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Assessing the comfort level of speech-language pathologists in assessing and treating deaf and hard of hearing children

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ASSESSING THE COMFORT LEVEL OF SPEECH-LANGUAGE PATHOLOGISTS IN
ASSESSING AND TREATING DEAF AND HARD OF HEARING CHILDREN

A Thesis Submitted
in Partial Fulfillment
of the Requirements for the Designation
University Honors

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This Study by: Kaitlyn Burkamper

Entitled: Assessing the Comfort Level of Speech-Language Pathologists in Assessing and Treating Deaf and Hard of Hearing Children has been approved as meeting the thesis or project requirement for the Designation University Honors.

12/2/2021 Jaimie Gilbert _____

Date Dr. Jaimie Gilbert, Honors Thesis Advisor, Communication Science and
 Disorders

Date Dr. Jessica Moon, Director, University Honors Program

I. Introduction

When a child is diagnosed with a hearing loss, there are many different facets of their diagnosis to consider, and all of these facets are affected by the configuration, type, and severity of the hearing loss. Because of the patient's age, all decisions are at least impacted, if not made, by their parents or guardians. Depending on these factors, there are options for assistive devices, such as hearing aids, and one of the main concerns is access to language. While signed language is a completely valid path for a child with hearing loss, some parents make the decision that their children need spoken language. In some cases, a Speech-Language Pathologist (SLP) is required on the caseload to assist in this language learning process. Therefore, the purpose of this thesis is to assess the comfort level of SLPs in assessing and treating Deaf and Hard of Hearing children.

The significance of this research can be seen in the treatment and therapy of Deaf and hard of hearing children; because there is a language barrier, it is crucial that the professionals treating Deaf and hard of hearing children are qualified and well trained to do so. This is especially important for children whose parents decide that speech will be their primary form of communication. Because of this responsibility, it is imperative that SLPs have not only the training, but also the comfort level to assess and treat Deaf and hard of hearing children. This all ties back to Deaf and hard of hearing children receiving the best quality of care possible, and the general understanding of how crucial access to language, which can be provided by an SLP, is to a child's overall development. Because of this, it is crucial that SLPs are provided with as much support and training as possible, to ensure their comfort level is high enough to properly treat Deaf and hard of hearing children. This research strives to provide a baseline for the research question, to then determine in potential future research what specific support SLPs need.

II. Background

Before starting this project, it was important to collect all existing research on the topic. While there is limited research on this topic, there is a need and a purpose for SLPs to be well versed in and knowledgeable about assessing Deaf clients. A study was conducted on school-based SLPs around the country on their confidence in assessing students with hearing loss (Muncy et al., 2019). The research questions addressed the comfort level of SLPs in assessing children with multiple disabilities, their experiences and attitudes regarding interdisciplinary collaboration, and what additional training would be helpful in raising the experience and confidence of school-based SLPs (Muncy et al., 2019). This study surveyed SLPs via a 59-item online survey and received 320 viable responses (Muncy et al., 2019). The questions covered a broad range of confidence across five different skills (Muncy et al., 2019). Their attitudes towards future training and interdisciplinary collaboration were also assessed and the results of this study revealed that the comfort level of the professional depends on the graduate level training that they received (Muncy et al., 2019). Furthermore, the results showed that school based SLPs do not have sufficient training or knowledge to treat students with hearing loss (Muncy et al., 2019). The effect of this lack of training is a potential lower quality of care for students with hearing loss.

Looking at the speech and language skills of Deaf individuals and how they are assessed and the role of SLPs in assessing language, a study was done to find common language sample methods of professionals who work with Deaf and hard of hearing children who use listening and spoken language (Blaiser & Shannahan, 2018). SLPs were surveyed via electronic questionnaire, and there were 168 participants in the survey (Blaiser & Shannahan, 2018). While a majority of the participants used language sampling in intervention, about half reported that

they used norm-referencing testing instead and most often even though language sampling is more thorough in identifying delays and disorders in Deaf and hard of hearing children (Blaiser & Shannahan, 2018). In conclusion, language sampling would be a beneficial tool for SLPs to be trained on in adapting the test to fitting Deaf and hard of hearing individuals (Blaiser & Shannahan, 2018).

