tearful father \bar{x} =81.75; SD=10.44. Group 2: tearful mother \bar{x} =91; SD=8.49/tearful father \bar{x} =88; SD=11.11.

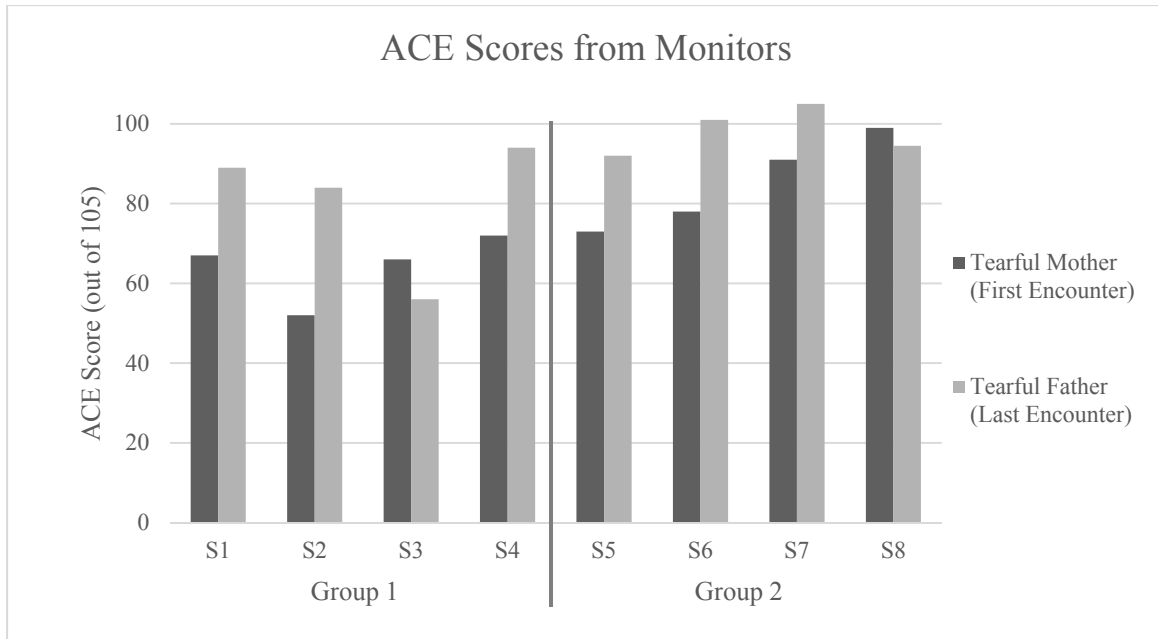


Figure 8. ACE Scores from Monitors. Monitors were SPs monitoring from outside of room. Group 1: tearful mother $\bar{x}=64.25$; $SD=8.58$ /tearful father $\bar{x}=80.75$; $SD=17$. Group 2: tearful mother $\bar{x}=85.25$; $SD=11.90$ /tearful father $\bar{x}=98.13$; $SD=5.95$.

first encounter than Group 1. This resulted in a possible ceiling effect for some of the students. One of the four students (S8) improved from the tearful mother to tearful father encounter while the remaining three students in the group showed a slight decline, but overall these students maintained the skills they exhibited on the first encounter with scores remaining at or above those of Group 1 on the tearful father encounter.

Group 1 and Group 2 scores from the ACE questionnaire for the first encounter (tearful mother) and the last encounter (tearful father) completed by the monitors (M) are displayed in Figure 8. Group 2 (tearful mother $\bar{x}=85.25$; $SD=11.90$) once again received higher ratings for their first encounter than Group 1 (tearful mother $\bar{x}=64.25$; $SD=8.58$). However, three out of four students in group 2 (tearful father $\bar{x}=98.13$; $SD=5.95$) did improve from tearful mother to

tearful father with the final student displaying a possible ceiling effect with scores slightly declining. Three out of four students in Group 1 (tearful father \bar{x} =80.75; SD=17.00) improved by the last encounter. Participant S3's score declined from tearful mother to tearful father, but this may be explained by her self-evaluation and will be discussed later.

Scores from all SPs, those in the room and those monitoring, suggested a difference between Group 1 and Group 2. Group 2 had higher scores on the initial encounter than Group 1 and showed less improvement and in some cases no improvement. However, Group 2's scores remained equal to or above those of Group 1 for the tearful father encounter.

4.1.3 ACE Scores from Audiologists

Scores from the audiologists who viewed the video recordings for 24 of the encounters were more variable than those from the SPs and monitors. Graphs indicating these scores can be seen in Figures 9, 10 and 11. The pattern of Audiologist 1's (A1; Figure 9) scores appeared to be most consistent in terms of trends with scores of the SPs and monitors. Group 1 (\bar{x} =48.75; SD=2.06) scored lower on the tearful mother encounter than Group 2 (\bar{x} =79; SD=10.89), and Group 1 (\bar{x} =83.25; SD=17.89) showed more improvement by the tearful father encounter than Group 2 (\bar{x} =92.75; SD=12.23) overall. Seven out of eight of the students showed improvement in scores from the tearful mother to the tearful father encounter. Group 2 did not appear to have a ceiling effect as they did with the SPs' and monitors' ratings, but did score higher on earlier tearful mother encounter overall than Group 1 resulting in smaller improvements.

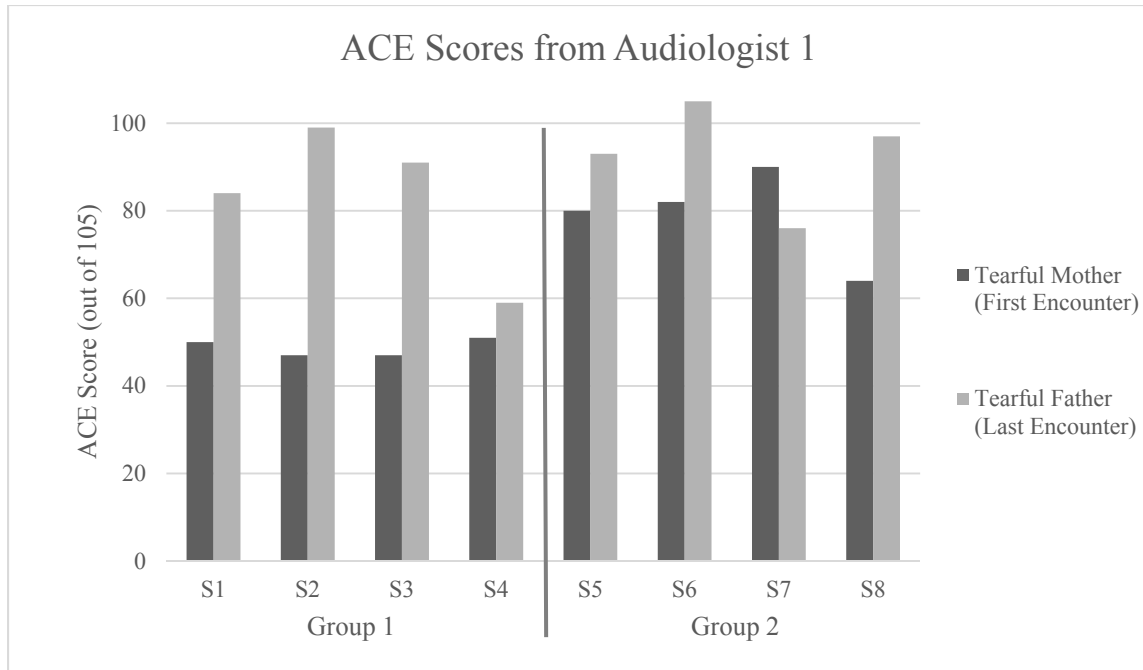


Figure 9. ACE Scores from Audiologist 1. Group 1: tearful mother $\bar{x}=48.75$; $SD=2.06$ /tearful father $\bar{x}=83.25$; $SD=17.89$. Group 2: tearful mother $\bar{x}=79$; $SD=10.89$ /tearful father $\bar{x}=92.75$; $SD=12.23$.

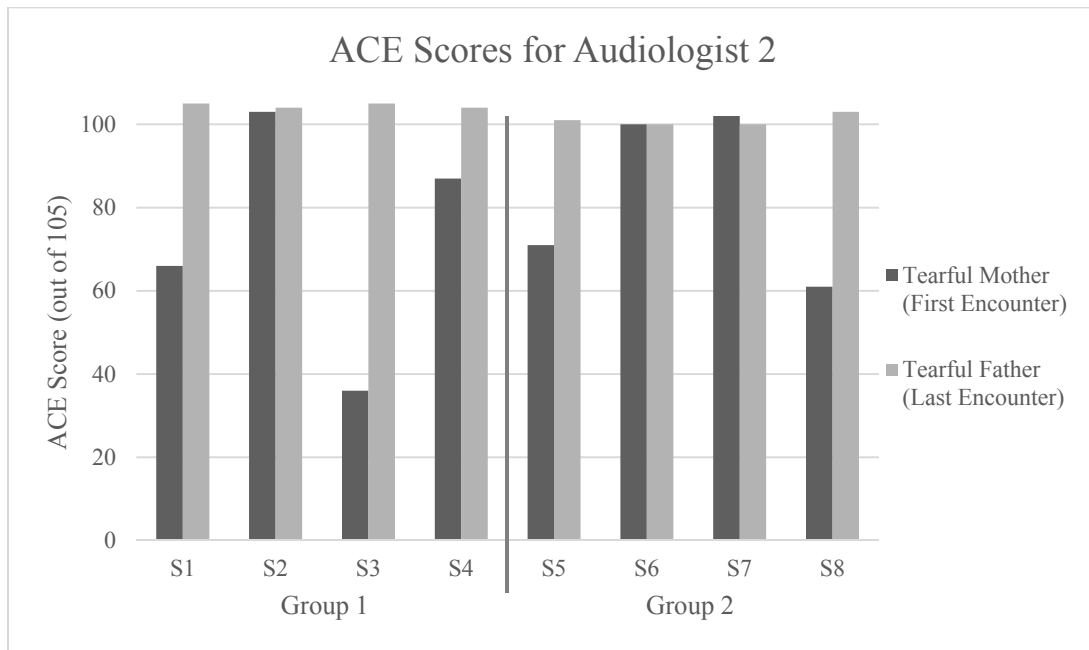


Figure 10. ACE Scores from Audiologist 2. Group 1: tearful mother $\bar{x}=73$; $SD=28.95$ /tearful father $\bar{x}=104.5$; $SD=0.58$. Group 2: tearful mother $\bar{x}=83.5$; $SD=20.63$ /tearful father $\bar{x}=101$; $SD=1.41$.

Audiologist 2 (A2; Figure 10) generally scored students higher overall. This resulted in a probable ceiling effect for most of the students in both groups. The pattern seen from the other raters is still evident for three of the students in Group 1 as well as two of the students in Group 2, indicating an improvement in scores from the tearful mother to the tearful father encounter. Scores on the tearful mother encounter for both Group 1 ($\bar{x}=73.0$; $SD=28.95$) and Group 2 ($\bar{x}=83.5$; $SD=20.63$) were much more variable than scores on the tearful father encounter for Group 1 ($\bar{x}=104.5$; $SD=0.58$) and Group 2 ($\bar{x}=101.0$; $SD=1.41$). In general, the students who scored lower with other raters were also rated low by A2, but students who rated better all fell above 95 points out of 105 points.

Scores for Audiologist 3 (A3; Figure 11) were generally lower than all the other raters. There was no possible ceiling effect with A3 for any of the students. Although scores were lower, general trends of the SPs, monitors, and A1 were still evident. Group 2 ($\bar{x}=78.75$; $SD=17.44$) scored better than Group 1 ($\bar{x}=58.25$; $SD=8.10$) overall on the tearful mother encounter. Group 1 ($\bar{x}=71.5$; $SD=2.52$) showed improvement by individuals for the tearful father encounter whereas Group 2 ($\bar{x}=78.25$; $SD=7.93$) did not. Group 1's scores improved and were more like Group 2's scores on tearful father while Group 2 scored higher on tearful mother overall and maintained the skills they had during the first encounter for the last encounter. Scores of both groups were more similar to each other for the tearful father encounter ($SD=6.534$) than for the tearful mother encounter ($SD=16.69$).

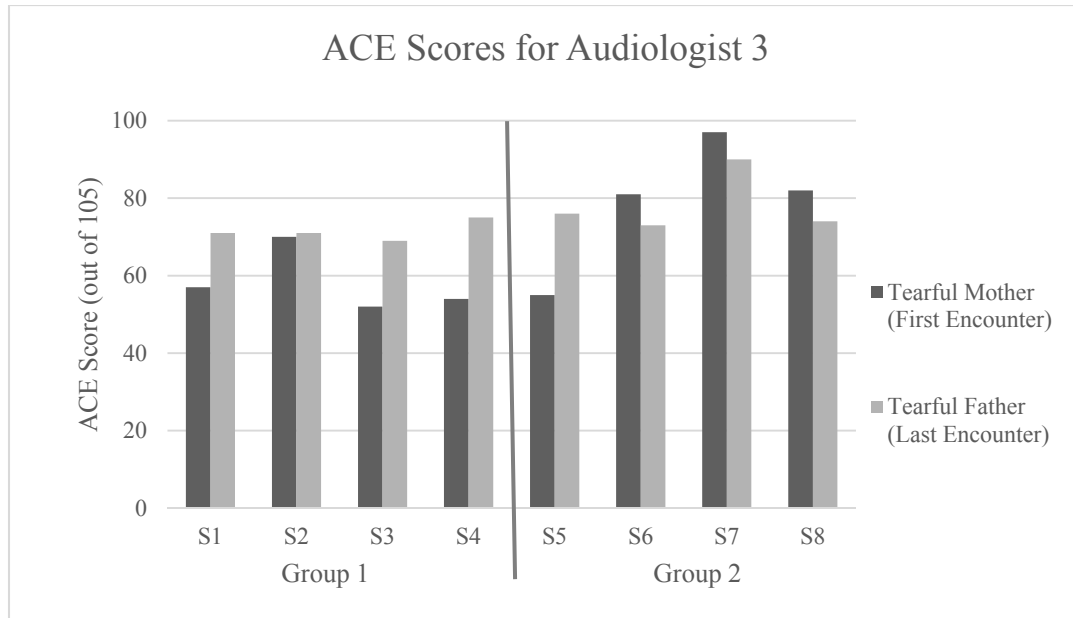


Figure 11. ACE Scores from Audiologist 3. Group 1: tearful mother \bar{x} =58.25; SD =8.10/tearful father \bar{x} =71.5; SD =2.52. Group 2: tearful mother \bar{x} =78.75; SD =17.44/tearful father \bar{x} =78.25; SD =7.93.

4.1.4 Summary of ACE Scores by All Raters

In general, Group 2 (\bar{x} =84; SD =13.76) was rated higher on the tearful mother encounter than Group 1 (\bar{x} =62; SD =15.38). By the tearful father encounter, ratings for both groups were similar for most of the students. Group 1's scores (\bar{x} =84; SD =15.35) improved to be more in line with Group 2's scores (\bar{x} =92; SD =11.27) and Group 2 maintained scores that were equal to or slightly above Group 1, even when Group 2's scores declined.

