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BUILDING RAPPORT VIA TELEPRACTICE: THE PERCEPTIONS AND STRATEGIES USED BY SPEECH-LANGUAGE PATHOLOGISTS IN SPEECH-LANGUAGE TELEPRACTICE SESSIONS

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BUILDING RAPPORT VIA TELEPRACTICE: THE PERCEPTIONS AND STRATEGIES USED BY SPEECH-LANGUAGE PATHOLOGISTS IN SPEECH-LANGUAGE TELEPRACTICE SESSIONS

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ABSTRACT

Introduction: Telepractice has been increasingly used in the field of speech-language pathology. Within this study, we aimed to explore the perceptions and strategies speech-language pathologists (SLPs) use to build rapport with their clients via telepractice. Two populations were considered to evaluate their influences, children with speech sound disorders (SSD) and children with autism spectrum disorder (ASD). In addition, two age groups were also studied within these disorder populations, including children ages 0-3 and children ages 4-8.

Methods: An online survey was used. Questions were asked regarding telepractice perceptions, telepractice strategies, and personal achievements while using telepractice, with a 5-point scale to rate the two populations and across the two separate age ranges. Participants were drafted using the ASHA's community portal. A total of 227 SLPs, who had some telepractice experience with at least one population and at least one age range, completed the survey. ANOVA was used to analyze the influence of population and age.

Results: For perceptions, there was a significant interaction between age and population ($p < .001$). Perceptions of rapport building were significantly higher for children ages 4-8 than 0-3 ($p = .005$) for the ASD population, whereas there was no difference between the two ages for the SSD population. There were also significant interactions between population and age for strategy use ($p < .001$) and achievements ($p < .001$); while both populations were rated higher in strategy use and lower in achievements at the 0-3 ages than the 4-8 ages, this difference was less obvious in the ASD population. A main effect of population was found for perception ($p < .001$), strategy usage ($p < .001$), and achievements ($p < .001$); SLPs reported higher perception, more strategy

use, and lower achievements in the ASD population than the SSD population. Lastly, a main effect for age was found for strategy usage ($p < .001$) and personal achievements ($p < .001$); SLPs reported more strategy use and lower achievement in the 0-3 ages than the 4-8 ages. **Conclusion:** Analysis of data showed that SLP's perceptions of rapport building were significantly higher for children ages 4-8 than 0-3 but only for the ASD population. Reasons for this could be due to the developmental interests each population displays at differing age levels. Further, higher perceptions, increased strategy usage, and lower achievements were reported higher among the ASD population than the SSD population. This could be due to the challenging behaviors associated with ASD populations. Lastly, results showed that participating SLPs used more strategies but had lower levels of achievement among the 0-3 ages than among the 4-8 ages. Explanations for this occurrence could reside in the natural development of children ages 0-3 and their demands as they develop.

LIST OF ABBREVIATIONS AND SYMBOLS

ASHA	American Speech-Language Hearing Association
ASD	Autism Spectrum Disorder
SSD	Speech Sound Disorder
NIDCD	National Institute of Deafness and other Communication Disorders
CCC-SLP	Certificate of Clinical Competence in Speech-language Pathology
SLP	Speech-language Pathologist

I. INTRODUCTION

Defining Telepractice

Recent advances in videoconferencing technology have resulted in a substantial increase in the use of live videoconferencing to assess and treat speech, language, and hearing disorders (Edwards et. al., 2012). Different terms arise when defining synchronous/asynchronous audiovisual communication and its uses to serve patients, for example, *telehealth, telemedicine,* and *telepractice*. This list is not exhaustive as each of the terms differ in meaning and greatly depend on a states' specific laws, local legislation, and which professional licensing association the practitioner belongs to. Commonly, telehealth is to be used when defining the broader definition of the term and can be used to describe the synchronous or asynchronous variations of videoconferencing and electronic transmission of therapy services. In the opposition, telemedicine is used to define the delivery of medical services (Center for Connected Health Policy, n.d.). When describing telehealth for the use of treating and delivering services to patients, the Center for Connected Health Policy states that the term *telemedicine* is in the process of being phased out in favor of *telehealth* (Center for Connected Health Policy). Using *telemedicine* limits the uses of telehealth to only include those wherein which medicine management is being used. Variations of the terms are becoming more popular (Center for Connected Health Policy, n.d.). Currently, telehealth is being used by various health service disciplines, including dentistry, counseling, physical and occupational therapy, home health, chronic disease monitoring and management, and disaster management (Center for Connected Health Policy, n.d).