A more specific study was conducted to assess the comfort level of SLPs in treating auditory processing disorder and their perception of reports received from their Audiologist colleagues; these results were then compared to the responses of Audiologists from an earlier survey (Emanuel et. al, 2015). The survey was done with 183 SLPs, certified by the American Speech-Language-Hearing Association (ASHA), with experience assessing and treating children with auditory processing disorder (Emanuel et. al, 2015). The results showed that SLPs often perform screenings for auditory processing disorders and sometimes do assessments (Emanuel et. al, 2015). SLPs are more likely to do classroom screenings than Audiologists, while Audiologists are more likely to use stimuli that have been modified for diagnosis (Emanuel et. al, 2015). While half of the SLPs were satisfied with the reports and recommendations provided by Audiologists, many stated that they wanted reports to be more individualized and practical (Emanuel et. al, 2015). Whereas there are differences between Audiology interventions and Speech-Language Pathology interventions, there is clear evidence in favor of professionals from all disciplines working well together and collaborating in the best interest of their clients (Emanuel et. al, 2015). Overall, there is great benefit potential for Audiologists and SLPs working collaboratively together to best support patients.

In skilled nursing facilities, hearing difficulties are being left unnoticed and untreated (Dowd, 2015). Looking at a specific case, a resident of a skilled nursing facility was referred for

a hearing test after three months of residency which started with three weeks of speech treatment (Dowd, 2015). Three months after his admittance, the hearing test showed severe bilateral sensorineural hearing loss (Dowd, 2015). This patient was not evaluated for hearing loss and was then treated incorrectly by SLPs and neglected by the staff at the skilled nursing facility because they felt his confusion was a result of mental illness (Dowd, 2015). To avoid this problem, hearing screenings and tests need to be performed before speech treatment occurs because of the interference in speech understanding (Dowd, 2015).

In addition to skilled nursing facilities, signed language disorders affect Deaf individuals, and because of the lack of Signed-Language Pathologists, SLPs are called to treat individuals with language disorders that affect their signing and language abilities (Blackburn et. al, 2016). As seen in Signed Language Aphasia Studies conducted by the see Salk Institute for Biological Studies, an example of this need for language support is that of 5,000 Deaf survivors of stroke, 1,000 of those survivors developed aphasia which requires treatment from an SLP. (Blackburn et. al, 2016). Other Signed-Language Disorders have presented in parallel with Speech-Language Disorders with problems in phonology, morphology, and syntax (Blackburn et. al, 2016). Blackburn et al. (2016) assessed the awareness of Signed-Language Disorders and intended to open the conversation with SLPs on treating Deaf and hard of hearing individuals (Blackburn et. al, 2016). Thirty-two graduate students were surveyed on questions about their attitudes, awareness, and experiences with signed language and signed language disorders (Blackburn et. al, 2016). In addition to the need for training and education, the results showed that while their experience was limited, they were willing and excited to learn how to best serve future clients (Blackburn et. al, 2016).

Overall, there is a clear need for training for SLPs to be able to adequately treat and assess patients with hearing loss because of how crucial it is for Deaf and hard of hearing individuals to be supported when referred to an SLP. More research on this topic would not only provide more insight on the root causes of the lack of comfortability with SLPs but also the training that could be provided to better support SLPs and their clients.

III. Method

Participants

Eighteen individuals accessed the survey with eight participants meeting eligibility criteria and affirming submission of their responses. To be eligible to participate in the study, individuals affirmed that they are a certified SLP with CCC-SLP from the ASHA. The demographic of the participants was two men and six women with graduation years spanning from 1968 to 2010. Six of the participants had their masters degree, one had their PhD, and one had a dual degree in Speech-Language Pathology and Audiology. There was also a range in the number of years in practice: three have been in practice between six and ten years, and five have been in practice for twenty years or more. Finally, two participants practice in the schools, five in a clinical setting, one in a hospital, and one listed university and community placements in supervisory roles.

Materials

The survey consisted of 18 questions (see Appendix A). Questions asked for demographic information and for responses related to comfort level in assessing and treating Deaf and hard-of-hearing children. It was estimated that the average time needed to take the

survey would be 10 minutes. The survey included two operational definitions. For this survey, “Deaf” was defined as any child with no perceived auditory input (when without the aid of technology such as hearing aids or cochlear implants). “Hard of hearing” was defined as any child with some but limited auditory input (when without the aid of technology such as hearing aids or cochlear implants).