4.1.5 Inter-rater Reliability of Raters

A weighted Kappa (K_w) was calculated to determine the inter-rater reliability of the audiologists (A1, A2, and A3; Brennan & Silman, 1992) who rated the students. The K_w , as employed by English et al. (2007), indicates how much more agreement there is between raters than can be expected by chance and can be used for more than two raters so that all three raters

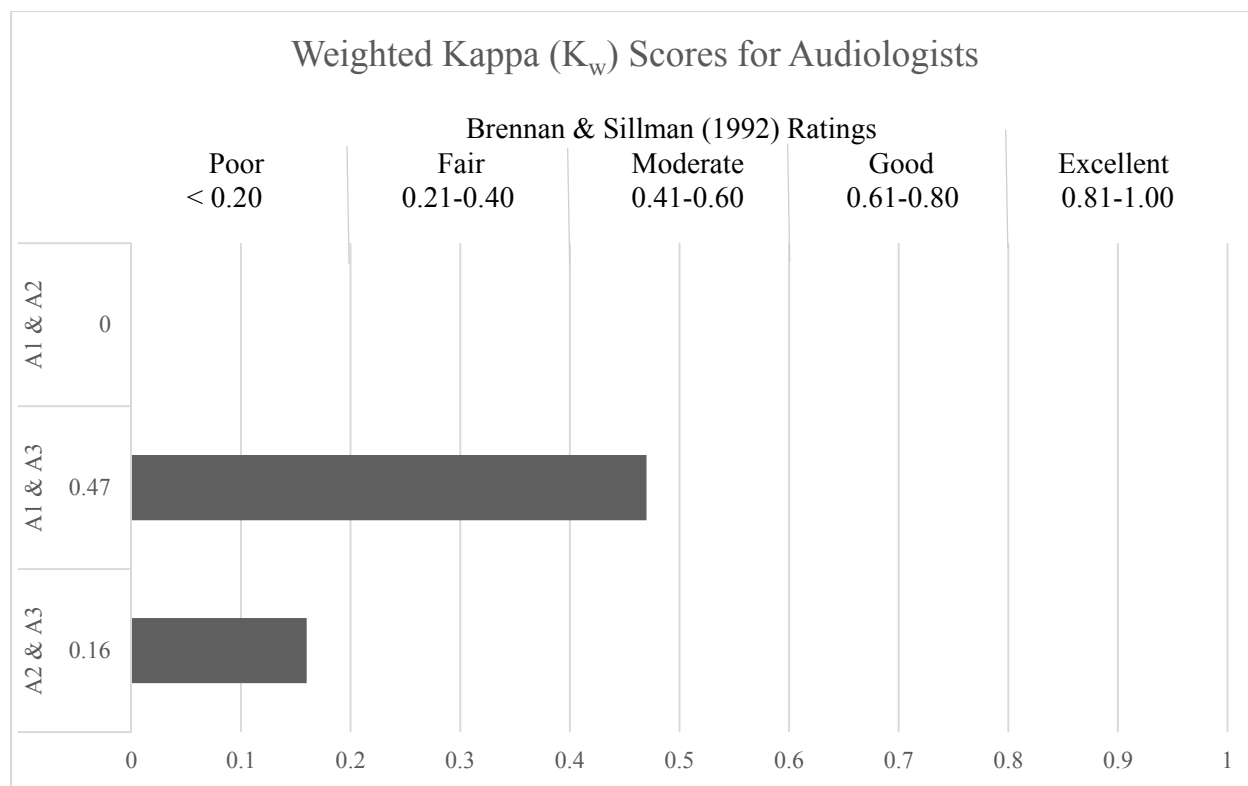


Figure 12. Weighted Kappa values of audiologists' ratings. Values indicate poor to moderate agreement among audiologists' ratings of the tearful mother and tearful father encounters.

could be compared. Values range from 0 to 1, with 1 indicating perfect agreement, and 0 indicating chance agreement. Comparisons were made for A1 and A2, A2 and A3, and A1 and A3 to determine the K_w . Ratings on the ACE were broken into quartiles (Outstanding, Pass, Borderline and Fail) and compared to each other. Results of these comparisons are listed in Figure 12 and revealed poor to moderate agreement among the judges on their ratings of the students. A1 and A3 were in the moderate agreement range for ratings while the other two comparisons resulted in poor agreement.

While the K_w indicates the amount of agreement between raters, it does not indicate where the disagreement is. To determine this, English et al. (2007) used a two-way analysis of variance (ANOVA) to calculate an Intraclass Correlation Coefficient (ICC; Shrout & Fleiss,

1979). This calculation determines if the differences are because of variations among students, raters, or because of the different scores given to the same student by different raters (Student x rater). Results of this calculation can be seen in Table 4 and indicated that the only significant variation was the contribution of differences in the audiologists (raters). This contributed to almost 70% of the variance in scores.

Table 4. Proportion of Variance due to Students, Audiologists and Students x Audiologists Interactions

Proportion of Variance Due to Students, Audiologists, and Students x Audiologists Interaction	
Source	Proportion of Variance
Student	0.227
Audiologist	0.699
Student x Audiologist	0.074
Total	1.000

4.2 SP Evaluations and Recommendations

Before face-to-face feedback sessions, SPs also completed a questionnaire developed by the Washington University School of Medicine SP Center for use with SPs during all of their encounters with medical students (Appendix 8). This questionnaire consisted of 3 questions: rate overall satisfaction, list concerns if any, and suggestions for next encounter. Students did not see the results of this questionnaire, although most of the information written here was also discussed during face-to-face feedback sessions. The answers on this questionnaire indicate how satisfied the SPs feel as a patient with the skills of the provider during the encounter. A rating was selected from the options *outstanding*, *very good*, *good*, *needs improvement*, *marginal*, and

unacceptable. Table 5 lists the results of ratings by SPs for the tearful mother and the tearful father encounters. Once more, Group 1 was rated lower on the tearful mother encounter than Group 2 and showed more improvement by the tearful father encounter. Group 2 began with higher ratings and, in most cases, showed a slight decline by the tearful father encounter. Ratings for all of the students were similar by the tearful father encounter.

Table 5. Results of SP Questionnaire

		Tearful Mother		Tearful Father	
Participant		Rating of Overall Satisfaction with Student	Concerns about student as future caregiver	Rating of Overall Satisfaction with Student	Concerns about student as future caregiver
Group 1	S1	Good	Possible Concerns	Good	Possible Concerns
	S2	Needs Improvement	Possible Concerns	Good	No Concerns
	S3	Needs Improvement	Possible Concerns	Good	No Concerns
	S4	Needs Improvement	Possible Concerns	Good	No Concerns
Group 2	S5	Very Good	No concerns	Good	No concerns
	S6	Very Good	No concerns	Good	Possible Concerns
	S7	Outstanding	No concerns	Good	No concerns
	S8	Needs Improvement	Possible concerns	Outstanding	No concerns

Students received direct face-to-face feedback from the SPs following three of the five encounters they completed. Video recordings of these feedback sessions were reviewed and transcribed, and a list of recommendations made by the SPs was compiled. Video recordings of

Table 6. Recommendations given by SPs to Group 1. Key: Rec = Recommendation Given, TM = tearful mother encounter, TF = tearful father encounter, NA = Not applicable (topic was not brought up during encounter)

Group 1 Recommendations Given by SPs in Feedback Sessions and Recommendations Incorporated into Sessions

Recommendations by SPs in Direct Feedback Sessions	S1			S2			S3			S4		
	Rec	TM	TF	Rec	TM	TF	Rec	TM	TF	Rec	TM	TF
Wait a moment after giving diagnosis	x		x	x		x	x		x	x		x
Tell parent what to do before next appointment (i.e. how to interact with baby, professionals to call)	x		x		x	x	x		x	x		x
Check in with parent to learn what they know and get an idea of where they are at the beginning of the appointment			x	x		x	x	x	x	x		x
Don't jump right into the charts or rely too heavily on charts	x											
Have parents repeat back to check understanding	x		x						x			
Give warning shot before stating diagnosis (i.e. "I have some bad news...").			x	x		x	x	x	x	x		x
Allow silence			x			x	x		x			x
Ask about and offer support systems (i.e. grandparents, friends, support groups)		x				x	x		x	x		x
Don't be afraid to touch the parent (hand on shoulder or arm) to show empathy							x			x		x
Reassure the parent you are there for them	x		x			x	x			x	x	x
Make sure your facial expressions match what you say		x	x	x		x	x	x	x	x		x
Shake parent's hand at the beginning and end of the encounter			x			x	x	x	x	x		x
Offer the parent a tissue if they are crying	x		x		x	x		x	x			x
Ask parents what they need	x		x		x	x			x			x
Give positive feedback to parents (i.e. "We caught this early...", "He can hear some things.")		x	x	x		x		x	x		x	x
Give parent permission to have emotion			x	x		x		x	x		x	x
Be careful agreeing too quickly to second opinion		NA	x		NA	NA	x	NA	NA	x	NA	NA
Stay professional		x	x	X		x		x	x		x	x
Slow down			x			x						x
Match the parent's pace and tone		x	x		x	x			x			x
Avoid false hope		x	x		x	x		x	x		x	
Use empathetic statements ("I know how hard this must be", etc)		x	x		x	x		x	x		x	x
Totals	7	7	19	7	6	18	11	10	17	10	6	18

Table 7. Recommendations given by SPs to Group 2. Key: Rec = Recommendation Given, TM = tearful mother encounter, TF = tearful father encounter, NA = Not applicable (topic was not brought up during encounter)

Group 2 Recommendations Given by SPs in Feedback Sessions and Recommendations Incorporated into Sessions

Recommendations by SPs in Direct Feedback Sessions	S5			S6			S7			S8		
	Rec	TM	TF	Rec	TM	TF	Rec	TM	TF	Rec	TM	TF
Wait a moment after giving diagnosis	x		x		x	x			x	x		x
Tell parent what to do before next appointment (i.e. how to interact with baby, professionals to call)	x	x	x	X	x	x		x	x	x	x	x
Check in with parent to learn what they know and get an idea of where they are at the beginning of the appointment	x			X		x			x	x		x
Don't jump right into the charts or rely too heavily on charts				X			x			x		x
Have parents repeat back to check understanding	x						x			x		
Give warning shot before stating diagnosis (i.e. "I have some bad news...").						x			x	x		x
Allow silence	x		x		x	x	X		x	x		x
Ask about and offer support systems (i.e. grandparents, friends, support groups)		x	x	X	x	x	X		x		x	x
Don't be afraid to touch the parent (hand on shoulder or arm) to show empathy	x			X								x
Reassure the parent you are there for them		x	x		x	x		x	x		x	x
Make sure your facial expressions match what you say			x			x		x	x		x	x
Shake parent's hand at the beginning and end of the encounter		x	x	X	x	x		x	x		x	x
Offer the parent a tissue if they are crying		x	x		x	x		x	x		x	x
Ask parents what they need		x	x	X	x	x		x	x		x	x
Give positive feedback to parents (i.e. "We caught this early...", "He can hear some things.")		x	x	X	x	x		x	x		x	x
Give parent permission to have emotion		x				x		x	x		x	x
Be careful agreeing too quickly to second opinion		NA	NA		NA	NA		NA	NA		NA	NA
Stay professional		x	x		x	x		x	x		x	x
Slow down					x	x		x	x	x		x
Match the parent's pace and tone	x				x	x		x	x		x	x
Avoid false hope	x							x	x		x	x
Use empathetic statements ("I know how hard this must be", etc)	x	x	x		x	x		x	x		x	x
Totals	9	10	12	8	13	17	4	13	18	8	13	20

the tearful mother and tearful father encounters were then reviewed to see if these behaviors were observed during these encounters. Table 6 and 7 list the recommendations made by the SPs. An 'x' in the first column under each student (Rec) indicates whether the student received the recommendations directly from the SP during feedback sessions. Columns two and three (TM and TF) indicate whether the behavior was observed in either or both of the encounters. Once again, overall Group 2 exhibited more of the behaviors on the first encounter. Both groups, however, increased the number of behaviors they exhibited in the last encounter with Group 1 increasing from a mean of 7.25 out of 22 to 18 out of 22 and Group 2 increasing from a mean of 12.5 out of 22 to 16.5 out of 22.

4.3 Measures from Video Recordings

4.3.1 Time of Diagnosis and Audiogram Use

Table 8 includes several measurements made from both the tearful mother and tearful father encounter including length of encounter, time of diagnosis, percentage of time the audiogram is used, and the number of references made to the audiogram. The time of diagnosis was determined by measuring when the audiologist stated the diagnosis during the encounter relative to when the student entered the room. For six out of eight students, the amount of time before the diagnosis was stated increased from the first to the last encounter. For four of these students, this time more than doubled. One student's time decreased by almost a minute, and three students' time changed by 20 seconds or less (plus or minus). When the time of diagnosis was longer, diagnosis was most often preceded by questions to the parents like "How are you feeling?", "How do you think your child is hearing?", and "Do you understand why you are here?" These statements were to engage the parent in some discussion and help gauge where the parent was emotionally before breaking the news. During the first encounter, five out of eight students introduced themselves and stated the diagnosis immediately with no build up. Overall, the students in the Group 1 stated the diagnosis more quickly on the first encounter than students in the Group 2. Group 1 stated the diagnosis by 23 seconds into the encounter on average, while Group 2 waited until a little over one minute into the encounter on average. By the tearful father encounter, Group 1 and Group 2 had similar average times of slightly over a minute, and the students were not entering the room and immediately stating the diagnosis.

Table 8. Measurements for time of diagnosis and audiogram use for the tearful mother and tearful father encounters.

		Percentages and Times of Diagnosis and Audiogram Use for First and Last Encounter							
		<u>Tearful Mother</u>				<u>Tearful Father</u>			
	Participant	Length of Encounter	Time of Diagnosis	Percentage of Time on Audiogram	Number of References to Audiogram	Length of Encounter	Time of Diagnosis	Percentage of Time on Audiogram	Number of References to Audiogram
Group 1	S1	20:50.0	00:21.0	51.44	19	20:08.1	02:35.1	18.33	6
	S2	20:52.2	00:14.3	27.29	10	15:02.9	00:59.0	7.96	8
	S3	16:36.1	00:18.1	22.52	6	10:23.3	00:43.2	10.51	3
	S4	11:00.8	00:40.1	12.14	1	15:44.1	00:59.1	10.42	4
Group 2	S5	09:44.0	01:41.3	20.77	5	08:53.9	00:54.1	15.68	5
	S6	13:09.1	00:32.2	9.39	8	19:21.0	01:33.3	6.49	3
	S7	15:46.1	01:02.0	12.92	4	16:50.1	01:11.1	9.79	4
	S8	17:30.1	01:10.0	8.15	5	13:28.0	01:05.0	0.00	0

Table 8 also includes the amount time the student engaged in discussion about the audiogram during the encounter. This is the percentage of time they were directly pointing to, talking about, or describing the audiogram and placing it in front of the parent for reference. This percentage decreased from the first encounter to the last encounter for all nine students. For one student (S1), the time changed from about 50% of the first encounter to less than 20% of the last encounter. One student (S8) did not refer to the audiogram at all during her final encounter. Once again, there was a slight difference between Group 1 and Group 2. Group 1 referred to the audiogram slightly more during the first encounter with a mean of 28% of the encounter time, compared to Group 2's mean of 13%. The groups were closer in their percentage of audiogram use during the second encounter with Group 1 averaging 12% of the encounter time and Group 2 averaging 8%.

4.3.2 Turn-taking and Silence in Encounters

An important part of counseling is allowing silence during the encounter for the parent or patient to absorb information and react to it. Table 9 displays several measures regarding interaction between parent and student during the encounters including the percentage of silence, percentage of times the parent ended the silence, the first time the parent spoke after the diagnosis was stated, and the percentage of time the parent talked. The amount of silence in the encounters increased from the tearful mother to the tearful father encounter for six out of eight students. Some of the differences are more substantial than others. For students S3 and S6, the amount of silence more than doubled between the tearful mother and the tearful father encounter. Student S3 increased from 5.59% to 12.83%. Student S6 increased from 8.1% to 26.18%, more

than tripling the amount of silence. During the review of the video recordings, the person who ended the silence and spoke first was also noted. During the tearful mother encounter, it was most often the student ending the silence and during tearful father encounter, it was most often the parent ending the silence. For 7 out of the 8 students, the percentage of time the parents ended the silence increased even though the amount of silence did not always change considerably. The time of the first silence is listed in the next column of Table 9. This was determined by subtracting the time the student entered the room from the time the first silence began. This time decreased for all 8 students. During the tearful mother encounter, students continued to speak even after parents responded and did not give the parents as much time to process the news or ask questions. One student talked for almost two minutes before the parent interrupted her to react to the diagnosis. The other students talked between about 22 seconds to 46 seconds. In four of these cases, the parent interrupted the student to ask a question or to say they needed a minute to process what was happening. During the tearful father encounter, students were more likely to stop talking and allow the parents time to process shortly following the diagnosis indicated by this decrease in time of the first silence. Only one SP interrupted and no SP had to wait more than 30 seconds to talk or react to the news. Also noted in Table 9 is how soon after the diagnosis the parent spoke. This was calculated by subtracting the time stamp for the time the student stated the diagnosis from the first time the parent spoke. For several of the encounters, the parent interrupted the student to begin speaking. These times are displayed in bold in Table 9. This time stamp decreased for all 8 students from the first to the last encounter implying that the student delivered less information after the diagnosis allowing the parent to

Table 9. Measurements of silence and talk time during tearful mother and tearful father encounters.
(Times in bold indicate parents had to interrupt student)

		Percentages and Times for Silence and Talk Time for First and Last Encounter									
		Tearful Mother					Tearful Father				
Participant	Percentage of Silence	Percentage Parent ends silence	First Silence after Diagnosis	First time Parent Spoke after Diagnosis	Percentage Parent talk time	Percentage of Silence	Percentage Parent ends silence	First Silence after Diagnosis	First time Parent Spoke after Diagnosis	Percentage Parent talk time	
Group 1	S1	7.86	60.00	03:52.0	00:46.1	17.56	12.60	76.92	03:21.9	00:17.9	31.67
	S2	7.27	28.57	02:20.1	00:22.0	9.77	5.55	62.50	01:19.1	00:08.9	16.60
	S3	5.59	30.77	01:18.1	00:39.1	12.74	12.83	73.33	01:01.2	00:07.0	21.79
	S4	6.11	11.11	03:38.9	00:32.2	20.96	7.65	69.23	01:05.1	00:11.0	18.98
Group 2	S5	1.64	40.00	03:44.7	00:27.9	12.74	3.18	50.00	02:36.1	00:09.0	23.55
	S6	8.10	50.00	02:42.0	00:41.8	28.77	26.18	43.24	01:42.9	00:29.9	23.84
	S7	4.67	23.08	04:06.3	01:48.0	27.86	7.32	50.00	01:16.9	00:07.0	27.10
	S8	12.78	51.85	04:43.2	00:45.1	17.55	3.34	71.42	01:16.0	00:16.0	27.56

process the news that was delivered. Also, only one parent interrupted the student in order to speak during the tearful father encounter.