One such discipline not mentioned is speech-language pathology. In 2012, the American Speech-Language Hearing Association (ASHA) adopted the term *telepractice* rather than the frequently used terms *telemedicine* or *telehealth* (ASHA, 2012). Pilot research studies have been conducted, providing initial evidence that telepractice is an effective and efficacious service delivery model. In Edwards et. al. (2012), a team of researchers systematically reviewed 63 articles and sectioned off four major disorder groups wherein which speech-language telepractice could be used, including neurogenic communication disorders, voice disorders, dysphagia, and fluency. The article stated that each of the studies that had been reviewed showed some evidence that telepractice was an effective way to assess and treat adults and children with speech-language disorders. Results also showed that outcomes of telepractice sessions and traditional, face-to-face sessions are comparable (Edwards et. al., 2012). Additionally, Mohan et. al. (2017) did a survey regarding telepractice usage among SLPs in India. Out of all the participants, 90% reported back and considered telepractice as a viable method of treatment (Mohan et. al., 2017).

Increasing Importance of Telepractice

In light of the COVID-19 pandemic, telepractice has become increasingly important and a more widely used service delivery model. Patel et. al. (2020) studied 16,740,365 patients and charted their medical visits between January 2020 and June 2020. When the patient's medical appointments were studied, weekly rates of telepractice visits increased among the group. Specifically, rates peaked the week of April 15, 2020, before declining during the week of June 10, 2020. The weeks between January 1 to June 10, 2020, the rates of telemedicine visits increased from 0.8 to 17.8 visits per 1000 enrollees with an increase of 17.0 visits. During this time, in-person visits declined from 102.7 visits to 76.3 visits with a decrease of 26.4 visits.

During the pandemic, many SLPs had to incorporate telepractice sessions into their practice by replacing in-person services with telepractice visits. This was largely due in response to quarantine restrictions and social distancing mandates. Fong et al. (2020) conducted a survey among 135 SLPs in Hong Kong. Of the 135 surveyed, only 47 participants were delivering services via telepractice. The survey was open and collecting responses from February 2020 to March 2020. Participants were asked questions about their practice and their use of live videoconferencing, in order to evaluate telepractice trends within the COVID-19 pandemic. The researchers reported that 72.3% (34/47) of the SLPs had been conducting telepractice for less than three months, 8.5% (4/47) for 3-12 months, 6.4% (3/47) for 1-3 years, and 6 (12.8%) for more than 3 years (Fong, et. al., 2020). The findings of this study imply that the majority of SLPs only started using telepractice in response to the COVID-19 pandemic.

Advantages and Disadvantages to Telepractice

Previous studies outline some advantages of using telepractice as a service delivery model. For example, an increase in open communication with patients, being available to patients outside session times, listening to patients' concerns and questions, and soliciting patient input as much as possible (Akamoglu et. al., 2018). In Bradford et. al. (2018), there are compelling arguments regarding the acceptability of telepractice, such as improved access, suitability of technology for child engagement, and perceived effectiveness.

With advantages there will always be some degree of disadvantages. In Lowman and Kleinhart (2017), researchers looked at the adoption of telepractice for speech-language services in Kentucky by getting a statewide perspective. The barriers listed in the study were a lack of trained personnel in order to deliver the services, sufficient technology to handle the diverse caseloads, sufficient access to quality video and audio, and perceptions from SLPs regarding the

validity telepractice held. Further, in Raatz et. al. (2020), researchers cited administration and organization, clinical governance and support, experience with specific therapies over telepractice, family perceptions, safety and efficacy, as well as training and experience, as potential barriers.