Procedures

The Institutional Review Board (IRB) at the University of Northern Iowa approved study procedures (Protocol #22-0047). Invitations to participate were announced on the UNI Speech-Language Pathology and Audiology Alumni Facebook Group page, and were sent by email to members of the Iowa Speech-Language Hearing Association (ISHA). Upon viewing the post or email, the participants were prompted to open the survey. Participants were shown a consent form and asked to check a box that they were providing informed consent to participate. The survey took participants approximately ten minutes to complete. When finished answering questions, participants were asked to verify that they were submitting their answers. After checking the box that they are ready to submit their answers, and clicking the submit button, their responses were collected, and their participation was complete.

IV. Results

Responses from the eight participants are summarized below. If fewer than eight participants answered a specific question, the total number of responses is indicated.

Deaf and Hard of Hearing Children on Caseload and Personal Interactions

Four participants responded they had between one and three hard of hearing children on their caseload. Two of those participants responded that they had between one and three Deaf children on their caseload while the rest said zero. The remaining four participants reported having no Deaf or hard of hearing children on their caseload. In addition to this, all participants responded that they had personal relationships with between zero and one Deaf or hard of hearing children.

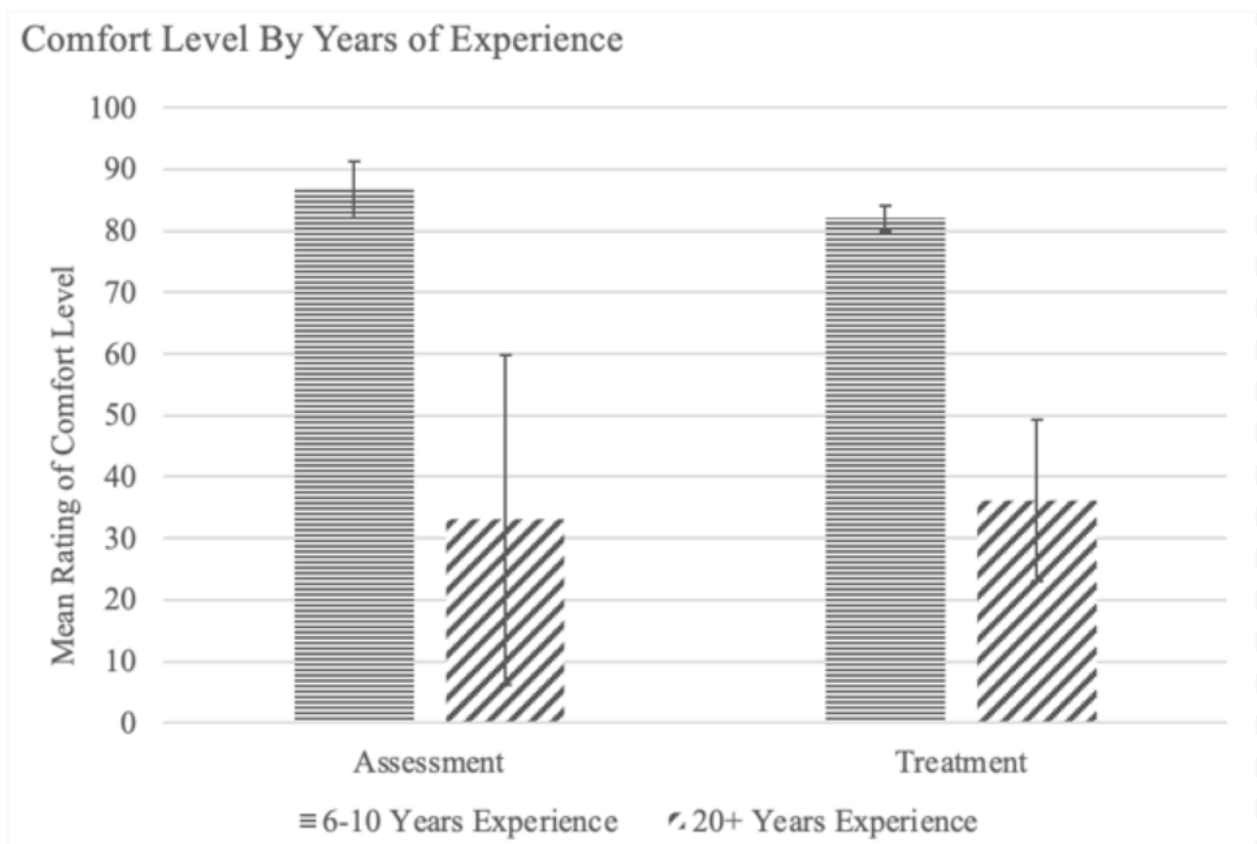
Comfort Level

Participants were asked about their comfort level of assessing Deaf and hard of hearing children on a scale of one, not comfortable at all, to one hundred, very comfortable. The minimum answer was eight, the maximum was 90, the mean answer was 60.71, with a standard deviation of 29.97, and a median of 75. Participants were asked about their comfort level of treating Deaf and hard of hearing children on a scale of one, not comfortable at all, to 100, very comfortable. The minimum answer was 15, the maximum was 85, and the mean answer was 61, with a standard deviation of 27.59 and a median of 75. They were then asked if there was a difference in comfort level between treating Deaf children and treating hard of hearing children with a scale from zero, being no difference, to 100, being very different. The responses showed a minimum of twenty-eight, maximum of one-hundred, a mean of 58.83 with a standard deviation of 25.76, and a median of 70.

Breaking down the results of the participants' comfort level, the mean, median, and standard deviation were calculated for participants in practice for six to ten years and 20+ years separately. For participants who have been in practice for six to ten years, on the same scale, the mean for assessment was 86.67, the median was 81, and the standard deviation was 4.49. The