The final measurement in this table indicates the percentage of time the parent talked during the encounter. For 5 out of 8 students, this percentage increased. For the remaining 3 students, the percentage of time the parent talked remained about the same or was slightly less during the second encounter when compared to the first encounter. These three students had the highest percentage of parent talk time during the first encounter, and their measurements during the second encounter were similar to the other five students. Not as much difference is apparent between the two groups in these more objective measures.

4.3.3 Early Intervention Recommendations

Within the encounters, actors were instructed to ask what they were supposed to do next if the student did not bring up the topic first. The purpose of this question was to see if the student would discuss early intervention, education and/or speech therapy, which are all an important component of the UNHS program. One of the goals of UNHS is to not only diagnose a child with a hearing loss by the age of three months, but also to enroll the child in an early intervention program by six months (Joint Committee on Infant Hearing, 2007). Table 10 summarizes who brought up the topic first within the encounter (the parent or the student) and what the student recommended. Only 3 out of 8 students brought up the topic of early intervention of some type during the encounter before the actor could ask about it. One student specifically brought up the First Steps program, which is Missouri's statewide birth to three program, and includes coverage of hearing aids as well as early intervention. In the remaining

five cases, the actor had to ask about the topic directly in both the first and last encounter. The majority of these students did not mention early intervention and only discussed hearing aids as the course of treatment they recommended combined with further behavioral testing and observation of the child. Students sometimes indicated that the child may need intervention such as a speech and language therapy at a later time, but through observation and testing that could be determined later. The three students who mentioned early intervention before the actor brought up the question were all in Group 2.

Table 10. Early Intervention recommendations during tearful mother and tearful father encounters.

		Recommendations for Parents			
		Tearful Mother		Tearful Father	
Participant	Who brought up "what to do next"	Recommendation by Student	Who brought up "what to do next"	Recommendation by Student	
Group 1	S1	Parent	Early Intervention	Parent	Come back for more tests and hearing aids
	S2	Parent	Observation, hearing aids. If child is not reaching milestones, SLP	Parent	Observation and Hearing aids
	S3	Parent	Hearing aids and behavioral tests	Parent	Hearing aids and behavioral tests
	S4	Parent	Hearing aids and monitor child	Parent	Hearing aids and monitor child
Group 2	S5	Student	Recommends SLP	Student	Recommends SLP
	S6	Parent	SLP in a few months if necessary	Parent	Mentions EI when parent asks specifically about education
	S7	Student	Discusses First Steps	Student	Discusses First Steps
	S8	Student	Discusses hearing aids and early intervention	Student	Early intervention brought up immediately

4.4 Student Self-evaluation

Figure 13 displays results of the questionnaire in which students were asked to rate their own performance with the SP following each encounter on a four-point Likert-type scale from “*I need to significantly improve my performance in the future*” to “*I did really well; communicating with patients is strength for me*” (see Appendix 7). All of the students but one rated themselves higher on the last encounter than they did on the first encounter. The self-evaluation also asked

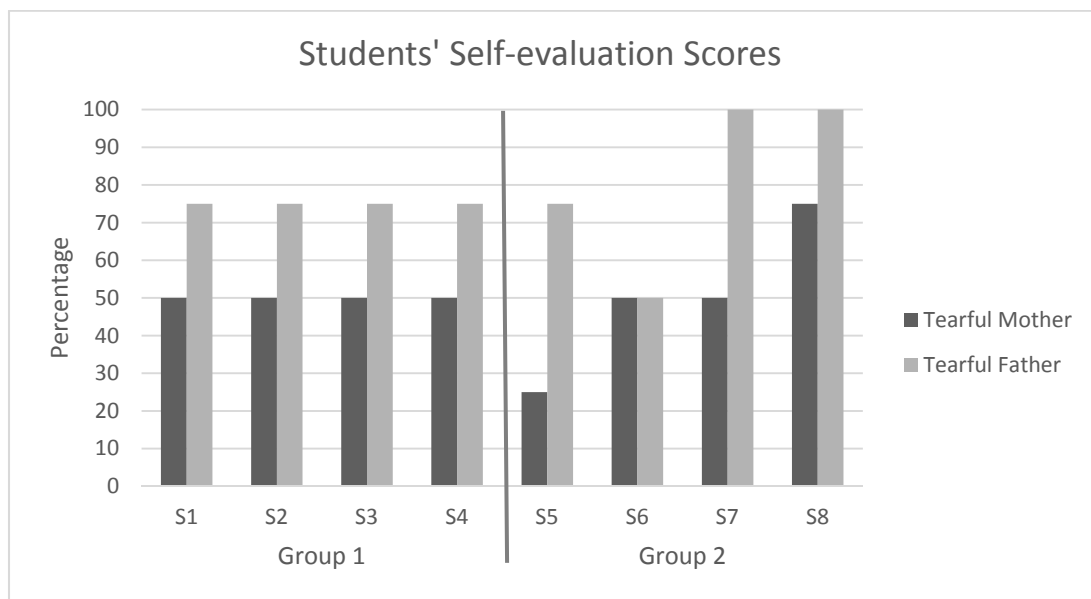


Figure 13. Students' self-evaluations.

the students to describe how they felt about the encounters and what was challenging for them. Following the first encounter (tearful mother), most of the students used words like “awkward,” “uncomfortable,” “overwhelmed,” and “nervous” to describe how they felt following the encounter. They all reported that they had skills that needed to be improved. All of the students

expressed that they felt finding a balance between comforting the mother and delivering the information was a challenge. After the last encounter (tearful father), students expressed more confidence in their performance and felt that they were able to communicate well with the parent. They still felt dealing with a parent who was crying was a challenge, especially when the parent was male.

Students also completed a final questionnaire after the last encounter, which asked about their experience with the SP encounters overall (appendices 10 and 11). All eight students felt they were better prepared to counsel following the experience and all eight students felt encounters with SPs should be included in coursework and training somehow during their graduate school experience. Figure 14 shows responses from Group 2 when asked if the SP experience had affected how they felt they would treat patients in clinical practicum and in future practice. Responses from both groups of students was positive, and all the students expressed that they were glad they participated in the project and felt it should be required for future students.

Do you think this experience has changed how you will treat patients?
Yes, I think it allows me to see the situation more from their perspective...and it makes me more aware of how I came across
Yes, I have more confidence when speaking to patients. I'm more comfortable understanding where the patient is coming from in different situations
Yes, I feel more confident about my skills and about how to talk to patients in unexpected circumstances.
Yes, observing their body language and verbal communication more; remembering that any reaction to hearing loss is normal; validating the patient's feelings and how I'm going to help!!

Figure 14. Students' feelings about SP experiences..

Chapter 5. Discussion

Approximately two to three out of every thousand children born in the United States have a hearing loss (Centers for Disease Control and Prevention, 2010). More than 90 percent of these children are born to parents with normal hearing, who may know little or nothing about hearing loss and its implications (Mitchell & Karchmer, 2004). Universal Newborn Hearing Screening (UNHS) was implemented to ensure that children are screened for hearing loss before one month of age, undergo a diagnostic test battery if they do not pass the screening by three months of age, and are enrolled in an intervention program by six months of age if they are diagnosed with a hearing loss (Joint Committee on Infant Hearing, 2007). These steps improve the prognosis of these children in terms of speech and language development as well as their future educational success (Moeller, 2000; Yoshinaga-Itano, et al., 1998). It is important, therefore, that audiologists counsel parents of children with hearing loss effectively so they can understand the implications of the hearing loss and become more likely to follow through with recommendations in a timely manner (Margolis, 2004a). Unfortunately, research has shown that this is often not the case. Although audiologists may feel that the parents understood everything discussed during an appointment, the majority of parents report not understanding or are unable to correctly recall the information from the appointment (Williams & Darbyshire, 1982).

Students studying to be audiologists often feel unprepared and uncomfortable performing a counseling session with parents about the initial diagnosis of a hearing loss (English & Zoladkiewicz, 2005). This could be due to lack of training and/or lack of experience in graduate

school (Crandell, 1997; Culpepper, et al., 1994). These students graduate and become unprepared audiologists, who do not have experience or training in how to counsel.

This thesis was designed to evaluate the efficacy of using SP encounters as a teaching tool for students training to be audiologists. SPs have long been used successfully to train students in medicine, pharmacy, dentistry and other healthcare fields (Barrows & Abrahamson, 1964; Johnson & Kopp, 1996; Koerber, et al., 2003; Watson, et al., 2006), but little has been published about using SP encounters with audiology students (Killan, et al., 2010; Naeve-Velguth, et al., 2013; Wilson, et al., 2010). If SP encounters can be used to give audiology students experience in a safe environment, with feedback, it may improve the services audiologists are providing for parents of children with hearing loss, and subsequently improve outcomes for these children. To determine the potential benefit of using SPs in this thesis, several measures, including rating forms completed by SPs and audiologists, assessment forms completed by students, and measurements made of video recordings of encounters and feedback sessions were used. The implications of the results are discussed here.

5.1 ACE Ratings – Differences between Groups

Data from the Audiology Counseling Evaluation (ACE; English, et al., 2007) did reveal some general trends for ratings from both SPs and audiologists. Although this study included only eight participants, there appeared to be a difference between the students who participated in round one and round two of data collection. Group 1 consisted of four students in the second semester of their third year of study participating in round one of data collection in January 2014. These students completed a counseling course as part of their Au.D. curriculum six months

before participating in this thesis. Group 2 consisted of four students, who had recently completed their second year of study, and participated in round two of data collection in June 2014. They completed a counseling course as part of their Au.D. curriculum the week before participating in this study.

Scoring on the ACE questionnaire by SPs and audiologists resulted in a variety of trajectories for different students, but trends for the two groups did emerge (Figures 7 through 11). Overall, students in Group 1 scored lower than Group 2 on the first encounter, tearful mother, and showed improvement by the last encounter, tearful father. Students in Group 2 scored higher on the tearful mother encounter resulting in less improvement and in some cases a decrease in scores on the tearful father encounter. Scores for both groups were similar by the tearful father encounter. It is possible that Group 2 was reinforcing skills learned in their counseling course that ended just a week before data collection. This group was able to recall more of the information learned in the course and apply it in the encounters than Group 1 was able to remember from six months before. Although some of the scores for Group 2 decreased slightly from the first to the last encounter, their scores were never as low as the scores of Group 1 on the tearful mother encounter. These students seemed to maintain their skills from the first to last encounter based on the ratings of both the SPs and the audiologists. It is not apparent from this small sample size and the limited experiences here how long students retain information from this particular course. Research in psychology related to retention of coursework is plentiful, and if this study was repeated at different time intervals following the counseling course, it may be possible to determine how long students retain information and apply it to clinical practice. For the purposes of this study, it is difficult to make a definitive conclusion on

the usefulness of the ACE due to a relatively small sample size of participants in this thesis. However, trends did reveal an overall improvement in scores for a majority of ratings (28 out of 40) from the tearful mother to the tearful father encounters. Zraick et al. (2003), used SPs to train speech pathology students and found that the questionnaire used for their evaluation did not seem to capture the changes in students' behavior completely, in a similar way to results from the ACE here. Raters for Zraick et al. noted subjective differences in behavior between students who had experience with SPs and students who did not, but these differences did not translate to a statistically significant difference between the groups.

5.2 SP Evaluations and Recommendations

Following each of the first three encounters, students completed a 10-minute face-to-face feedback session with the SPs. During this time, SPs gave students feedback on their strengths during the encounter and made suggestions for future encounters. The most common recommendations for students included “wait a moment after giving the diagnosis” and “tell the parent what to do before the next appointment” (Table 6 and 7). The measurements of how well the students used silence and recommendations they made to parents will be discussed later. During debriefing sessions between encounters, students discussed the recommendations and other comments by SPs so that each student heard the recommendations, even if it was not made directly to them. Video recordings of the tearful mother and tearful father were reviewed, and the behaviors that were recommended were tallied for each student. As with the ACE data, there seemed to be a difference between groups. Group 1 displayed fewer of the behaviors in the tearful mother encounter than Group 2, but by the tearful father encounter, all the students were

displaying most of the behaviors recommended by the SPs. Once again, Group 1 showed improvement overall, while Group 2 showed improvement or maintenance of skills.

The purpose of the feedback sessions with the SPs was to modify the students' behavior in the encounters and improve their communication skills with SPs. As the students integrated recommendations given by the SPs, their ratings in most cases improved, and comments from audiologists and actors were more positive. It has been reported that medical students like receiving direct feedback from SPs, and it can reduce anxiety and increase the students' self-efficacy (Howley & Martindale, 2004; Turan, Üner, & Elçin, 2009). The SPs commented during the project that they enjoyed observing the students during an encounter after they had given feedback and seeing the students putting their recommendations into practice. Overall, the direct feedback from the SPs seemed to be a positive influence on students' communication skills.

Students were exposed to various encounters and received feedback multiple times during this study. Based on the data, it is difficult to say definitively how many exposures are necessary to improve students' skills to those necessary in clinical practice and this number may vary from student to student. However, three to four encounters with direct feedback from the SP, as well as a debriefing session with peers and an instructor, may be enough to provide the students with skills necessary to use in clinical practicum and practice. Students involved in this study only had three such exposures with feedback from the SP and debriefing sessions, but debriefing sessions did not include direct feedback from an instructor. With added feedback of an instructor to help modify information the students provide to the parents, combined with exposure to peers experiences and behaviors (positive and negative), students would possibly be prepared to encounter parents in the real world.

Students in Group 1 actually showed improvement in three out of four cases after only one session that included feedback. Their scores for the contesting father encounter were higher than scores for the tearful mother encounter. Group 2 actually showed a slight decline in scores between the tearful mother and contesting father encounters. Students in Group 2 reported during the debrief session that they had anticipated the tearful mother response, as it is a very common response of parents, while they did not expect the contesting father response and were unsure how to respond.

5.3 Measures of Video Recording

While the use of the ACE rating scale did not result in robust changes in scores for all of the students and variation between raters made translation of the results difficult, analysis of video recordings gave a more objective view of behaviors displayed by the students during their SP encounters. Based on what we know about what parents and patients want from an empathetic, skilled counselor (Kurtzer-White & Luterman, 2003; Luterman, 1990; Luterman & Kurtzer-White, 1999), measurements of behaviors were made for the tearful mother and tearful father encounters to assess if there was improvement in behaviors.

5.3.1 Time of Diagnosis and Audiogram Use

Reports of how parents hear the diagnosis of a hearing loss from professionals often cite that the professional lacked empathy, did not spend time with them, “dumped” information, and did not check for understanding (Gilbey, 2010; Martin, George, O'Neal, & Daly, 1987). During the tearful mother encounter, Group 1 stated the diagnosis of hearing loss within the first 40 seconds of the encounter (Table 7). The typical encounter began with the student entering the

room, introducing herself, and then stating the diagnosis immediately. SPs did not have a chance to do anything but say hello and react to the news. Group 2 did a better job of this overall with three of the four students engaging the SP in conversation before stating the diagnosis. They asked questions about what the SP was feeling, how the SP felt her child was hearing, and other questions to build rapport before stating that the child had a hearing loss, as recommended in literature regarding how to break bad news to patients (Billson & Tyrrell, 2003). After feedback from SPs and debriefing sessions discussing how the students felt about how they delivered the diagnosis, students changed the way they delivered the news. By the tearful father encounter, all of the students spent at least some time talking to the parent before stating the diagnosis. In one case, the time of diagnosis moved from 21 seconds for the first encounter to 2 minutes and 35 seconds for the last encounter. By asking questions of the SPs, students were able to gauge his or her attitude toward the appointment and find out if a hearing loss was suspected. This helped them anticipate how the SP may respond and prepare themselves to react appropriately.

During the counseling session, students described the hearing loss to the SP. They were given a familiar sounds audiogram with the hearing loss plotted for their use if they needed it. In general, students used the audiogram more during the first encounter than during the last encounter. Feedback from SPs informed the students that the audiogram was confusing and not necessarily helpful. Research has shown that even with the use of the audiogram, parents do not always remember the description of the hearing loss and what it means correctly (Watermeyer, et al., 2012; Williams & Darbyshire, 1982). According to Harrison and Roush (2001), understanding the audiogram is often not a top priority for parents of children with severe to profound hearing loss immediately after diagnosis although it is among the top priorities of

audiologists. Audiologists use it as a tool to try to make things more understandable for parents, but it may not always work. Especially during the initial diagnosis, when parents are emotional, hearing technical information and seeing charts and graphs showing the hearing loss may not be easy to process in the moment. Students in this study used the audiogram for up to 50 percent of the tearful mother encounter. This is the amount of time they directly referred to the audiogram by pointing to it, using it to explain the hearing loss, holding it in front of the SP, and referring to it as a visual aid when they talked. One SP told the student she was working with that when the student pulled out the chart, “I was able to focus on pictures and be able to be like, ‘But he heard the dog you know’ and there were things I could connect, but this becomes a little overwhelming right off the bat.” During the tearful father encounter, all of the students referred to the audiogram for less time than during the tearful mother. One student did not refer to the audiogram at all. The student who used the audiogram for 50 percent of the first encounter reduced her use to 18 percent. Because less time was spent on the audiogram and technical information, students were able to focus more on attending to the SPs emotional needs and reaction to the diagnosis.