Rapport Building in Telepractice

There are concerns regarding the feasibility of rapport building via telepractice. In Tucker (2012), researchers stated that the greatest disagreements regarding telepractice centered around the establishment of rapport between the clinician and the client. Two questions within the survey stood out. The first, question 18, stated that *rapport between the SLP and the school personnel can be established during speech-language telepractice as strongly as during in-person speech-language therapy*. Of the 170 participants, a total of 60.6% (*103*) stated, that they either strongly disagreed (30%; 51/170) or disagreed (30.6%; 52/170) with the statement. The second, question 19, stated *that rapport between the SLP and the student can be established during speech-language telepractice as strongly as during in-person speech-language therapy*. Over 60% (*107/170*) of participants, indicated that they strongly disagreed (31.2%; 53/170) or disagreed (31.8%; 54/170) with the statement. Further, in Pitt et. al. (2018), SLPs reported that rapport was built during telepractice sessions but that it took longer than expected when compared to face-to-face sessions. In agreement, Anderson et. al. (2015) found that a major drawback cited by many SLP's was the slowed pace to rapport building when using telepractice in lieu of in-person sessions.

In Akamoglu et. al. (2018), researchers studied the perceptions of SLPs regarding rapport building via telepractice. Barriers to rapport building were listed, as well as the factors that prevent the establishment of mutual trust between the clinician and client. Surveyed SLPs stated that they required support (e.g., aide/e-helper) in order to build rapport with patients via telepractice. Additionally, the amount of effort and collaboration required for telepractice posed critical

challenges to rapport building. Nine SLPs suggested that the lack of physical proximity to their students and their students' parents created barriers, preventing them from connecting with their clients and building a strong therapeutic alliance.

The above studies indicate that rapport building and the establishment of trust are crucial to the therapeutic process and outcomes. Although they studied SLPs' perceptions of rapport building during telepractice, none of the studies clearly delineated the methods or strategies used to build the necessary rapport and trust with clients. This limits our understanding of telepractice rapport building and prevents us from providing recommendations to improve rapport building if this is a common challenge for SLPs during telepractice.

Defining Rapport Building and Methods in Rapport Building

When looking to define the methods of rapport building, one first needs to know what rapport is. In Pattison and Powell (1990), rapport is defined as the establishment and maintenance of an interactive, harmonious, and communicative relationship between the clinician and client. As stated in the study, rapport has been obtained when the participants share mutual feelings of trust and respect. Because of this, rapport building may be more challenging for telepractice services than in-person services, as all the communication between the clinician and client happens virtually without any in-person contact. In this event, clients may feel less connected to their clinicians, further risking mutual trust between the patient and the practitioner. In Eversmann (2017), the need for rapport building is shown to be of importance, especially for one's clients. It is noted that rapport helps keep clients motivated and to perform well on set goals. Interestingly, when the study analyzed parental outcomes, the benefits were just as important. Results indicated that when SLPs build rapport with their clients' families, the client's parents and caregivers were

likely to see the SLP as a professional who has knowledgeable insights on their child's progress and speech-language goals.

Common methods that an SLP can use when building rapport are verbal and non-verbal cues, the use of an e-helper, and even an initial in-person session before telepractice services begin. Tickle-Dengen and Rosenthal (1990) acknowledged eight non-verbal behaviors related to rapport building during in-person interactions. They were: smiling; directed gazing; head nodding; leaning forward, direct body orientation; posture mirroring; uncrossed legs and uncrossed arms. As for verbal cues, Sucala (2013) found that the more therapists incorporated reflections of emotions, restatements, and verbal reinforcements into their sessions, the more their clients expressed a sense of strong rapport. Beyond verbal and non-verbal cues, clinicians could also use the assistance of an e-helper or someone who sits with the child during therapy in order to keep the child attentive and engaged throughout the duration of the visit. Lastly, one potential method that could be used to build rapport in telepractice is an initial, in-person visit before services begin to ensure familiarity with the clinician and client (Grillo, 2017). It should be acknowledged that these methods have been found to work in face-to-face sessions. However, currently, there exists no clear evidence if these strategies work in regards to telepractice.

Population and Age as Potential Influential Factors

Different factors could influence rapport building during telepractice sessions, among which the population and the age range are potentially important factors. The current study focused on two populations, children with autism spectrum disorder (ASD) and children with speech sound disorders (SSD). These populations were chosen as they tend to make up the bulk of an SLP's caseload. To date, the overall prevalence of ASD is 1 out of 44 children (23/1000 children) (Maenner et. al., 2021). As for the prevalence of SSD, one article is of particular interest. In Eadie

et. al. (2014), researchers assessed 1,494 Australian children and found that at 4 years old the prevalence of SSD was 3.4%. It is important to note that in this study, the prevalence of SSD was defined by a standard score performance of ≤79 on a speech assessment (Eadie et. al., 2014).