minimum response was 80, and the maximum response was 90. For treatment, the mean was 82, the median was 82, and the standard deviation was 2.16; the minimum response was 80, and the maximum was 85. For participants who have been in practice for 20+ years, the mean for assessment was 33, the median was 21, and the standard deviation was 26.7. For assessment, the minimum response was eight and the maximum was 70. For treatment, the mean was 36.2, the median was 41, and the standard deviation was 13.2. The minimum response was 15, and the maximum was 51. See Figure 1 for means and standard deviations of ratings of comfort level by years of experience.

Figure 1



Note: 6-10 Years Experience $n = 3$, 20+ Years Experience $n = 5$; error bars represent standard deviation

Challenges

Taking into account their experiences, the participants were asked about specific challenges. With assessment, they cited challenges in AAC evaluations, “completing standardized testing to document medical necessity for insurance companies,” not knowing certain signs created by family and used at home, understanding equipment and devices, and difficulty in determining “deficits in language skills versus joint attention skills.” In treatment, challenges ranged from finding interpreters when needed and funding needed for those interpreters, troubleshooting devices, and receiving support from all team members and family members.

Training

When asked how much training they have had in assessment on a scale of zero, meaning no training, to one hundred, meaning extensive training, the participant’s responses ranged from five to a maximum of 82 with a mean of 38.75. For how much training they have received in treatment, the minimum response was five, maximum response was 71, and the mean was 40.88, on the same scale as assessment. Using the data collected on the level of training a person had received and the comfort level of the professional, results were compared to determine if there was any relationship between the two factors. No clear trends were noted. See Figure 2 for comfort level ratings and training on assessment; see Figure 3 for comfort level ratings and training on treatment.

Ratings of the amount of training received were evaluated separately for participants with 6-10 years experience and for participants with 20+ years of experience. For participants with six to ten years of experience, when asked to rank their training on a scale of zero, meaning no

training, to one hundred, meaning extensive training, the mean rating was 46 with a standard deviation of 35.79; the median rating was 62, the maximum rating was 71, and the minimum rating was five. For participants with 20+ years of experience, the mean rating was 37.8 with a standard deviation of 17.1; the median was 50, the maximum rating was 51, and the minimum rating was 18. See Figure 4 for ratings of training by years of experience.

Participants were also asked about where they received training. Of the participants, three provided responses, citing graduate school, continuing education, and some undergraduate courses in auditory rehabilitation and sign language. As far as training, one participant cited norm-referenced assessments, analyzing gestures and signs within a language sample. When asked what further training would be beneficial, participants responded with assessment strategies, collaborative models of intervention for a team model, and education from teachers of the deaf or another professional that understands the challenges and needs of Deaf and hard of hearing children.