Research has shown that fathers and mothers have different responses to the diagnosis of their child’s hearing loss (Brand & Coetzer, 1994; Meadow-Orlans, 1995; Pratt, 1999). Fathers and mothers both experience stress, but for different reasons. Fathers stress often stems from the increased demands and acceptability of the child. Mothers stress often relates to demands on her time and lack of support from her spouse and can lead to depression. The differences between fathers and mothers was not examined here, but may have had an influence on measurements

made. This could be examined in future studies by counterbalancing the tearful mother and tearful father reaction if more participants are available to allow this.

5.3.2 Turn-taking and Silence in Encounters

Silence can be a powerful tool during counseling sessions with patients, but is also often difficult without looking uneasy or uncomfortable (Back, Bauer-Wu, Rushton, & Halifax, 2009; Travaline, Ruchinkas, & D'Alonzo, 2005). When delivering bad news, such as a hearing loss diagnosis, patients often need time to process the information before they are prepared to hear details. The amount of silence within the SP encounters increased for most of the students. In addition, more noteworthy than the amount of silence in the encounter may be who ended the silence. During the first encounter, it was most often the student who was ending the silence and continuing to talk (Table 9). This is presumably because the silence became uncomfortable for them. After receiving feedback from the SP about allowing silence, students allowed the parent to be the one ending the silence a majority of the time. During the debrief sessions, students acknowledged that this was often the most difficult thing to do as silence was uncomfortable, and they felt the need to fill the silence. During final encounters, students were more comfortable allowing the silence, or at least were willing to wait until the parent was ready to continue. In some cases, when the student did end the silence it was after up to a 12 second silence. When they ended these long silences, it was often with a question such as "How are you feeling?" or an empathetic statement such as "I know this is not the news you wanted to hear." They were not filling the silence with more information that the SP would most likely not hear. Students

reported in debrief sessions that although it was still difficult, they could see value in the silence, and it was easier to wait for the parents to talk.

Another trend that was noticed was the change in the amount of time the student spoke before the parent spoke. This seems to indicate that during this encounter, the student stated the diagnosis and waited for the parent to respond before moving onto the information they shared about the hearing loss. In many cases, students stated the diagnosis and asked the parents how they felt or what they wanted to know, initiating the response from the SP. In at least one case, the student stated the diagnosis and paused, waiting for the SP's response and using silence to give him time to process. Kooper (2009) recommends that audiologists deliver the news of diagnosis as simply as possible and answer questions from parents as simply as possible, only including details if parents ask or after they have worked through their feelings related to the diagnosis. She suggests the diagnosis be stated (i.e., "Your child has a hearing loss."), and then the audiologist should remain silent until the parent asks a question about the diagnosis in order to give the parent time to process the news.

Parents report that one thing they want from audiologists during counseling sessions is an empathetic listener (Harrison & Roush, 2001). During the tearful mother encounter, students did most of the talking with SPs talking 28 percent of the time or less. Neither group stood out in how much they allowed SPs to talk during this encounter. This could be due to the fact that students were nervous, this was their first experience breaking the bad news to a parent, it was their first experience with an SP, or because they wanted to be sure they told the SP all of the information they felt the parent needed to know. During the tearful father encounter, students talked less and the percentage of time the SP talked increased for most of the participants. For

one student, the percentage of time the parent talked decreased slightly (29% to 24%), but the percentage of silence in the encounter increased from 8% to 26%, indicating that even though the amount of time the parent talked didn't change much, the student talked less and allowed silence instead of filling the void with information. Overall, in the tearful father encounter, students allowed for more silence and allowed parents to talk and ask more questions than during the tearful mother encounter, which matches more closely to what parents want from an audiologist during the diagnosis (Gilbey, 2010).

5.3.3 Early Intervention Recommendations

The purpose of the UNHS process is not only to identify children with hearing loss, but also to enroll these children into early intervention (EI) programs so that families receive the services from a deaf educator, SLP, or other professional trained to work with children with hearing loss (Joint Committee on Infant Hearing, 2007). These professionals provide services to the families of children with hearing loss based on the child's and family's needs. This may include speech and language therapy, developmental evaluations, and educational services. The needs of the child and family can vary based on the degree and type of hearing loss and the dynamics of the family, but all children diagnosed with hearing loss should be referred to an EI program as soon as they are diagnosed to assess what is needed and ensure enrollment by six months of age when possible. In most states, referral to the state EI program is required by audiologists or professionals making a diagnosis that qualifies a child for services in the birth to three program within that state (White, 2006). The referral for EI by audiologists and other professionals is considered to be the weakest link in the UNHS and Early Hearing Detection and

Intervention (EHDI) process (Sass-Lehrer, 2004). Results of our study correspond with this finding.

During the SP encounters in this study, it was noted that early intervention was not always an immediate recommendation by students. Some students brought up early intervention specifically with parents, although less than half of the students did so without being prompted by the SP with a question like, “What should we do next?” Because the purpose of UNHS is to identify children with hearing loss and enroll them in EI programs as soon as possible, the fact that the students did not bring up the topic, or in some cases even address the topic, is concerning. The students in this study are enrolled in a graduate school program that includes deaf education students, and their classes are held in a building adjacent to a school for children with hearing loss. Even with this exposure to the EI services and professionals, EI was not brought up by most of the students or was presented as an option if necessary at a later date. In one case, a student said, “We’ll test him again in six months and see where he is.” This would be when the child was 7 to 8 months old. This highlights how helpful SP encounters can be for instructors and university programs to find if there are any gaps in what is being taught or retained by students (Barrows, 1993). Most of the students in this study had not observed an initial diagnosis counseling session, but all of the students had completed courses in pediatric audiology, aural rehabilitation, and counseling. All three of these courses include the topic of EI. The students in Group 2, who had these courses much more recently, included the three students who brought up EI without being asked by the parent. Of the remaining five students, only two of them mentioned EI when asked by the parent about what the next steps included. The

remaining students only mentioned hearing aids and monitoring the child's progress. Even the student with experience with delivering an initial diagnosis left out this piece.

It could be argued that students did not bring up EI because they did not want to overwhelm the parent with information at their first appointment. This could be true, but even when parents asked specifically about education, students said that the child may need a speech pathologist, but it is common for children with hearing loss to be mainstreamed with their typically hearing peers. Also, because the referral to EI is often made immediately following the diagnosis of a hearing loss, it is likely to be mentioned to the parents as an additional support system for them at the initial diagnosis. Finally, in some states, including Missouri, the program that provides funding for the EI also provides funding for hearing aids. In this case, the referral would need to be made before hearing aids could be fitted, so it would need to be mentioned to families at the initial diagnosis.

Another statement made by a student that was noted as a specific concern by the audiologists viewing video recordings was "He has a hearing loss, but I don't want you to think that this is permanent" so the parent should not be concerned. The hearing loss used in these encounters was a *permanent* sensorineural hearing loss that would not be correctable by surgery or medication. It is *treatable* using EI, hearing aids and other hearing technology. If using SP encounters as part of coursework or to assess what students are retaining from instruction (Barrows, 1993), this would be an opportunity for an instructor to correct the student and be sure the information she is giving parents is accurate. Students in Group 1 were more accurate in their description of the hearing loss and the implications of the hearing loss in this case. They assured parents that the baby was hearing some things and that the parents' observations of this were

correct. Students in Group 2, while more likely to refer the family for EI and medical evaluation and more likely to display behaviors the SP (patient) felt comfortable with even during the first encounter, did not describe the implications of hearing loss as accurately. These students told parents the child was not hearing them at all and that without the hearing aids, they would only see responses to very loud sounds. Because the hearing loss for the case was a sloping mild to profound hearing loss, this child would respond to some softer, low frequency sounds, including the parents' voices. Whether these differences are because the students in Group 1 had more practical experience with different hearing losses or because the students understood the implications of hearing loss based on coursework that Group 2 had not completed yet is unclear. However, it is of interest to note that while Group 1 may not have retained information regarding counseling techniques from the course they took six months before the SP encounters, they were clearer in their description of the hearing loss to the SP in these encounters. Again, if using these encounters as either a teaching tool or evaluation technique during the Au.D. training program, students could be given feedback regarding these topics specifically by an instructor to help confirm they were giving patients accurate information in an appropriate way. For the purposes of this project, students were only given feedback by SPs.

5.4 Student Self-evaluation

Students rated themselves after each encounter and at the end of the project. All of the students but one rated themselves better on the final encounter than they did on the first encounter. After the first encounter, one student returned to the debrief room and stated that she was glad the experience was with an SP because she felt like she would have “scarred a real

parent.” Comments on the self-evaluation following the tearful mother encounter included statements such as “I feel unsure,” “I think it was awkward,” “overwhelmed,” and “definitely room for improvement.” Comments on the tearful father encounter included more concrete statements of things the students did that they felt good about instead of generalizations about their feelings about the encounter overall. Statements included, “I think I gave her the right information, reassurance that I can help her and her husband and also a plan to help her son in the upcoming weeks,” “I feel like I did a better job of giving him time to process the information and take some time to have an emotional reaction,” and “I feel that I was able to comfort him and I feel that it was a positive experience for him despite the difficult news.” Students thought the SP portrayals of the parents were very realistic and reported liking the direct feedback from the SP as from the patient’s point of view. This is consistent with medical students’ reports (Syder, 1996). Students reported that overall they found the experience challenging but rewarding, and they were glad they participated in the project.

Student S3 whose scores from tearful mother to tearful father declined slightly according to monitor ratings contrary to the other students in her group, reported that she felt immediately that she had not done as well. Following the encounter, she returned to the debrief room and reported that as soon as the SP began to cry, she thought “I got this,” because of the first tearful mother encounter. She felt she lost her ability to “suspend disbelief” and pretend the SP was a real parent. She could even be seen smirking in her videos occasionally when the SP was not making eye contact which may account for the SP scoring her higher on the ACE than the monitor did. She still did most of the things recommended by previous feedback sessions (i.e., allowing silence, keeping things simple), but she felt she was just “checking things off the ‘to do’

list” and was not completely engaged. This speaks to the need for students to be completely invested in the experience and suspend disbelief with the SP encounters. Without this ability, the effectiveness of the encounters could be lessened.

Months after the project was over, one student reported that she had accepted a job screening newborns’ hearing at a local hospital. She was very glad she had participated in this study, as it made communicating with the parents of the newborns much less stressful, and she felt fully prepared for any reaction the parents may have. Many of the students have asked if the SP encounters will be integrated into the Au.D. curriculum for use with other students, as they found them helpful and would like more experience with SPs.

5.5 Limitations

There were several limitations of this thesis. The number of participants was limited by the fact that the project was voluntary and the pool of students qualifying for the project was limited. Also, because the project was on a volunteer only basis, the students who did participate were self-selected. It could be argued that these may have been the students who may perform better than their peers. There may have been more volunteers for the project if it was offered at different or additional times. Access to the SP Center, as well as funding issues, limited how often the project could be repeated and when the data collection could be completed. Several students expressed interest in participating but were unable to due to other obligations during the two times data were collected. The students who participated reported wanting the experience before the data collection began and were thankful for the experience after it was over. If this had been a required part of a course in which all of the Au.D. students participated, results may have

been more variable. Although the academic performance of students who participated is unknown, it is probable that if all of the Au.D. students enrolled in the PACS program participated, some students would have performed better and some would have performed worse. It is suspected that students who may have scored lower on assessments or may not have performed as well may not have volunteered out of fear of embarrassment in front of their peers. The low number of participants also did not allow for a control group to be used.

The SPs used in this thesis were chosen to be believable between 25-40 years of age for consistency and to realistically represent the ages of the parents of newborn babies. There was little ethnic variation among the SPs. These were the actors available from the pool at the Washington University SP Center at the times we conducted data collection. When possible, the same actors were used during the second round of data collection, but not all of the same SPs were available. It could be argued that this was not a random sample of the population audiologists serve, however, more variability among actors may also have changed the dynamics of how the students counseled the parent. Variation among parents may be something to be pursued and studied at a later date.

Due to an electrical storm causing the audio equipment to fail on the first day of data collection in June 2014, Group 2 completed their encounters over three sessions instead of four. The encounters were still performed in the same order for both groups and both groups received the same amount of feedback and de-briefing sessions. Group 2 performed two encounters with feedback for both (contesting father and guilty mother) on day 2 of data collection. After the study was completed, students in Group 2 reported that although it was difficult to complete two

encounters in one day, they liked getting feedback from one encounter and immediately applying what they learned in another encounter.

Variation in the scores of the audiologists were obvious in the results and were confirmed with a weighted kappa (K_w) analysis. This variation among the audiologists may indicate that they are not the best “judges” of students’ behavior. The K_w indicates how much more agreement there is between raters than can be expected by chance and can be used for more than two raters. The K_w revealed poor to moderate agreement among the audiologists on ACE evaluations (Figure 12). One audiologist (A1) had scores that were very similar to the trends of the SPs’ scores. One audiologist (A2) scored 63% of the evaluations she completed at or above 100 out of 105. Audiologist 3 (A3) averaged a score of 72 out of 105 on ratings and never scored students above 97 out of 105 with only two out of 24 of her scores above 90. This variability suggests that the audiologists’ personal criteria varied. A 2-way ANOVA was used to calculate the Intraclass Correlation Coefficient (ICC) to determine if the poor agreement between the audiologists revealed by the K_w was due to the variability in the audiologists, students, or the interaction of the audiologists and students. This revealed that 69.9% of the variance was due to the differences in the several audiologists with neither the difference in students or student by audiologist differences contributing significantly to the variance. This varied from English, et al.’s (2007) findings which indicated moderate to good agreement among judges (K_w values of 0.572 to 0.673) with 66% of the variance being explained by differences between students. Several factors may have contributed to this. Audiologists used in the validation of the ACE (English, et al., 2007) were all from the same program and likely had similar expectations for students. These audiologists also may have been trained in the same way students were trained. The audiologists

used in this study were from different programs, had varying backgrounds in counseling training, worked in different parts of the country and may have had different expectations of students. It is unknown if the raters that English, et al. used knew the students they were rating, but the audiologists used in this study did not know the students and likely had no bias based on previous relationships. English, et al. also used only 9 students for their statistical analysis. An evaluation of the ACE using a larger number of students with more variation may be beneficial to improving the scale.

It was apparent that different audiologists preferred different styles used by different students. Ratings among audiologists were often opposite each other with one student receiving a high rating from A1 and a low rating from A3 and the next student receiving a low rating from A1 and a high rating from A3 on the same encounter. While the ACE may be helpful for supervisors and instructors to use with students during practicum or in a classroom setting to track progress with the same rater, using the ACE in the manner that it was used in this thesis may not give as much information as desired when using multiple raters.

In addition, it has been previously shown that audiologists are often not trained well to counsel (Crandell, 1997; Herzfeld & English, 2001) and consequently using audiologists who may or may not have been well trained themselves to rate students may prove unreliable. In the future, perhaps audiologists should be trained to counsel themselves before rating students' skills to ensure that they are looking for appropriate behaviors. In spite of this, the use of these audiologists is a more "real world" look at how students are evaluated in clinical practicum and coursework by different supervisors. These differences may also highlight issues in supervision of students in clinical practicum by supervisors with various backgrounds.

Because of the differences between the ratings by the audiologists, differences within students were not examined. When the scores of students for the tearful mother and tearful father encounters were examined, scores ranged as much as 56 points among the five raters with standard deviations as high as 23. For example, on the tearful father encounter, S3 had a mean score of 79 (SD=19.136) with a range of scores from 56 to 105. In contrast, S7 had a mean score of 96 (SD=5.167) with a range of scores from 91 to 102 on her tearful mother encounter. Because it was already determined that the variability was due in large part to difference between audiologists, variance within students did not appear to reveal any valuable information about the encounters.

SPs can be used in many different ways to help teach students both clinical skills and counseling skills. For this dissertation, the encounters took place in the Washington University Standardized Patient Center which included 13 examination rooms that are equipped with video- and audio-recording equipment as well as the ability to monitor encounters in real-time through computers in a central “control” room. The cost of using this center as well as paying the actors and administrative fees associated with the center made repeating data collection cost prohibitive. Funding would be necessary for future study in this area using the SP Center. If SP encounters are utilized within coursework on a smaller scale, the cost would be lower and more data may be able to be collected. This was not possible for this project.

Students received feedback from SPs after each of the first three encounters and were able to ask questions about their performance. Students then discussed this feedback as well as challenges in the case during debriefing sessions with other students in the study. This is not usual in clinical practicum experiences in busy clinical practices. Students often voice concern

about the lack of feedback from supervisors regarding performance day to day in the clinic (Fitzgerald, 2009; O'Connor et al., 2008). This is often due to lack of time between patients. The only feedback students often receive is at the end of a clinical rotation when they receive an overall performance review and/or a grade. This feedback may come directly from a supervisor face-to-face or may be written and sent to the student's university. Students almost never receive feedback from patients unless the patient feels the need to communicate with the supervisor. It is likely that this direct feedback from the "patient" and the students' ability to ask questions about their performance had a direct effect on the students' performance. The opportunity to then discuss this feedback with peers during debriefing sessions was also helpful in giving the students another opportunity to work through to modify behaviors or to hear what worked for others in the same situation. Students were able to modify behaviors noted by the SPs and peers and then ask for feedback on the next encounter to see if the modification was effective. This cannot typically be done in clinical practice.