Along with prevalence, both diagnoses were chosen, as each differs in overall language abilities and offers helpful insights into how SLPs perceive and strategize rapport building within telepractice sessions. According to the National Institute of Hearing Disorders and Other Communication Disorders (NIDCD), ASD affects the way a child communicates due to the diagnosis' common symptoms and challenging behaviors. Rigid and repetitive language, narrow interests and exceptional abilities, uneven language development, and poor nonverbal conversation skills, are all contributing factors that may affect how easy it is for one to build rapport with clients who have ASD (NIDCD, 2020). If rapport is to be built, attention to diagnosis specific behaviors such as nonverbal conversation skills and rigid, repetitive language must be addressed. In contrast, the behaviors of those with SSD are not as limiting. Most of the behaviors displayed by children with SSD are typically developing behaviors and are on track with those children who do not have a SSD.

Further, the child's age may also have an influence on an SLP's ability to build rapport via telepractice. According to the National Institute of Deafness and Other Communication Disorders, the first three years of a child's life is when the brain is developing and maturing. During this time, the most intensive period for acquiring speech and language skills occurs (NIDCD, 2017). At later developmental stages, specifically ages 4-8, children experience their first introduction to educational settings. Where language development once took place between the child and the parent, it shifts to communication among multiple communication partners such as teachers, classmates, and other educational supports. Children who are in this age bracket develop longer

attention spans, resulting in increased engagement and inquisitive learning. When comparing both populations, children who are younger pose a greater threat to rapport building in telepractice because their attention spans are not comparable to those of older children. This will then require the SLP to implement more strategies in order to engage the client and keep them focused. Additionally, younger children tend to shy away from strangers and unfamiliar settings. Where older children have learned the pragmatics of meeting new people, younger ages have not. In order to build relational rapport with the client, the SLP must implement more rapport building strategies in order to familiarize themselves with the client.

Research Questions and Hypotheses

The current study assessed how SLPs build rapport within their telepractice sessions when serving pediatric populations with a diagnosis of either ASD or SSD, distinguishing younger (0-3 years old) and older (4-8 years old) ages. Specifically, the following questions were posed:

1. When providing telepractice services to populations with either ASD or SSD, how do the rapport building perceptions, strategies, and achievements differ between both populations?
2. When providing telepractice services to children ages 0-3 and children ages 4-8, how do the rapport building perceptions, strategies, and achievements differ between both age groups?

We predicted that there would be differences between the two disorders and between the two ages. Initial predictions for disorder were that SLPs would perceive rapport to be more important, use more strategies, and feel lower levels of rapport building achievement for children with ASD. Likewise, in regards to age, it was predicted that SLPs' perception of rapport building, strategy usage and personal rapport building achievements would be more significant for children ages 0-3 than for children ages 4-8.

II. METHODS

Participants

Participants were drafted using the American Speech-Language-Hearing Association's (ASHA) Community Portal. Within the community portal, each SLP holding the Certificate of Clinical Competence in Speech Language Pathology (CCC-SLP) through ASHA is compiled. We used filters in the ASHA Community Portal, including: *autism spectrum disorder, articulation disorders, and phonological disorders*, in order to delineate between eligible SLPs and ineligible SLPs. For this study, the research team sent survey invitations to 350 SLPs who were randomly selected from each of the fifty states, rendering possible participants. In practice, there were nine states that did not have a total of 300 eligible participants, they were: Delaware, Hawaii, Alaska, Montana, Wyoming, North Dakota, South Dakota, Rhode Island, and Vermont. This yielded a total of 16,165 invitations being sent out within the United States. In addition, SLPs outside of the United States were also included. The survey was written in English, requiring the research team to only include English-speaking countries. Eligible countries included the United Kingdom, Australia, New Zealand, and Canada for a total of 366 eligible participants. Out of 16,531 possible participants, a total of 227 SLPs partook in the current research survey, which yielded a response rate of 1.37%.

Procedure

Within this research study, participating SLPs were asked to answer a series of questions regarding their rapport building within their telepractice sessions. We focused on two pediatric populations and two age ranges. Eligible SLPs were those with experience treatin

children with both disorders, ASD and SSD, and at least one age range, children ages 0-3 and 4-8. As the two age ranges typically relate to different work settings, such as Early Intervention and School, it is challenging to have participants to cover both ages. It should also be noted that participants were not required to have experience in telepractice in order to participate in the research study.