Figure 2

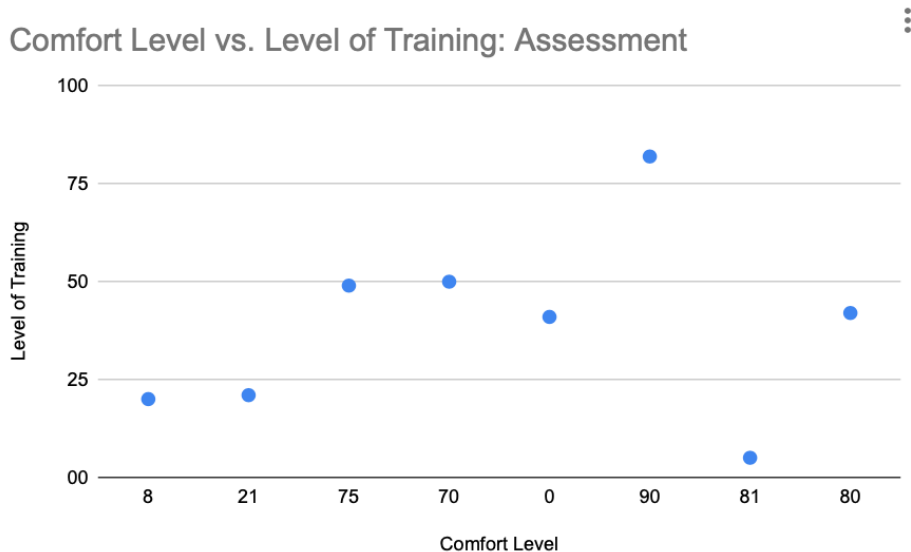


Figure 3

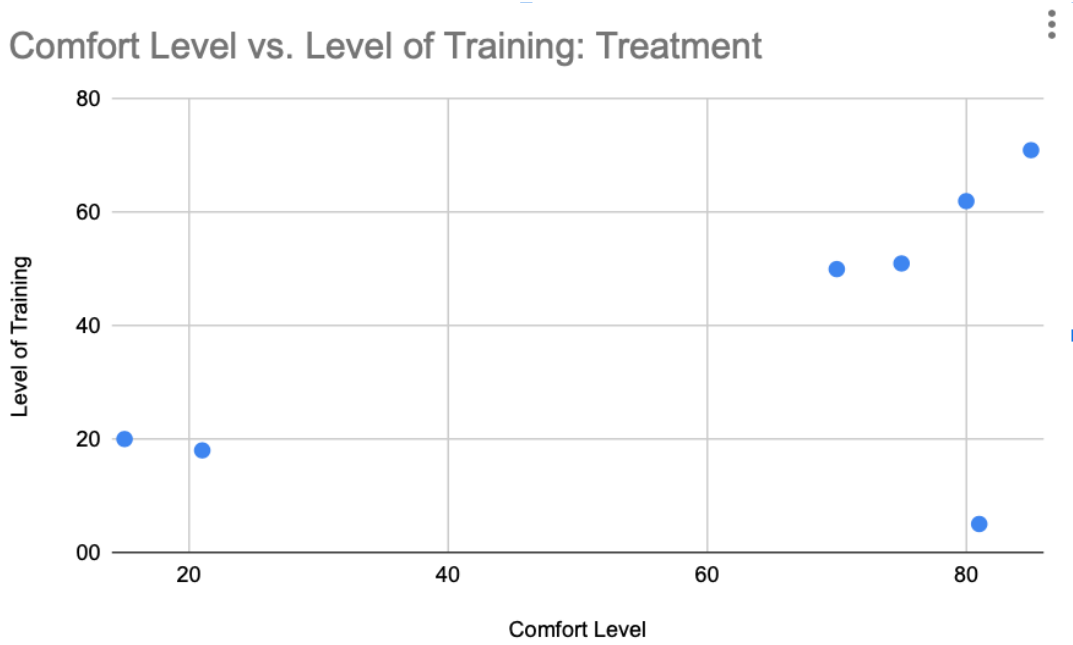
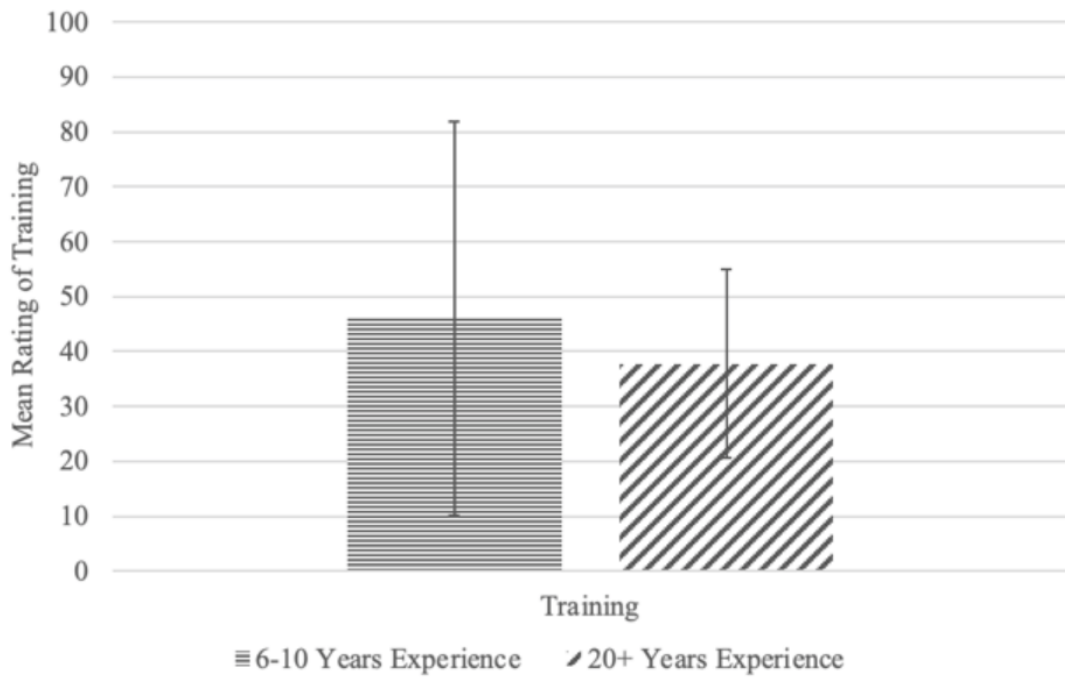