Though feedback from the SPs and debriefing sessions were helpful and likely changed the students' behaviors, the students did not receive any feedback from the audiologist conducting data collection or any of the raters. If feedback was offered by an audiologist, it may have changed some of the behaviors related to content information discussed in the encounters (i.e. early intervention recommendations, or implications of hearing loss). If this was being used as part of coursework, this could potentially be very helpful in shaping students' behavior.

5.6 Future Directions and Implications

This thesis demonstrated one way SPs can be used to teach audiology students, but the application of using SPs in audiology are virtually endless. It would be interesting to repeat some SP encounters with the students in Group 2 who completed their SP experience immediately following their counseling class. If SP encounters were repeated 6 months later with this group as well as some of their classmates who did not participate the first time, the performance of these students could be compared to those of Group 1. This may help answer the question about the differences between the groups and whether it was due to proximity of the encounters to their counseling course, or if it was variability among the groups themselves. This might also determine if there are long-lasting effects of SP encounters on students' performance. Would students who had experience with SPs maintain the skills they acquired, or would they perform more like the students who were six months post-counseling course? The encounters could also be randomized with another group of students so that some of the students counseled a father during the first encounter and a mother during the last encounter and some students completed the encounters in the order performed in this thesis. This may help to determine if the sex of the parent responding to the news had any influence on how the news was delivered or on improvements made by students.

The encounters in this thesis involved communicating with parents expressing different emotions and how students responded to these emotions. SP encounters with different types of parents would also be good practice for students. Parents could be of varying ages, socio-economic status, education levels, cultural backgrounds, or any other variable that would

influence interaction and communication. This would allow the implementation of multi-cultural training as well as increasing sensitivity to differences from patient to patient.

While the same hearing loss and case history was used for each of the encounters in this thesis, using different cases involving both adult patients as well as parents of children with hearing loss would be an additional option. These encounters could involve collecting a case history, counseling on various types of test results (i.e. hearing, electrophysiologic testing, vestibular testing, etc.), conducting a hearing aid consultation or fitting, as well as many other scenarios within and across coursework involved in clinical training. Using SP encounters throughout coursework to reinforce or teach counseling concepts for each subject may help better prepare students for both practicum experiences and clinical practice. It may be a way to guarantee students receive practice in areas for which there are more limited practicum opportunities available.

Within the medical field, there is a movement to increase interdisciplinary and teamwork training (Kohn, Corrigan, & Donaldson, 2000). SPs have been used toward this end with medicine, pharmacy, nursing, and other healthcare fields. Audiology could easily fit into this interdisciplinary training, and encounters could be developed for use with audiology, otolaryngology, deaf education, SLP, and other professionals that may find themselves working on a case together. This may help teach students to interact with professionals in other disciplines as well as reinforcing a team approach to patient care.

Dinsmore, et al. (2013) recommended the field of audiology standardize its assessment of students graduating from Au.D. programs much like the medical field. Medical schools use

Objective Structured Clinical Exams (OSCE) nationally to ensure the quality of students that are being trained and to evaluate students throughout medical school. SP cases for such an exam could be developed and tested at various universities with Au.D. programs around the country to validate their effectiveness before implementing them as a national examination. This type of national exam may help to ensure that audiologists are being trained well across the scope of practice in all programs.

In conclusion, SPs can be used with audiology students as they are with medical students to assess the students' current skill level, remediate skills that need to be addressed, teach new skills within coursework, and evaluate students' skills at the end of a year or the end of the program to assure skills needed to practice have been acquired (Barrows, 1993). In this thesis, students showed positive outcomes in general in both ratings from audiologists and SPs as well as objective measures of behaviors displayed within the first and last encounters. Although there were not enough participants to do effective statistical analysis, trends in behavioral measures were positive and indicate further investigation may be warranted. There is room to expand the investigation into using SPs with audiology students in the future. Audiology as a profession is centered on communication with patients and their families. The more we allow students to practice this communication in a safe environment where they will not be embarrassed by their skill level, and patients will not be harmed by mistakes they make, the better prepared Au.D. students will be.

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Appendix

Appendix 1. Pre-Training Questionnaire

1. What types of practicum placements have you completed? (circle all sites that apply and whether it was adults/children)

Cochlear Implant Clinic	Adults	Children
ENT office	Adults	Children
Private Practice	Adults	Children
Hospital	Adults	Children
Speech and Hearing Clinic	Adults	Children
Educational Setting	Private	Public
Industrial Setting		
Other _____	Adults	Children

2. Have you counseled a parent on the initial diagnosis of his/her child? Yes No
- a. If so, did you feel prepared to do this? Yes No
- b. If not, do you feel prepared to do this? Yes No

3. How old are you? _____

4. What is your undergraduate degree? _____

Appendix 2. SESSION ONE – TEARFUL MOTHER

DESIGNED FOR: PACS 3rd year Au.D. students – These students are in their third year of a four year clinical doctoral program. During the first three years of the program, they complete classes and practicum assignments around the St. Louis area (with some summer rotations out of town). During their fourth year of the program, they complete an externship that is full-time and do not take any classes. They have completed one counseling course during their three years of courses.

ACTIVITIES & TIME REQUIRED: 50 minutes total for 1 encounter. After encounter student will complete a self-assessment checklist while the SP completes assessment, a short checklist focused on communication skills then the student will have 10 minutes of face to face feedback from the SP.

OBJECTIVES:

To demonstrate the ability to:

- o Interact with a patient using good communication skills.
- o Deliver bad news in compassionate manner.
- o Work with parents through emotional reaction

Encounter

25 min discussion of results

15 minute self-assessment in hall

10 minute feedback with SP in the room

CASE OVERVIEW

Gender	<input checked="" type="checkbox"/> Either
Age Range	25-35
Category	Audiology
Description	You will react to the news of your son’s hearing loss by crying because you are sad and did not expect this to happen.
Your name	Pat Williams
Your age	25-35
Your occupation	First Grade Teacher in suburban public school
Reason for Visit	Your child has had a hearing test and you are here for the results

Opening Statement	This has been a really hard week.
SP Concerns/ Challenge	“What is going to happen to my child?”

STUDENT INSTRUCTIONS

1. Opening Scenario

Patient name Danny, age 6 weeks
Presents to Audiology clinic
Chief complaint Child has hearing loss

2. Student Tasks You have 25 minutes to:

- ❖ Review results with parents.
- ❖ Respond appropriately to parent’s reaction.
- ❖ Discuss recommendations.
 - a) You will then proceed to the computer in the hall, where you will have 15 minutes to answer questions about the encounter and do a self-assessment.
 - b) You will then re-enter the room for 10 minutes of verbal feedback with the standardized patient.

OPENING STATEMENT

This has been a really hard week. I’ve been really anxious. I haven’t been able to sleep.

ANSWER TO STUDENT’S NEWS THAT YOUR BABY HAS A HEARING LOSS

I didn’t expect this. I really think he’s hearing. I’ve been really watching him. He seems to hear me okay. He gets scared when he hears the dog bark. If the television is too loud and there is an explosion or something, he starts crying. He loves to watch the mobile in his bed that plays music.

Cry as the student continues to explain more details about the hearing loss. They will probably mention the degree of hearing loss, type, and may even show you the results. Once the student confirms that there is a hearing loss, you can begin to cry (or if they show compassion and say “I’m sorry”).

If the student responds to your tears, keep the tears at the same level. If the student does not respond to the tears, cry harder until they do acknowledge or respond to your emotional reaction. The crying won’t stop during the encounter, but can vary depending on the student’s response. You will end the encounter still sad, but accepting that more needs to be done and thankful for the support of the student (if they showed any).

APPEARANCE AND BEHAVIOR

Physical Appearance- Well-groomed

Behavior- Slightly nervous, emotional, tearful. Body language should include fidgety, wringing hands, touching face, trying to keep it together. You don't know the results of your child's hearing test.

CURRENT MEDICAL HISTORY

Details of Current Problem

Your child was born after a healthy pregnancy weighing 7 pounds, 8 ounces. He had a hearing screening while in the hospital and you were advised to follow up for a full hearing test. You have noticed since you have been home from the hospital (about 6 weeks) that he seems to hear so you are wondering if he is okay. He looks at you as you talk to him if you are holding him. He startles when the dog barks nearby. If he is crying and you are talking to him as you walk into the room, he doesn't calm down until you pick him up and start talking to him, but you assume this is because he is crying loudly. He doesn't respond to the telephone, doorbell or cell phone noises. This is your first child, so you don't really know what to expect a baby this age to hear. Because of the healthy pregnancy and all mentioned above, you are not expecting a diagnosis of a hearing loss.

Your child has: Referred on a hearing screening at birth.

You must give the student the following information at some point during the interview:

After you have composed yourself a bit,

I don't know anyone who was born with a hearing loss. What does this mean?

When do we need to get hearing aids?

FAMILY HISTORY

All Relatives No known hearing loss except an elderly grandfather with age related hearing loss.

SOCIAL HISTORY

Occupation First Grade Teacher at suburban public school – you have a few students in your class who go to a speech language pathologist, but know nothing about hearing loss.

Education Master's Degree

Stress This is your first child and you are stressed about being a good parent and doing the right thing.

SP CHALLENGE(S)

Questions – Comments – Concerns

- 1) I didn't expect this.
- 2) Will my child be normal?
- 3) I don't know what to do.

References about what you and your child have gone through

You recently went through a healthy pregnancy and birth of your first child. During the hospital stay, your child had a hearing screening. This may have taken place while you were in the room, or a technician may have taken your baby away for a short period of time. If you were present for the screening, you would have seen the technician put a small probe into each of your baby's ears and press a button on a handheld device (see picture #1 below). After the screening, you were told that the baby needed to return for further testing to be sure his/her hearing is okay. You then went home and spent 6 weeks with your baby wondering if he has a hearing loss. You are noticing what you think he is or isn't hearing. He startles or becomes scared and starts crying when he hears noises like the dog barking nearby or the television if it is too loud and there are explosions or loud noises. When you are holding him and he is close, he watches you when you talk or sing to him and appears to be "listening". He has a mobile in his crib that has lights and music and he likes to watch that, but you think he also hears the music and that's why he likes it. If he is crying and you are away from him, he doesn't stop crying until you pick him up even if you are talking to him from a distance. You think this is because he is crying loudly. Because he is your first child, you aren't sure what he should and shouldn't be hearing or how he should be reacting. This makes you very worried about what the tests are going to show. Your parents and others are telling you that his behavior is normal and he will be okay, but you aren't sure.

When you come in for follow-up, the clinic would have asked you to sleep deprive your baby the night before the test. This means you wouldn't have given him his last feeding and you wouldn't have let him sleep. This is so your baby will sleep during the test. Because of this (and because you have a newborn at home), you are probably very tired and emotional. When you came in, the audiologist hooked your baby up to several electrodes and then had you feed the baby to get him to sleep. Once the baby was asleep, the electrodes are hooked up to a computer, earphones are placed into the baby's ears and the audiologist measures the baby's brainwaves in response to sounds (see picture #2). They will also repeat the test you saw in the hospital where a probe was placed into each of his ears and an echo is recorded. They may have performed other tests depending on how long the baby slept. You are now seeing the audiologist to get the results of this test.

Items of Note

Item #	If the student says:	Sample SP Response
1.	It's going to be okay.	It is?
2.	The hearing loss isn't that bad.	So he can hear? What does that mean?
3.	Do you have any questions?	Does he need hearing aids?
4.	What do you want to know?	Does he need hearing aids?
5.	Detailed and complicated explanation of the anatomy of the ear.	I don't understand.
6.	I am here to help you through this process.	How can you help?
7.	There are lots of new technologies and techniques available to help with this type of hearing loss.	So he'll be okay? He'll be normal?
8.	We need to get started with hearing aids and early intervention as soon as possible. Let me give you some information.	He's so little, how can you put hearing aids on him? Will they even fit?
9.	How are you feeling?	Sad. What will happen to my baby?

Appendix 3. SESSION TWO – CONTESTING FATHER

DESIGNED FOR: PACS 3rd year Au.D. students – These students are in their third year of a four year clinical doctoral program. During the first three years of the program, they complete classes and practicum assignments around the St. Louis area (with some summer rotations out of town). During their fourth year of the program, they complete an externship that is full-time and do not take any classes. They have completed one counseling course during their three years of courses.

ACTIVITIES & TIME REQUIRED: 50 minutes total for 1 encounter. After encounter student will complete a self-assessment checklist while the SP completes assessment, a short checklist focused on communication skills then the student will have 10 minutes of face to face feedback from the SP.

OBJECTIVES:

To demonstrate the ability to:

- o Interact with a patient using good communication skills.
- o Deliver bad news in compassionate manner.
- o Work with parents through emotional reaction

ACTIVITIES & TIME REQUIRED

Encounter

25 min discussion of results

15 minute self-assessment in hall

10 minute feedback with SP in the room

CASE OVERVIEW

Gender	<input checked="" type="checkbox"/> Either
Age Range	25-35
Category	Audiology
Description	You will react to the news of your son’s hearing loss by contesting the results. You are sure that your child can hear and believe your observations more than anything the student tells you. You are contesting the results because they don’t agree with what you believe.
Your name	Chris Jones
Your age	25-35

Your occupation	Chef
Reason for Visit	Your child has had a hearing test and you are here for the results
Opening Statement	What did all those tests tell you about my baby?
SP Concerns/ Challenge	I don't believe you. How do you know that?

STUDENT INSTRUCTIONS

1. Opening Scenario

Patient name Billy, age 6 weeks
Presents to Audiology clinic
Chief complaint Child has hearing loss

2. Student Tasks You have 25 minutes to:

- ❖ Review results with parents.
- ❖ Respond appropriately to parent's reaction.
- ❖ Discuss recommendations.
 - a) You will then proceed to the computer in the hall, where you will have 15 minutes to answer questions about the encounter and do a self-assessment.
 - b) You will then re-enter the room for 10 minutes of verbal feedback with the standardized patient.

OPENING STATEMENT

You are on the phone when the student enters, not paying attention. You may be talking to someone saying you should be done soon, just waiting to hear the results (be very nonchalant about results because you are sure that your son is okay). "The tests showed he's fine, right? He's hearing us at home. We came to see you because the hospital told us to."

ANSWER TO STUDENT'S FIRST OPEN-ENDED QUESTION

I don't understand. He seems to hear me okay. He gets scared when he hears the dog bark. If the television is too loud and there is an explosion or something, he starts crying. He loves to watch the mobile in his bed that plays music.

Disbelieve as the student continues to explain more details about the hearing loss. They will probably mention the degree of hearing loss, type, and may even show you the results. Once the student confirms that there is a hearing loss or gives you a chance to reply, ask how they can be sure there is a hearing loss based on the test you just saw. You are disbelieving, but not angry or defensive.

APPEARANCE AND BEHAVIOR

Physical Appearance- Well-groomed

Behavior- On cell phone when student enters. You are confident your baby can hear. You trust your own observations more than the test results. You don't have great history of experiences with the medical field. All you've seen during this test is your baby sleeping, and you don't know how this can show how well he hears when you are with him all the time and see him respond to different things.

CURRENT MEDICAL HISTORY

Details of Current Problem

Your child was born after a healthy pregnancy weighing 7 pounds, 8 ounces. He had a hearing screening while in the hospital, and you were advised to follow up for a full hearing test. You have noticed since you have been home from the hospital (about 6 weeks) that he seems to hear so you are sure he is okay. He looks at you as you talk to him if you are holding him. He startles when the dog barks nearby. If he is crying and you are talking to him as you walk into the room, he doesn't calm down until you pick him up and start talking to him, but you assume this is because he is crying loudly. He doesn't respond to the telephone, doorbell, or cell phone noises. This is your first child, so you don't really know what to expect a baby this age to hear.

Your child has: Referred on a hearing screening at birth

You must give the student the following information at some point during the interview:

I don't believe this. How can that computer tell you all of that information?

Shouldn't we get more testing? Is there another test you can do?

FAMILY HISTORY

All Relatives No known hearing loss except an elderly grandfather with age related hearing loss.

SOCIAL HISTORY

Occupation Chef at local high end restaurant

Education Culinary school

Stress You feel you know your child better than anyone and nobody is going to challenge your observations of your child.

SP CHALLENGE(S)

Questions – Comments – Concerns

- 1) How do you really know?
- 2) Shouldn't I get a second opinion?
- 3) How many children have you tested?
- 4) Visit ends with you still not believing and saying you need to think about things.

References about what you and your child have gone through

You recently went through a healthy pregnancy and birth of your first child. During the hospital stay, your child had a hearing screening. This may have taken place while you were in the room, or a technician may have taken your baby away for a short period of time. If you were present for the screening, you would have seen the technician put a small probe into each of your baby's ears and press a button on a handheld device (see picture #1 below). After the screening, you were told that the baby needed to return for further testing to be sure his/her hearing is okay. You then went home and spent 6 weeks with your baby wondering if he has a hearing loss. You are noticing what you think he is or isn't hearing. He startles or becomes scared and starts crying when he hears noises like the dog barking nearby or the television if it is too loud and there are explosions or loud noises. When you are holding him and he is close, he watches you when you talk or sing to him and appears to be "listening". He has a mobile in his crib that has lights and music and he likes to watch that, but you think he also hears the music and that's why he likes it. If he is crying and you are away from him, he doesn't stop crying until you pick him up even if you are talking to him from a distance. You think this is because he is crying loudly. Because he is your first child, you aren't sure what he should and shouldn't be hearing or how he should be reacting. This makes you very worried about what the tests are going to show. Your parents and others are telling you that his behavior is normal and he will be okay, but you aren't sure.