An initial screening survey was utilized in order to ensure participants met the inclusion criteria. Three questions were asked in the initial screening survey: 1) if the participant was a licensed SLP and whether they had experience working with children with ASD and SSD; 2) their first and last name; 3) the participant's email. Upon the completion of the screening survey, eligible participant's names and emails were used in order to generate a unique personal link that could be used to take the research survey. The personal unique link was used to reduce invalid responses, as hackers may take the survey for winning the incentives if the survey link became public. At the end of the research survey link, we asked the participants to leave their email addresses for incentive distribution.

Responses were collected from October 2021 to December 2021. Once the research survey link was sent, participants were given two weeks upon the initiation of the survey to complete it. A reminder email was sent approximately one week after the first email was sent to remind interested SLPs to take the survey. At the end of the survey, one final reminder was sent to all volunteered SLPs who hadn't initiated the survey.

Incentives were given to participants who completed the survey. At the end of the research survey, each participant was asked if they wanted to enter their name and email for the chance to win a $10 Amazon.com gift card. A list of participants was generated, and 100 random participants were selected and awarded a $10 Amazon.com gift card for the completion of the survey.

Materials

A survey model was employed since it has been found to be an effective method in collecting research data for the purposes of our study. Survey questions were initially developed based on the extant literature and a pilot study was conducted by the research team. After the questions were drafted, we collected perspectives and feedback from a group of researchers and clinicians who had experience with telepractice, the two populations, and the two ages. Proposal drafts were sent to four faculty members, three clinical supervisors, and graduate students. Upon completion of their review, comments, edits, and feedback were incorporated and used to revise the survey questions.

The questions were organized into four sections: Background, Perceptions of Rapport Building, Strategies Used in Rapport Building, and SLP Achievements in Rapport Building. For each section, survey participants were asked at most six questions, and then prompted to rate that question on a five-point scale for both the ASD and SSD populations and across the two age ranges (0-3 and 4-8 years old).

For the first section, participants were asked general background questions, including their age, gender, and degree status, as well as their race and ethnicity. Participants were also asked about their work setting, their training regarding telepractice, their current service provision, and the venue of telepractice they were currently providing. Additionally, SLPs were asked to note how long they had held board certification, how many years they had used telepractice as a form of therapy, and how many years they had used telepractice as a form of intervention within a pediatric setting. Lastly, those that completed the survey were also asked to rate their overall internet fluency not related to telepractice, as well as their overall competence in regards to

technology use. We used these questions to define the sample of SLPs who participated in this study (see Table 1).

Within the second section, participating SLPs were asked about the perceptions they held towards rapport building via telepractice, specifically when delivering services to the two populations and the two ages. SLPs were also asked to rate the importance of building rapport in regards to successful sessions, to rate the necessity of telepractice training prior to giving teletherapy, to rate how often they make rapport building a priority when providing telepractice, and their overall perception of rapport building in regards to telepractice. Further, participants were also asked to rate the importance of rapport building via telepractice when compared to in-person sessions and whether or not disorder severity had any influence on the SLPs ability to build rapport via telepractice. Answers to each question were scaled on a five-point scale with lower values representing lower perceptions of rapport building and higher values representing higher perceptions of rapport building. The scales for each question were modified, based on the question being asked. The individual questions and scales are displayed in Table 3.

Much like the second section, the third block of questions asked participants to rank different strategies used in telepractice, and how often each SLP utilized the specific strategies. Listed strategies included the use of an e-helper (e.g., a parent or guardian), the use of verbal and non-verbal cues (e.g., tone of voice and eye contact), and the need for an initial, in-person visit before telepractice begins. Using a five-point scale, participating SLPs were asked to rate either how often they used the strategy, or how important they thought the strategy was in regards to rapport building. See Table 4 for individual questions and scales.

Lastly, in the final section, survey participants were instructed to rank their achievements, specifically the quality of their rapport building and the speed of their rapport building. Both

questions asked the SLP to not only rank the quality and speed of their rapport building within their telepractice sessions but to also rank the speed and quality of their rapport building when compared to their in-person sessions. Similarly, a five-point scale was used. See Table 5 for individual questions and scales.