Figure 4

Training By Years of Experience



Other Information

Finally, when asked if they had any other relevant information to share, two participants provided additional information on their experience and individual comfort level. One participant cited their knowledge of sign language and different communication options as part of the reason their comfort level is higher, and it gave them an awareness of the options available to Deaf and hard of hearing children. The other participant who responded to this question provided context of schooling for Deaf and hard of hearing children and how there is a struggle between Residential Schools for the Deaf and mainstream education and how that also contributes to the education of Deaf and hard of hearing children.

V. Conclusion

Overall, this topic can be expanded on in many different ways, mainly broadening the number of participants by expanding the locational scope of recruitment. Although there are limited responses, there are still key themes from individual experiences to take away from this research. These results are not able to be generalized to the population of SLPs, but it yields results that can be compared and contrasted with further research.

First, the average result for their comfort level for assessing Deaf and hard of hearing children was 60.71, with a minimum answer of eight and a maximum of 90 which showed variability in their answers. Also, for treating Deaf and hard of hearing children, the average was 61 with a minimum at 15 and the maximum answer at 85. While the average displays some degree of comfort, it still shows room for growth. Furthermore, when asked if there was a difference in assessment and treatment, the mean response was 58.83 which shows a moderate difference between the two comfort levels. Overall, this should be considered moving forward in

this research. For participants who responded that they had been in practice for six to ten years, there was a higher mean and median response of their comfort level as compared to participants who have been in practice for 20+ years. This could mean that more recent education and training has improved, and SLPs are being better prepared and trained for assessing and treating Deaf and hard of hearing children which then raises their comfort level.

There were several project limitations that must be addressed when viewing the results of this research. In addition to the statistics, the participants cited struggles in AAC evaluations, standardized testing, not understanding equipment and devices, and being unaware of signs specific to the child. This provides specific topics that could be further trained on, which could raise the comfort level of SLPs, thus raising the level of care that Deaf and hard of hearing children receive. Participant responses also highlighted problems out of their control in treating Deaf and hard of hearing children such as not being able to find interpreters or district funding. This widens the scope of what challenges an SLP may face, and how additional training is not the only support that needs to be evaluated.

One of the project limitations that could be rectified in future research is all research recruitment was done through specific channels that targeted Iowa SLPs. Another project limitation was time, and this is another factor that could be addressed in future research with this topic. With more time to collect data and find participants, it will broaden the scope of research and scope of the responses. Also, future studies could collect responses on which condition, Deaf or hard of hearing, is more comfortable for SLPs to assess and diagnose.