When you come in for follow-up, the clinic would have asked you to sleep deprive your baby the night before the test. This means you wouldn't have given him his last feeding and you wouldn't have let him sleep. This is so your baby will sleep during the test. Because of this (and because you have a newborn at home), you are probably very tired and emotional. When you came in, the audiologist hooked your baby up to several electrodes and then had you feed the baby to get him to sleep. Once the baby was asleep, the electrodes are hooked up to a computer, earphones are placed into the baby's ears and the audiologist measures the baby's brainwaves in response to sounds (see picture #2). They will also repeat the test you saw in the hospital where a probe was placed into each of his ears and an echo is recorded. They may have performed other tests depending on how long the baby slept. You are now seeing the audiologist to get the results of this test.

Items of Note

Item #	If the student says:	Sample SP Response
1.	It's going to be okay.	It is? How do you know that?
2.	The hearing loss isn't that bad.	So he can hear? What does that mean? You said he can't hear and now you say he can?
3.	Do you have any questions?	Are you sure this test is correct?
4.	What do you want to know?	How can you be sure he can't hear? He responds to things at home.
5.	Detailed and complicated explanation of the anatomy of the ear.	There's nothing wrong with his ears. He hears me.
6.	I am here to help you through this process.	Can you do a different test because I don't believe this one?
7.	There are lots of new technologies and techniques available to help with this type of hearing loss.	But I don't think anything is wrong.
8.	We need to get started with hearing aids and early intervention as soon as possible. Let me give you some information.	I don't think he has a hearing loss. Why does he need hearing aids? We need to get a second opinion.
9.	How are you feeling?	I don't believe the results. How can that computer tell you anything? I spend all day with my baby and I know he hears.
10.	Calm down.	How can I calm down? You just told me my child is deaf and I know he's not.

Appendix 4. SESSION THREE – GUILTY MOTHER

DESIGNED FOR: PACS 3rd year Au.D. students – These students are in their third year of a four year clinical doctoral program. During the first three years of the program, they complete classes and practicum assignments around the St. Louis area (with some summer rotations out of town). During their fourth year of the program, they complete an externship that is full-time and do not take any classes. They have completed one counseling course during their three years of courses.

ACTIVITIES & TIME REQUIRED: 50 minutes total for 1 encounter. After encounter student will complete a self-assessment checklist while the SP completes assessment, a short checklist focused on communication skills then the student will have 10 minutes of face to face feedback from the SP.

OBJECTIVES:

To demonstrate the ability to:

- o Interact with a patient using good communication skills.
- o Deliver bad news in compassionate manner.
- o Work with parents through emotional reaction

ACTIVITIES & TIME REQUIRED

Encounter

25 min discussion of results

15 minute self-assessment in hall

10 minute feedback with SP in the room

CASE OVERVIEW

Gender	<input checked="" type="checkbox"/> Either
Age Range	25-35
Category	Audiology
Description	You will react to the news of your son’s hearing loss very guiltily. You didn’t expect this. You recently discovered a distant cousin was born with a hearing loss so you think this may be your “fault” genetically and want something to be available that will “fix it”.
Your name	Lynn Burnes
Your age	25-35

Your occupation	Nurse in nursing home
Reason for Visit	Your child has had a hearing test and you are here for the results
Opening Statement	Did we do something wrong?
SP Concerns/ Challenge	Can you do something to fix this?

STUDENT INSTRUCTIONS

1. Opening Scenario

Patient name Joey, age 6 weeks
Presents to Audiology clinic
Chief complaint Child has hearing loss

2. Student Tasks You have 25 minutes to:

- ❖ Review results with parents.
- ❖ Respond appropriately to parent’s reaction.
- ❖ Discuss recommendations.
 - a. You will then proceed to the computer in the hall, where you will have 15 minutes to answer questions about the encounter and do a self-assessment.
 - b. You will then re-enter the room for 10 minutes of verbal feedback with the standardized patient.

OPENING STATEMENT

Did we do something wrong? Did we cause this?

ANSWER TO STUDENT’S FIRST OPEN-ENDED QUESTION

I don’t understand.

Did we do something wrong?

Guilty and trying to figure out why/how this happened as the student continues to explain more details about the hearing loss. They will probably mention the degree of hearing loss, type, and may even show you the results. Once the student confirms that there is a hearing loss, you can ask, “How did this happen?” As they explain how the ear works, you may ask, “Is it because of something that’s wrong with my ear? I don’t know anyone who was born with a hearing loss, but I just found out I have a distant cousin that has a hearing loss. I know people at the nursing home I work at who have hearing loss and use hearing aids, but they don’t seem to work.”

APPEARANCE AND BEHAVIOR

Physical Appearance- Well-groomed

Behavior- Slightly nervous, guilty. You don't know the results of your child's hearing test.

CURRENT MEDICAL HISTORY

Details of Current Problem

Your child was born after a healthy pregnancy weighing 7 pounds, 8 ounces. He had a hearing screening while in the hospital, and you were advised to follow up for a full hearing test. You have noticed since you have been home from the hospital (about 6 weeks) that he seems to hear, so you are sure he is okay. He looks at you as you talk to him if you are holding him. He startles when the dog barks nearby. If he is crying and you are talking to him as you walk into the room, he doesn't calm down until you pick him up and start talking to him, but you assume this is because he is crying loudly. He doesn't respond to the telephone, doorbell, or cell phone noises. This is your first child, so you don't really know what to expect a baby this age to hear.

Your child has: Referred on a hearing screening at birth

You must give the student the following information at some point during the interview:

I don't know anyone with a hearing loss. What did I do?

Could we have stopped this from happening by doing something differently?

Can this be fixed? Is there surgery?

FAMILY HISTORY

All Relatives After finding out your child needed a hearing test, you started talking to family members about it and found out that there is a distant cousin on your side of the family that has a hearing loss, making you think this may be because of you.

SOCIAL HISTORY

Occupation Nurse in nursing home

Education Bachelor's degree

Stress This is your first child, and you are stressed about being a good parent and doing the right thing. You work with elderly people with hearing loss and have not had good experiences with the hearing aids that they use, and you feel the hearing loss may be your fault because you found a family member of yours has a hearing loss. You feel it could be your family genetics that caused the hearing loss.

SP CHALLENGE(S)

Questions – Comments – Concerns

- 1) How did this happen?
- 2) What did I do to cause this?
- 3) Can this be fixed? Is there a surgery or medicine to fix this problem? I've heard about that surgery people have, the cochlear implant? I saw that YouTube video of the kid hearing for the first time. Can my baby get that?
- 4) Will my baby have to wear a hearing aid? The residents where I work have hearing aids, and they don't seem to work. They are also very big; how will they fit on my baby?

References about what you and your child have gone through

You recently went through a healthy pregnancy and birth of your first child. During the hospital stay, your child had a hearing screening. This may have taken place while you were in the room, or a technician may have taken your baby away for a short period of time. If you were present for the screening, you would have seen the technician put a small probe into each of your baby's ears and press a button on a handheld device (see picture #1 below). After the screening, you were told that the baby needed to return for further testing to be sure his/her hearing is okay. You then went home and spent 6 weeks with your baby wondering if he has a hearing loss. You are noticing what you think he is or isn't hearing. He startles or becomes scared and starts crying when he hears noises like the dog barking nearby or the television if it is too loud and there are explosions or loud noises. When you are holding him and he is close, he watches you when you talk or sing to him and appears to be "listening". He has a mobile in his crib that has lights and music and he likes to watch that, but you think he also hears the music and that's why he likes it. If he is crying and you are away from him, he doesn't stop crying until you pick him up even if you are talking to him from a distance. You think this is because he is crying loudly. Because he is your first child, you aren't sure what he should and shouldn't be hearing or how he should be reacting. This makes you very worried about what the tests are going to show. Your parents and others are telling you that his behavior is normal and he will be okay, but you aren't sure.

When you come in for follow-up, the clinic would have asked you to sleep deprive your baby the night before the test. This means you wouldn't have given him his last feeding and you wouldn't have let him sleep. This is so your baby will sleep during the test. Because of this (and because you have a newborn at home), you are probably very tired and emotional. When you came in, the audiologist hooked your baby up to several electrodes and then had you feed the baby to get him to sleep. Once the baby was asleep, the electrodes are hooked up to a computer, earphones are placed into the baby's ears and the audiologist measures the baby's brainwaves in response to sounds (see picture #2). They will also repeat the test you saw in the hospital where a probe was placed into each of his ears and an echo is recorded. They may have performed other tests depending on how long the baby slept. You are now seeing the audiologist to get the results of this test.

Items of Note

Item #	If the student says:	Sample SP Response
1.	It's going to be okay.	It is?
2.	The hearing loss isn't that bad.	So he can hear? What does that mean?
3.	Do you have any questions?	Is this my fault?
4.	What do you want to know?	Is this my fault? Does he need hearing aids?
5.	Detailed and complicated explanation of the anatomy of the ear.	I don't understand. Can this be fixed with medicine or surgery?
6.	I am here to help you through this process.	How can you help? Can you tell me what caused this? Is it my fault?
7.	There are lots of new technologies and techniques available to help with this type of hearing loss.	But the hearing aids my residents wear don't seem to work. How will that help my baby?
8.	We need to get started with hearing aids and early intervention as soon as possible. Let me give you some information.	He's so little; how can you put hearing aids on him? Will they even fit? The people I work with at the nursing home wear hearing aids, and they don't seem to really work.
9.	How are you feeling?	I'm not sure. Did I do something wrong? Could I have prevented this?

Appendix 5. SESSION FOUR – OVERWHELMED MOTHER

DESIGNED FOR: PACS 3rd year Au.D. students – These students are in their third year of a four year clinical doctoral program. During the first three years of the program, they complete classes and practicum assignments around the St. Louis area (with some summer rotations out of town). During their fourth year of the program, they complete an externship that is full-time and do not take any classes. They have completed one counseling course during their three years of courses.

ACTIVITIES & TIME REQUIRED: 40 minutes total for 1 encounter. After encounter student will complete a self-assessment checklist while the SP completes assessment, a short checklist focused on communication skills then the student will have 10 minutes of face to face feedback from the SP.

OBJECTIVES:

To demonstrate the ability to:

- o Interact with a patient using good communication skills.
- o Deliver bad news in compassionate manner.
- o Work with parents through emotional reaction

ACTIVITIES & TIME REQUIRED

Encounter

25 min discussion of results

15 minute self-assessment in hall

CASE OVERVIEW

Gender	<input checked="" type="checkbox"/> Either
Age Range	25-35
Category	Audiology
Description	You will react to the news of your son's hearing loss by crying because you are sad and did not expect this to happen.
Your name	Dana Cummings
Your age	25-35
Your occupation	English professor at local community college

Reason for Visit	Your child has had a hearing test and you are here for the results
Opening Statement	“This has been really hard. I’m worried.”
SP Concerns/ Challenge	“Will my other children have hearing loss?”

STUDENT INSTRUCTIONS

1. Opening Scenario

Patient name Ethan, age 6 weeks
Presents to Audiology clinic
Chief complaint Child has hearing loss

2. Student Tasks You have 25 minutes to:

- ❖ Review results with parents.
- ❖ Respond appropriately to parent’s reaction.
- ❖ Discuss recommendations.
 - a. You will then proceed to the computer in the hall, where you will have 15 minutes to answer questions about the encounter and do a self-assessment.

OPENING STATEMENT

I’ve been really worried about this. I haven’t been able to sleep.

ANSWER TO STUDENT’S NEWS THAT YOUR BABY HAS A HEARING LOSS

I didn’t expect this. I really think he’s hearing. I’ve been really watching him. He seems to hear me okay. He gets scared when he hears the dog bark. If the television is too loud and there is an explosion or something, he starts crying. He loves to watch the mobile in his bed that plays music.

Cry as the student continues to explain more details about the hearing loss. They will probably mention the degree of hearing loss, type, and may even show you the results. Once the student confirms that there is a hearing loss, you can begin to cry (or if they show compassion and say “I’m sorry”).

If the student responds to your tears, keep the tears at the same level. If the student does not respond to the tears, cry harder until they do acknowledge or respond to your emotional reaction. The crying won’t stop during the encounter, but can vary depending on the student’s response. You will end the encounter still sad, but accepting that more needs to be done and thankful for the support of the student (if they showed any).

APPEARANCE AND BEHAVIOR

Physical Appearance- Well-groomed

Behavior- Slightly nervous, emotional, tearful. Body language should include fidgety, wringing

hands, touching face, trying to keep it together. You don't know the results of your child's hearing test.

CURRENT MEDICAL HISTORY

Details of Current Problem

Your child was born after a healthy pregnancy weighing 7 pounds, 8 ounces. He had a hearing screening while in the hospital, and you were advised to follow up for a full hearing test. You have noticed since you have been home from the hospital (about 6 weeks) that he seems to hear, so you are wondering if he is okay. He looks at you as you talk to him if you are holding him. He startles when the dog barks nearby. If he is crying and you are talking to him as you walk into the room, he doesn't calm down until you pick him up and start talking to him, but you assume this is because he is crying loudly. He doesn't respond to the telephone, doorbell, or cell phone noises. This is your first child, so you don't really know what to expect a baby this age to hear.

Your child has: Referred on a hearing screening at birth

You must give the student the following information at some point during the interview:

After you have composed yourself a bit,

I don't know anyone with a hearing loss. What does this mean?

When do we need to get hearing aids?

We want to have more children. Will they have a hearing loss?

FAMILY HISTORY

All Relatives No known hearing loss except an elderly grandfather with age related hearing loss

SOCIAL HISTORY

Occupation English professor at local community college

Education Master's degree

Stress This is your first child, and you are stressed about being a good parent and doing the right thing. You are worried about future children and the effect this has on them (will they have a hearing loss?)

SP CHALLENGE(S)

Questions – Comments – Concerns

- 1) Will my child be normal?
- 2) Might my other/future children have hearing loss too?

References about what you and your child have gone through

You recently went through a healthy pregnancy and birth of your first child. During the hospital stay, your child had a hearing screening. This may have taken place while you were in the room, or a technician may have taken your baby away for a short period of time. If you were present for the screening, you would have seen the technician put a small probe into each of your baby's ears and press a button on a handheld device (see picture #1 below). After the screening, you were told that the baby needed to return for further testing to be sure his/her hearing is okay. You then went home and spent 6 weeks with your baby wondering if he has a hearing loss. You are noticing what you think he is or isn't hearing. He startles or becomes scared and starts crying when he hears noises like the dog barking nearby or the television if it is too loud and there are explosions or loud noises. When you are holding him and he is close, he watches you when you talk or sing to him and appears to be "listening". He has a mobile in his crib that has lights and music and he likes to watch that, but you think he also hears the music and that's why he likes it. If he is crying and you are away from him, he doesn't stop crying until you pick him up even if you are talking to him from a distance. You think this is because he is crying loudly. Because he is your first child, you aren't sure what he should and shouldn't be hearing or how he should be reacting. This makes you very worried about what the tests are going to show. Your parents and others are telling you that his behavior is normal and he will be okay, but you aren't sure.

When you come in for follow-up, the clinic would have asked you to sleep deprive your baby the night before the test. This means you wouldn't have given him his last feeding and you wouldn't have let him sleep. This is so your baby will sleep during the test. Because of this (and because you have a newborn at home), you are probably very tired and emotional. When you came in, the audiologist hooked your baby up to several electrodes and then had you feed the baby to get him to sleep. Once the baby was asleep, the electrodes are hooked up to a computer, earphones are placed into the baby's ears and the audiologist measures the baby's brainwaves in response to sounds (see picture #2). They will also repeat the test you saw in the hospital where a probe was placed into each of his ears and an echo is recorded. They may have performed other tests depending on how long the baby slept. You are now seeing the audiologist to get the results of this test.

Items of Note

Item #	If the student says:	Sample SP Response
1.	It's going to be okay.	It is?
2.	The hearing loss isn't that bad.	So he can hear? What does that mean?
3.	Do you have any questions?	Will my other children have a hearing loss, too?
4.	What do you want to know?	Will my other children have a hearing loss, too?
5.	Detailed and complicated explanation of the anatomy of the ear.	I don't understand.
6.	I am here to help you through this process.	How can you help?
7.	There are lots of new technologies and techniques available to help with this type of hearing loss.	So he'll be okay? He'll be normal?
8.	We need to get started with hearing aids and early intervention as soon as possible. Let me give you some information.	He's so little; how can you put hearing aids on him? Will they even fit?
9.	How are you feeling?	Sad. What will happen to my baby?

Appendix 6. SESSION FIVE – TEARFUL FATHER

DESIGNED FOR: PACS 3rd year Au.D. students – These students are in their third year of a four year clinical doctoral program. During the first three years of the program, they complete classes and practicum assignments around the St. Louis area (with some summer rotations out of town). During their fourth year of the program, they complete an externship that is full-time and do not take any classes. They have completed one counseling course during their three years of courses.

ACTIVITIES & TIME REQUIRED: 40 minutes total for 1 encounter. After encounter student will complete a self-assessment checklist while the SP completes assessment, a short checklist focused on communication skills then the student will have 10 minutes of face to face feedback from the SP.

OBJECTIVES:

To demonstrate the ability to:

- o Interact with a patient using good communication skills.
- o Deliver bad news in compassionate manner.
- o Work with parents through emotional reaction

ACTIVITIES & TIME REQUIRED

Encounter

25 min discussion of results

15 minute self-assessment in hall

CASE OVERVIEW

Gender	<input checked="" type="checkbox"/> Either
Age Range	25-35
Category	Audiology
Description	You will react to the news of your son’s hearing loss by being very overwhelmed. You are not good at dealing with news like this and are alone when you thought your spouse would be with you. You can’t process the information, so communication with the student is difficult.
Your name	Alex Smith
Your age	25-35

Your occupation	Server at an Applebee's
Reason for Visit	Your child has had a hearing test and you are here for the results.
Opening Statement	I can't believe we're here for this.
SP Concerns/ Challenge	Don't even know what to ask, think, or how to respond?

STUDENT INSTRUCTIONS

1. Opening Scenario

Patient name Bobby, age 6 weeks
Presents to Audiology clinic
Chief complaint Child has hearing loss

2. Student Tasks You have 25 minutes to:

- ❖ Review results with parents.
- ❖ Respond appropriately to parent's reaction.
- ❖ Discuss recommendations.
 - a. You will then proceed to the computer in the hall, where you will have 15 minutes to answer questions about the encounter and do a self-assessment.

OPENING STATEMENT

When the student enters the room, you are on your cell phone with your spouse asking why he/she isn't there yet ("You were supposed to meet me down here. Where are you?"). Before you hang up, you say, "Call me right back." You apologize to the student and explain your spouse got stuck at work and can't be there. You say "I can't believe we're here. How will I explain this to my husband/wife?"

ANSWER TO STUDENT'S FIRST OPEN-ENDED QUESTION

"What?" Lots of head shaking. You are internally pre-occupied and appear not be really listening because you are so overwhelmed and have lots going through your head. "I wish my husband/wife was here."

You become more overwhelmed as the student continues to explain more details about the hearing loss – blank look, vague look. They will probably mention the degree of hearing loss, type, and may even show you the results. Look blankly at them or just keep repeating "What?", "I don't...", "When...?", etc. Wring your hands, don't make much eye contact. Look at phone a lot. You are thinking your spouse is going to call you right back. You don't understand the medical jargon (if the student uses it).

APPEARANCE AND BEHAVIOR

Physical Appearance- Well-groomed

Behavior- Slightly nervous, quiet, confused. You don't understand the results of your child's hearing test.

CURRENT MEDICAL HISTORY

Details of Current Problem

Your child was born after a healthy pregnancy weighing 7 pounds, 8 ounces. He had a hearing screening while in the hospital, and you were advised to follow up for a full hearing test. You have noticed since you have been home from the hospital (about 6 weeks) that he seems to hear. He looks at you as you talk to him if you are holding him. He startles when the dog barks nearby. If he is crying and you are talking to him as you walk into the room, he doesn't calm down until you pick him up and start talking to him, but you assume this is because he is crying loudly. He doesn't respond to the telephone, doorbell, or cell phone noises. This is your first child, so you don't really know what to expect a baby this age to hear.

Your child has: Referred on a hearing screening at birth

You must give the student the following information at some point during the interview:

I wish someone was here with me. I wasn't expecting this.

I'm not good at this kind of thing. I don't know what to do.

I can't make any of these decisions alone.

FAMILY HISTORY

All Relatives No known hearing loss except an elderly grandfather with age related hearing loss.

SOCIAL HISTORY

Occupation Server at Applebee's

Education High school diploma

Stress This is your first child, and you are stressed about being a good parent and doing the right thing. You need to work and are concerned about the cost of a hearing loss (hearing aids, school, etc.).

SP CHALLENGE(S)

Questions – Comments – Concerns

1. If the student doesn't acknowledge that you appear overwhelmed, continue to be overwhelmed and say things like "I wish my husband/wife was here.", "What...", "I don't know what...?", silence and distraction, etc.
2. If the student acknowledges that you appear overwhelmed: "What should I do now?", "Will my baby have to wear a hearing aid? How much will that cost? I've seen the ads in the paper and they are really expensive. I don't know if I can afford that?"

References about what you and your child have gone through

You recently went through a healthy pregnancy and birth of your first child. During the hospital stay, your child had a hearing screening. This may have taken place while you were in the room, or a technician may have taken your baby away for a short period of time. If you were present for the screening, you would have seen the technician put a small probe into each of your baby's ears and press a button on a handheld device (see picture #1 below). After the screening, you were told that the baby needed to return for further testing to be sure his/her hearing is okay. You then went home and spent 6 weeks with your baby wondering if he has a hearing loss. You are noticing what you think he is or isn't hearing. He startles or becomes scared and starts crying when he hears noises like the dog barking nearby or the television if it is too loud and there are explosions or loud noises. When you are holding him and he is close, he watches you when you talk or sing to him and appears to be "listening". He has a mobile in his crib that has lights and music and he likes to watch that, but you think he also hears the music and that's why he likes it. If he is crying and you are away from him, he doesn't stop crying until you pick him up even if you are talking to him from a distance. You think this is because he is crying loudly. Because he is your first child, you aren't sure what he should and shouldn't be hearing or how he should be reacting. This makes you very worried about what the tests are going to show. Your parents and others are telling you that his behavior is normal and he will be okay, but you aren't sure.

When you come in for follow-up, the clinic would have asked you to sleep deprive your baby the night before the test. This means you wouldn't have given him his last feeding and you wouldn't have let him sleep. This is so your baby will sleep during the test. Because of this (and because you have a newborn at home), you are probably very tired and emotional. When you came in, the audiologist hooked your baby up to several electrodes and then had you feed the baby to get him to sleep. Once the baby was asleep, the electrodes are hooked up to a computer, earphones are placed into the baby's ears and the audiologist measures the baby's brainwaves in response to sounds (see picture #2). They will also repeat the test you saw in the hospital where a probe was placed into each of his ears and an echo is recorded. They may have performed other tests depending on how long the baby slept. You are now seeing the audiologist to get the results of this test.

Items of Note

Item #	If the student says:	Sample SP Response
1.	It's going to be okay.	I don't know
2.	The hearing loss isn't that bad.	What does that mean?
3.	Do you have any questions?	Silence or "I don't know."
4.	What do you want to know?	"I don't know"
5.	Detailed and complicated explanation of the anatomy of the ear.	What? (confused)
6.	I am here to help you through this process.	How?
7.	There are lots of new technologies and techniques available to help with this type of hearing loss.	What? (confused)
8.	We need to get started with hearing aids and early intervention as soon as possible. Let me give you some information.	I don't know what to do. I don't have money for hearing aids. I don't know where to go. How am I going to do all of this?
9.	How are you feeling?	I don't know

Appendix 7. Student Self-Evaluation

- 1) How would you rate your performance today?
 I did really well; communicating with patients is strength for me.
 I am satisfied with my performance.
 I am not satisfied with how I did; I need to improve in some areas.
 I need to significantly improve my performance in the future.
- 2) How do you feel after performing this case?
- 3) What were particular challenges for you in this case, if any?
- 4) How would you describe the parent's emotional state? What cues told you this?
- 5) The clinical story (with the standardized patients) was realistic.
 Strongly agree
 Agree
 Neutral
 Disagree
 Strongly disagree
- 6) The standardized patient portrayed the case in a realistic manner.
 Strongly agree
 Agree
 Neutral
 Disagree
 Strongly disagree
- 7) I felt this encounter with the standardized patients was helpful in improving my clinical skills.
 Strongly agree
 Agree
 Neutral
 Disagree
 Strongly disagree
- 8) FREE RESPONSE: Please briefly comment on what you liked about the session.
- 9) FREE RESPONSE: Please comment on what could be improved about the sessions.

Appendix 8. Standardized Patient Checklist

1. As a standardized patient, rate your overall level of satisfaction with the student encounter.
 - a. Outstanding (i.e. I would seek out this person for my future care needs and would personally recommend this person to my friends seeking care)
 - b. Very good (i.e. I would definitely return to this person for further care)
 - c. Good (i.e. I felt adequately cared for and had no particular concerns about my encounter)
 - d. Needs improvement (i.e. I would prefer not to see this person again for further care)
 - e. Marginal (i.e. I would specifically avoid seeing this person again for further care)
 - f. Unacceptable (i.e. I would absolutely refuse to see this person again for further care and would personally advise my friends to avoid seeking care from this person)
2. Do you have concerns about this student as a future caregiver?

Comments to be read by SP staff ONLY

For example:

- **Explanation of professionalism concerns**
 - **Reasons why we should review this student's video (poor performance, something funny happened, or use for a teaching video, etc.)**
 - **Other comments that might be useful to the program**
- a. Strong Concerns – I have major concerns about this student's interpersonal skills, clinical skills, and/or professionalism. The staff needs to review the student's work and provide him/her with further help. (Space for free writing)
 - b. Possible Concerns – I have possible concerns about this student's interpersonal skills, clinical skills, and/or professionalism. The staff should consider reviewing this student's work to see if they think he/she needs further help. (Space for free writing)
 - c. No Concerns – I have no major concerns about this student's interpersonal skills, clinical skills, and/or professionalism. (Tell us something positive about this student below or put N/A) (Space for free writing)
3. Suggestions for next time (Breaking Bad News) Check all that apply (Suggestions not used for scoring)
 - a. Try not to focus so exclusively on medical/technical aspects (bodily pain/symptoms and/or facts/statistics) give more focus/time to address the patients' emotional distress/suffering (questions/fears, etc.)
 - b. To ensure that the patient gets the right information, at the right time, in the right way, assess how the patient is feeling and what they may already know before delivering the news. For example: Is this news "out of the blue" or known but not yet faced.
 - c. Warn the patient that bad news is coming, help them get ready for unexpected bad news with such phrases as: "I'm sorry, but I have bad news." Or "I did see some things on the test results that I'm concerned about." "This was not what we had hoped for."

- d.** Allow silence, avoid the urge to talk to overcome your own discomfort. Proceed at the patient's pace.
- e.** Be aware that the patient may not retain much of what is said after the initial bad news. Write things down, use sketches or diagrams, and repeat key information.
- f.** Have the patient describe his or her understanding of what you have said to confirm understanding.
- g.** Avoid inappropriate humor or flippant comments; depending on your relationship with the patient, some discreet humor may be appropriate.
- h.** Use touch where appropriate. Some patients or family members will prefer not to be touched. Be sensitive to cultural differences and personal preference.
- i.** Ask for my concerns and include them in the treatment plan by giving me choices/options regarding care.
- j.** Assure the patient you will be available. For example, arranging follow-up appointments and/or next tests.
- k.** None

Appendix 9. Judges' Post-Encounter Questionnaire

General Questions about the encounter:

- 1) At what point in the four year Au.D. program do you think this student is, based on this session?
 - a. Beginning of first year
 - b. End of first year
 - c. Beginning of second year
 - d. End of second year
 - e. Beginning of third year
 - f. End of third year
 - g. Beginning of fourth year
 - h. End of fourth year
- 2) Rate the actor during this encounter on a scale of 1 to 5 (1 = not believable at all and 5 = believed it could be a real parent).
 - a. 1
 - b. 2
 - c. 3
 - d. 4
 - e. 5
- 3) FREE RESPONSE: How would you describe the response of the parent in this encounter?

Appendix 10. Post-Training Questionnaire – Round 1

1. Do you feel more prepared to counsel a parent on the diagnosis of their child after this experience? Yes No

2. What other counseling experiences do you think this would be helpful to practice?

3. In what type of setting are you most interested in working?

4. Do you think more experiences like this would have been helpful throughout your graduate school curriculum either within a class or as extra experiences?

5. Which would you prefer (circle one)?
 Within class Outside of class

Appendix 11. Post-Training Questionnaire – Round 2

1. Do you feel more prepared to counsel a parent on the diagnosis of their child after this experience? Yes No
2. Did you find this experience helpful? Yes No
3. What other counseling experiences do you think this would be helpful to practice?
4. Do you think this experience has changed how you will treat patients? Yes No
 - a. If yes, how?
 - b. If no, why not?
5. If this project were continuing, what other “emotions” would you like the “parents” to express so you could get practice?
6. What would have made this experience more realistic, if anything?
7. In what type of setting are you most interested in working?
8. Do you think more experiences like this would have been helpful throughout your graduate school curriculum either within a class or as extra experiences?
9. Which would you prefer (circle one)?
 Within class Outside of class
10. Do you have any other comments about the experience that you think will be helpful to the research team?

Appendix 12. Final Questionnaire for Judges

1. Do you feel the SP encounters were realistic? Yes No
 If yes, why?
 If no, why not?
2. Do you think there are other SP encounters that would be helpful with Au.D. students? If so, what types of situations? (i.e. What types of situations would you like your Au.D. students to practice before coming to you for practicum?)
3. If you have Au.D. practicum students on a regular basis, are there any situations you don't let them counsel patients/parents? If so, what types of situations and why?
4. If you knew your Au.D. practicum student had practiced certain counseling situations using SPs, would you feel more comfortable allowing them to counsel patients and/or parents in your practice in these areas? Yes No
 If yes, why?
 If no, why not?
5. After viewing these videos, do you feel adding SP encounters to an Au.D. curriculum would be valuable? Yes No
 If yes, why?
 If no, why not?
6. Have you ever personally had any experience with SPs (i.e. as a student or instructor?)
 Yes No
 If yes, what was your experience?

Information about Audiologist

- a. How many years have you been practicing audiology?
- b. What populations have you served and/or do you currently serve? (check all that apply)
 - i. Birth to 3 years
 - ii. Preschool age
 - iii. Elementary school age
 - iv. Middle school age
 - v. High school age
 - vi. 18 years +
- c. Where have you practiced audiology (currently or in the past)? (check all that apply)
 - i. School
 - ii. Hospital
 - iii. Speech and Hearing Clinic
 - iv. University Clinic
 - v. Otolaryngology Practice
 - vi. Private Practice

- vii. Other _____
- d. What is your highest degree in audiology?
 - i. Master's Degree
 - ii. AuD
 - iii. PhD
 - iv. Other _____ -
- e. Did you complete a counseling course as part of your degree? Yes No
If you returned to school for your highest degree (i.e. Au.D. after master's), did you take your counseling course in your master's degree or doctoral degree studies? _____
- f. Have you completed a counseling course or counseling training outside of your degree (i.e. continuing education course, online course, etc.)? Yes No
If yes, what type of course?
- g. Do you feel a counseling course should be required in the current Au.D. curriculum? Yes No

Appendix 13. Full ACE Scores for S1

ACE scores for S1																							
Rater	Session #	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Total (out of 105)
A1	1	3	3	3	2	2	2	2	2	2	3	2	2	3	2	2	3	2	2	3	2	3	50
A2	1	4	3	5	3	3	2	3	3	3	3	2	4	4	4	1	3	3	4	3	3	3	66
A3	1	2	3	3	2	2	3	3	3	3	3	3	2	3	3	3	4	3	1	2	3	3	57
SP	1	2	3	2	2	2	4	4	3	2	4	2	3	4	5	4	3	4	4	3	4	4	68
M	1	2	2	2	2	2	4	4	3	2	4	2	3	4	5	4	3	4	4	3	4	4	67
A1	2	5	5	4	4	4	5	4	4	4	3	4	4	3	3	2	2	3	3	4	3	3	76
A2	2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	3	5	5	5	5	5	102
A3	2	4	4	4	3	3	4	4	3	4	3	4	3	4	4	2	3	3	3	4	4	4	74
SP	2	4	4	4	5	4	4	4	4	5	5	5	5	4	4	1	1	4	4	4	4	4	83
M	2	4	4	4	4	4	4	4	4	4	5	4	5	4	5	2	2	5	5	5	4	4	83
SP	3	3	4	4	4	4	3	3	4	3	4	4	3	4	4	2	4	5	4	5	3	4	78
M	3	3	4	4	3	4	3	3	4	3	4	4	3	4	4	2	4	4	4	4	3	4	75
SP	4	5	4	4	4	4	5	5	5	5	5	4	5	5	5	5	5	5	5	5	4	5	99
M	4	4	3	3	3	3	4	4	4	5	4	3	4	4	4	3	3	4	3	4	5	4	74
A1	5	5	5	4	4	4	5	5	4	4	3	5	4	3	4	2	3	4	3	5	4	4	84
A2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	105
A3	5	4	3	4	3	3	4	3	3	3	4	4	3	3	3	3	3	4	3	3	4	4	71
SP	5	4	4	3	3	4	3	4	3	3	4	5	3	4	5	2	3	3	3	4	3	2	72
M	5	5	4	4	3	5	4	5	4	5	4	5	4	4	4	5	3	4	4	5	5	3	89
Q= Question; A=Audiologist Judge; SP=Standardized Patient in Room; M=Standardized Patient Monitoring from Outside of Room																							
Sessions: 1=Tearful Mother; 2=Contesting Father; 3=Guilty Mother; 4=Overwhelmed Mother; 5=Tearful Father																							