The purpose of this research was to assess the comfort level of SLPs, and while there were less participants than originally anticipated, the experiences communicated through their

responses still provided insight into their comfort level. This research was a step towards understanding the comfort level of SLPs when assessing and treating Deaf and Hard of Hearing children, with the goal of this population receiving the best possible care available to them.

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Appendix A: Survey Questions

Consent Form

We are conducting a research study at the University of Northern Iowa about speech-language pathologists' comfort level with assessing and treating children who are Deaf or hard of hearing. This study involves completing an online survey, which will take about 10 minutes. The study is voluntary and you can choose not to answer some or all of the questions. The study risks are minimal, including taking the time to complete the survey and submitting your answers over the internet. There will be no compensation for your time, and there are no direct benefits to you, but we believe the study will help society to better understand speech therapy in regards to assessing and treating Deaf and Hard of Hearing patients.

This survey is confidential. While we will not request your name, we will ask for some demographic information (e.g., setting of practice, number of years in practice, etc). Because the survey is on the internet, we cannot guarantee that the data will not be intercepted by others, although this seems unlikely. Individual results will never be shared with anyone. Data will be saved until the completion of the thesis requirements. If you have questions about the study, please contact the lead researcher, Kaitlyn Burkamper, at burkampk@uni.edu.

If you have questions about the rights of research participants, contact the UNI IRB Administrator at rebecca.rinehart@uni.edu. If you are interested in completing the survey, please check yes. If not, you may simply close your browser.

1. Yes
2. No

Survey Questions

1. To participate in this survey, you must be certified by the American Speech-Language-Hearing Association. By selecting yes, you are verifying that you have your CCC-SLP.
 - a. Yes, I am ASHA certified
 - b. No, I am not ASHA certified
2. Gender
 - a. Male
 - b. Female
 - c. Non-binary / third gender
 - d. Prefer not to say
3. Graduate School Graduation Year (Open Response)
4. Highest Degree
 - a. Masters Degree
 - b. PhD Program
 - c. Other (open response)
5. How many years have you been in practice?
 - a. 1-5 years
 - b. 6-10 years
 - c. 11-15 years
 - d. 16-20 years
 - e. 20+ years
6. Setting of Current Practice
 - a. School

- b. Clinic
 - c. Hospital
 - d. Other (open response)
7. On average, how many Deaf children are on your caseload every year?
- a. None
 - b. 1-3 children
 - c. 4-6 children
 - d. 7-10 children
 - e. 10+ children, if so, please give a rough estimate (open response)
8. On average, how many Hard of Hearing children are on your caseload every year?
- a. None
 - b. 1-3 children
 - c. 4-6 children
 - d. 7-10 children
 - e. 10+ children, if so, please give a rough estimate (open response)
9. On average how comfortable are you:
- a. Assessing Deaf or hard of hearing children
 - i. Scale from 0 (extremely uncomfortable) to 100 (Extremely comfortable)
 - b. Treating Deaf or hard of hearing children
 - i. Scale from 0 (extremely uncomfortable) to 100 (Extremely comfortable)
10. What challenges have you experienced in assessing Deaf or hard of hearing children?
(open response)

11. What challenges have you experienced in treating Deaf or hard of hearing children?
(open response)
12. How much training have you received for assessing Deaf or hard of hearing children?
 - a. Scale from 0 (none at all) to 100 (a great deal)
13. How much training have you received for treating Deaf or hard of hearing children?
 - a. Scale from 0 (none at all) to 100 (a great deal)
14. What aspects of treating or assessing Deaf or Hard of Hearing children did you receive training in and where (graduate school, continued education, other)? (open response)
15. What other training do you think would be beneficial in learning how to better treat Deaf or hard of hearing children? (open response)
16. How many Deaf or hard of hearing children do you interact with in your personal life?
 - a. 0-1 children
 - b. 2-3 children
 - c. 3-5 children
 - d. 5+ children
17. Is there any other information or experiences that you think would be relevant to this research? (open response)
18. If you have completed this survey and are ready to submit your response, please select yes. Then, click the arrow to submit your responses.
 - a. Yes, I am ready to submit my responses
 - b. No, I do not want to submit my responses