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Appendix 14. Full ACE Scores for S2

ACE scores for S2																							
Rater	Session #	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Total (out of 105)
A1	1	4	3	2	1	2	2	3	2	2	2	3	2	2	3	1	2	3	3	2	1	2	47
A2	1	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	5	5	5	5	5	5	103
A3	1	4	4	3	2	2	4	4	3	4	4	4	3	3	3	3	4	3	3	4	3	3	70
SP	1	2	2	3	1	3	2	2	3	3	4	5	3	2	1	2	2	2	3	2	2	3	52
M	1	2	2	3	2	3	2	2	3	3	4	4	3	2	2	2	2	2	3	2	2	2	52
A1	2	5	5	4	3	3	4	4	3	3	3	5	4	3	3	3	2	3	3	3	2	3	71
A2	2	5	5	5	5	5	4	4	5	5	5	5	5	4	4	5	4	3	4	4	5	4	95
A3	2	4	4	4	4	4	4	4	3	4	4	4	4	3	3	4	3	4	4	4	4	4	80
SP	2	5	4	4	4	4	4	4	4	4	4	5	5	4	4	4	4	4	3	4	4	4	86
M	2	3	3	2	2	3	4	4	3	2	3	3	3	2	2	2	2	2	2	3	2	2	54
SP	3	5	4	5	4	5	5	4	5	4	5	5	5	5	5	5	4	4	5	4	3	5	96
M	3	4	4	5	5	4	4	5	4	4	5	5	5	4	4	4	4	4	4	4	4	4	90
SP	4	4	3	4	3	3	5	4	3	4	2	4	4	2	4	5	5	4	4	3	4	4	78
M	4	4	4	4	5	4	4	4	4	4	4	4	4	4	3	3	4	5	4	4	4	4	84
A1	5	5	5	5	5	4	4	5	4	4	5	5	5	5	4	5	5	5	5	5	4	5	99
A2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	104
A3	5	4	3	3	3	3	4	4	3	4	3	3	4	3	3	4	4	3	3	3	3	4	71
SP	5	5	5	5	5	4	5	5	4	4	4	5	4	5	4	4	4	5	4	5	4	5	95
M	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	84
Q= Question; A=Audiologist Judge; SP=Standardized Patient in Room; M=Standardized Patient Monitoring from Outside of Room																							
Sessions: 1=Tearful Mother; 2=Contesting Father; 3=Guilty Mother; 4=Overwhelmed Mother; 5=Tearful Father																							

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Appendix 15. Full ACE Scores for S3

ACE scores for S3																							
Rater	Session #	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Total (out of 105)
A1	1	4	2	2	1	2	1	2	2	2	3	3	3	3	2	1	2	2	2	2	3	3	47
A2	1	4	4	4	1	1	1	2	1	1	1	3	1	2	1	1	1	1	2	1	1	2	36
A3	1	4	3	3	2	2	3	2	2	2	4	4	2	3	2	2	1	1	2	2	3	3	52
SP	1	5	3	4	2	5	3	3	4	3	4	4	3	4	3	3	3	2	3	2	3	3	69
M	1	3	3	4	2	4	3	3	4	3	4	4	3	4	3	3	3	2	3	2	3	3	66
A1	2	5	5	5	4	3	3	4	4	4	3	5	4	5	4	4	3	3	3	3	4	4	82
A2	2	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	103
A3	2	4	4	4	3	3	4	3	3	3	3	4	2	3	2	3	3	2	3	3	4	4	67
SP	2	4	4	5	4	5	4	5	4	5	5	4	3	4	5	5	3	3	4	3	5	5	89
M	2	5	3	4	3	5	4	4	4	5	5	4	4	5	4	4	4	3	5	4	5	5	84
SP	3	5	3	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	102
M	3	5	4	3	4	4	4	3	4	3	4	4	4	4	3	3	2	3	4	4	4	4	77
SP	4	4	4	4	4	4	3	5	4	5	5	2	4	5	3	2	2	5	5	5	4	5	84
M	4	4	4	4	5	5	5	4	4	5	5	5	4	5	5	4	4	5	5	5	5	5	91
A1	5	5	5	5	3	4	5	4	4	4	5	4	4	5	4	4	4	4	4	5	5	4	91
A2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	105
A3	5	3	3	4	3	4	4	3	3	4	4	3	3	3	3	3	3	3	3	3	4	3	69
SP	5	4	3	4	3	4	2	3	4	2	4	4	3	4	4	5	4	3	4	3	4	4	75
M	5	3	3	4	3	4	2	2	3	1	3	3	2	4	3	3	4	2	2	2	1	2	56
Q= Question; A=Audiologist Judge; SP=Standardized Patient in Room; M=Standardized Patient Monitoring from Outside of Room																							
Sessions: 1=Tearful Mother; 2=Contesting Father; 3=Guilty Mother; 4=Overwhelmed Mother; 5=Tearful Father																							

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Appendix 16. Full ACE Scores for S4

ACE scores for S4																							
Rater	Session #	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Total Points (out of 105)
A1	1	4	4	2	2	3	1	3	2	2	2	3	2	3	1	2	2	3	3	3	2	2	51
A2	1	5	5	5	4	3	4	4	4	3	4	4	3	4	4	4	5	5	5	4	3	5	87
A3	1	3	2	3	1	3	3	2	2	2	2	3	3	3	2	3	4	3	2	2	3	3	54
SP	1	5	5	5	2	3	2	2	2	3	4	4	4	5	3	1	4	3	4	3	3	5	72
M	1	4	4	4	3	3	3	3	3	3	4	4	4	4	3	2	4	3	4	3	3	4	72
A1	2	5	5	4	3	2	2	3	2	2	2	3	3	1	1	1	1	3	4	3	2	2	54
A2	2	5	3	5	3	3	4	3	5	5	5	2	4	4	4	2	3	4	3	4	4	4	79
A3	2	4	4	4	5	5	5	5	5	4	5	5	5	5	4	3	2	4	5	4	5	5	93
SP	2	5	5	3	3	4	2	2	2	3	3	3	3	3	4	1	1	2	2	3	3	3	60
M	2	3	3	4	2	4	3	4	3	4	4	2	2	4	2	2	2	2	4	3	3	4	64
SP	3	4	3	3	2	5	4	5	4	3	4	3	4	4	5	2	2	4	5	4	4	4	78
M	3	4	4	1	2	2	3	2	3	3	4	5	3	4	4	4	3	3	4	3	4	4	69
SP	4	5	5	5	5	5	5	5	5	5	5	4	5	5	5	3	3	5	5	5	5	5	100
M	4	5	5	5	5	4	5	5	4	5	4	5	5	5	5	3	3	4	5	5	5	4	90
A1	5	5	4	3	2	2	4	3	2	2	2	4	2	2	3	3	3	2	3	2	3	3	59
A2	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	104
A3	5	4	3	4	2	3	4	3	3	4	4	4	3	3	4	4	4	4	4	3	4	4	75
SP	5	4	4	4	4	4	3	3	4	3	4	5	4	5	5	5	5	4	4	4	3	4	85
M	5	5	4	5	5	4	4	4	5	4	4	5	5	4	4	5	5	5	4	5	4	4	94
Q= Question; A=Audiologist Judge; SP=Standardized Patient in Room; M=Standardized Patient Monitoring from Outside of Room																							
Sessions: 1=Tearful Mother; 2=Contesting Father; 3=Guilty Mother; 4=Overwhelmed Mother; 5=Tearful Father																							

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Appendix 17. Full ACE Scores for S5

ACE scores for S5																							
Rater	Session #	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Total Points (out of 105)
A1	1	5	5	5	4	3	4	4	3	4	4	5	4	3	4	2	1	5	5	2	4	4	80
A2	1	5	5	5	4	4	3	3	4	3	4	4	3	3	3	2	4	3	3	2	2	2	71
A3	1	4	2	4	2	1	3	3	2	3	2	3	3	3	1	2	3	2	3	3	3	3	55
SP	1	5	4	5	4	4	3	4	4	4	4	3	5	5	4	3	4	5	5	4	4	4	87
M	1	4	4	4	3	3	3	4	3	3	3	4	3	5	3	4	3	4	3	3	3	4	73
A1	2	5	5	4	3	3	3	4	3	3	3	3	4	4	3	1	2	3	5	4	3	4	72
A2	2	5	5	4	4	3	3	4	4	3	3	4	3	4	5	3	2	2	4	3	3		71
A3	2	4	3	4	3	4	3	3	3	3	4	3	3	4	3	3	2	3	3	3	3	3	67
SP	2	5	5	4	5	5	4	5	4	4	5	4	4	5	3	4	4	5	4	5	4	5	93
M	2	5	5	4	3	4	4	4	5	4	5	3	5	5	4	3	3	5	5	5	4	5	85
SP	3	5	5	4	3	3	5	4	4	4	5	5	5	5	5	4	5	4	5	3	5	5	93
M	3	5	5	5	5	5	4	5	5	4	4	5	5	5	4	3	4	5	5	5	4	4	96
SP	4	5	5	5	5	5	5	5	4	5	5	5	5	5	5	4	5	5	5	5	5	5	103
M	4	4	4	4	2	3	4	3	2	3	3	3	2	3	2	2	3	3	3	3	2	3	61
A1	5	5	4	5	3	3	4	5	4	5	5	5	5	5	5	2	5	5	5	4	4	5	93
A2	5	5	5	5	4	5	5	5	4	5	5	5	5	5	5	4	5	5	5	4	5	5	101
A3	5	4	3	4	3	4	4	3	4	3	4	4	3	4	4	3	4	3	4	3	4	4	76
SP	5	4	3	5	3	4	3	4	4	3	4	5	4	4	4	4	4	4	4	4	3	4	81
M	5	5	5	5	2	5	3	3	5	4	5	5	4	5	5	5	5	3	5	3	5	5	92
Q= Question; A=Audiologist Judge; SP=Standardized Patient in Room; M=Standardized Patient Monitoring from Outside of Room																							
Sessions: 1=Tearful Mother; 2=Contesting Father; 3=Guilty Mother; 4=Overwhelmed Mother; 5=Tearful Father																							

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Appendix 18. Full ACE Scores for S6

ACE scores for S6																							
Rater	Session #	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Total Points (out of 105)
A1	1	5	5	4	3	3	3	4	3	4	4	4	4	5	5	2	2	5	5	4	4	4	82
A2	1	5	4	5	5	5	5	5	5	5	4	5	5	5	5	3	4	5	5	5	5	5	100
A3	1	4	4	4	4	3	4	4	3	4	4	4	4	5	5	2	3	4	4	4	4	4	81
SP	1	4	5	5	4	5	4	5	4	4	5	5	5	5	5	3	4	5	5	5	5	5	97
M	1	4	4	2	2	4	3	3	4	3	4	4	4	5	4	3	5	3	4	4	4	5	78
A1	2	5	5	4	3	3	4	4	4	4	5	5	4	5	5	3	3	4	5	4	4	5	88
A2	2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	5	5	5	5	5	5	103
A3	2	3	3	3	2	2	3	3	3	3	3	4	3	4	4	2	4	3	3	3	4	4	66
SP	2	4	3	3	2	5	4	4	4	4	5	5	5	5	5	3	4	4	4	4	4	5	86
M	2	5	5	4	5	5	4	5	5	5	5	5	4	5	5	3	5	5	5	5	5	5	100
SP	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	105
M	3	4	3	4	4	4	4	4	5	4	5	5	5	5	3	4	4	5	5	5	5	5	92
SP	4	5	5	5	4	4	5	5	4	4	5	5	5	5	5	4	5	5	5	5	4	5	99
M	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	104
A1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	105
A2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	105
A3	5	4	3	4	3	2	3	3	4	3	4	4	3	4	4	3	4	3	4	3	4	4	73
SP	5	4	4	3	3	5	5	5	4	4	4	5	4	4	3	3	5	5	5	4	4	4	87
M	5	4	5	5	5	4	5	5	4	5	5	5	5	5	5	4	5	5	5	5	5	5	101
Q= Question; A=Audiologist Judge; SP=Standardized Patient in Room; M=Standardized Patient Monitoring from Outside of Room																							
Sessions: 1=Tearful Mother; 2=Contesting Father; 3=Guilty Mother; 4=Overwhelmed Mother; 5=Tearful Father																							

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Appendix 19. Full ACE Scores for S7

ACE scores for S7																							
Rater	Session #	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Total Points (out of 105)
A1	1	5	5	5	5	3	4	5	3	3	4	5	4	5	4	4	4	5	5	3	4	5	90
A2	1	5	5	5	5	5	4	5	5	4	5	5	5	5	5	4	5	5	5	5	5	5	102
A3	1	5	5	5	5	4	4	5	4	4	4	5	5	5	5	4	4	5	5	5	4	5	97
SP	1	5	5	5	5	5	3	3	5	3	5	5	5	5	5	5	5	5	5	5	5	5	99
M	1	5	5	5	5	4	4	4	4	4	5	5	4	5	5	1	5	4	4	5	4	4	91
A1	2	5	5	5	5	4	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	103
A2	2	5	4	5	3	3	3	4	3	3	3	3	3	4	4	3	4	4	4	4	3	4	76
A3	2	5	4	5	4	5	4	4	4	4	5	4	4	2	2	3	4	5	5	5	4	4	86
SP	2	4	4	5	5	4	4	5	4	4	5	4	5	5	4	5	5	5	4	5	4	5	95
M	2	5	5	5	5	5	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	103
SP	3	5	5	4	5	3	5	5	5	5	5	5	5	4	4	3	5	5	4	5	5	5	97
M	3	4	4	4	4	5	4	4	4	4	4	5	5	5	4	3	4	4	4	4	4	4	87
SP	4	4	4	5	5	5	4	4	4	5	5	5	4	5	5	3	5	5	3	5	5	5	95
M	4	1	1	4	4	4	4	4	5	5	5	3	3	4	4	5	4	4	5	5	5	5	84
A1	5	5	5	4	4	3	4	4	3	3	3	3	4	4	3	3	4	4	4	3	3	3	76
A2	5	5	5	5	5	5	5	5	4	4	5	4	5	5	5	4	5	5	5	5	4	5	100
A3	5	4	4	5	5	4	4	4	4	4	4	4	4	4	5	4	4	5	5	5	4	4	90
SP	5	1	1	4	5	5	4	3	4	3	4	4	4	5	5	4	4	4	3	4	4	5	80
M	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	105
Q= Question; A=Audiologist Judge; SP=Standardized Patient in Room; M=Standardized Patient Monitoring from Outside of Room																							
Sessions: 1=Tearful Mother; 2=Contesting Father; 3=Guilty Mother; 4=Overwhelmed Mother; 5=Tearful Father																							

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Appendix 20. Full ACE Scores for S8

ACE scores for S8																							
Rater	Session #	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Total Points (out of 105)
A1	1	5	4	3	2	2	2	3	3	2	3	4	3	4	2	3	3	3	3	3	3	4	64
A2	1	5	5	5	3	3	2	3	3	2	2	2	3	3	2	2	2	3	3	3	2	3	61
A3	1	4	3	4	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	82
SP	1	5	5	4	2	2	3	4	3	3	3	5	3	4	5	5	5	3	5	4	4	4	81
M	1	5	5	5	4	5	3	5	4	4	5	5	5	5	4	5	5	5	5	5	5	5	99
A1	2	5	3	3	3	2	2	2	2	2	2	2	2	3	2	1	1	2	2	1	2	3	47
A2	2	5	3	3	2	3	3	3	3	2	3	2	3	3	3	2	2	2	4	3	2	3	59
A3	2	3	2	3	2	3	3	3	3	3	2	3	3	3	3	1	2	3	3	3	3	3	57
SP	2	4	2	4	3	4	3	3	3	2	4	2	4	4	3	2	2	3	3	3	2	4	64
M	2	5	5	4	3	4	2	4	4	4	5	4	4	5	5	4	3	4	5	4	4	4	86
SP	3	4	5	5	5	4	4	5	4	4	4	5	5	4	5	4	4	5	5	5	4	5	95
M	3	3	3	4	3	4	3	4	4	4	5	5	5	4	4	3	4	5	5	4	4	5	80
SP	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	5	5	5	5	5	103
M	4	5	5	5	5	5	5	5	4	5	5	5	4	5	5	4	4	5	5	5	5	5	98
A1	5	5	5	5	5	4	4	4	4	5	5	5	5	5	5	4	3	5	5	4	5	5	97
A2	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	103
A3	5	4	3	4	4	4	3	4	3	3	4	4	3	4	4	2	2	4	4	4	3	4	74
SP	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	104
M	5	4	4	5	5	5	4	4	4	4	5	5	5	5	5	5	4	5	5	5	5	5	95
Q= Question; A=Audiologist Judge; SP=Standardized Patient in Room; M=Standardized Patient Monitoring from Outside of Room																							
Sessions: 1=Tearful Mother; 2=Contesting Father; 3=Guilty Mother; 4=Overwhelmed Mother; 5=Tearful Father																							

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