III. RESULTS

Data Analysis

Descriptive analysis was used to report participant information and rating on perception, strategies, and achievements. Repeated measures ANOVA was employed to study influences of ages and disorder types on rapport building in telepractice. Two factors were entered, age (0-3 years old and 4-8 years old) and disorder type (SSD and ASD). Additionally, one interaction, age and disorder type, was also entered. Pairwise comparisons were conducted containing paired t-tests with a Bonferroni correction. We excluded data from five SLPs, who did not have any telepractice experience with any of the ages and disorder types. This procedure ensured that we only included a sample of SLPs who had some telepractice experience working with at least one population of the two, either ASD or SSD, and at least one age of the two ages, either the younger age bracket or the older ages bracket. All the SLPs had some telepractice experience with the two populations.

Table 1. Participant demographics

Demographic characteristics (n=227)	*Number*	Percentage (%)
Gender		
Female	*219*	96.47
Male	*7*	3.08
Other*	*1*	0.44
*One SLP reported being non-binary		
Age		
20 - 29	*18*	7.93
30 - 39	*62*	27.31
40 - 49	*63*	27.75

50 - 59	*49*	21.59
60 - 69	*28*	12.33
70 - 79	*7*	3.08
Ethnicity (Participants could choose more than one)		
Asian	*11*	4.85
Black or African American	*10*	4.41
Hispanic	*3*	1.32
Non-Hispanic White	*204*	89.87
Other*	*5*	2.2

*One SLP was Indigenous, one Alaskan Native, one Native American, one European, and one Jewish

Education Level		
Master's degree	*221*	97.36
PhD	*3*	1.32
Other*	*3*	1.32

*Two SLPs held an EdD and one SLPD

Work Setting (Participants could choose more than one setting)		
School	*138*	60.79
Early Intervention	*53*	23.35
College/University	*10*	4.41
Hospital	*12*	5.29
Residential Health Care	*5*	2.2
Non-Residential Health Care	*22*	9.69
Private Practice	*76*	33.48
Other*	*6*	2.64

*One SLP noted being an AAC Consultant, two SLPs were not practicing at the time of survey distribution, and three were using telepractice

Telepractice Training		
Formal training	*86*	37.89
No formal training	*130*	57.27
No training	*11*	4.85
Current Service Provision		
Telepractice only	*19*	8.37
Face-to-face only	*65*	28.63
Combination of both telepractice and face-to-face	*126*	55.51
Other*	*17*	7.49

*One SLP noted that they were conducting research, eight were not currently practicing, one managed an SLP team, and seven were retired

Venue of Telepractice (Participants could choose more than one venue of telepractice)		
Video conferencing	*206*	90.75
E-mail	*32*	14.1

Phone call and chat technology/text message	*39*	17.18
Not applicable (never used telepractice)	*15*	6.61
Other*	*6*	2.64

*All SLP's noting *Other*, were not currently practicing when the survey was distributed

Years of Holding Certification		
0 - 10 years	*67*	29.52
11 - 20 years	*64*	28.19
21 - 30 years	*55*	24.23
31 - 40 years	*30*	13.22
40+ years	*11*	4.85
Years Spent Using Telepractice		
Less than 1 year	*43*	18.94
1 - 2 years	*145*	63.88
2 - 3 years	*20*	8.81
3 - 4 years	*9*	3.96
4 - 5 years	*2*	0.88
5 - 6 years	*1*	0.44
6 - 7 years	*0*	0
7 - 8 years	*2*	0.88
8 - 9 years	*1*	0.44
9 - 10 years	*4*	1.76
10+ years	*0*	0
Years Spent Using Telepractice in a Pediatric Setting		
Less than 1 year	*61*	26.87
1 - 2 years	*132*	58.15
2 - 3 years	*16*	7.05
3 - 4 years	*8*	3.52
4 - 5 years	*2*	0.88
5 - 6 years	*1*	0.44
6 - 7 years	*0*	0
7 - 8 years	*2*	0.88
8 - 9 years	*1*	0.44
9 - 10 years	*4*	1.76
10+ years	*0*	0
Geographic Region*		
Northeast	*26*	11.45
Southeast/South	*50*	22.03
Southwest	*34*	14.98
Midwest	*54*	23.79

West	*57*	25.11
Rurality as Reported by SLPs		
Rural	*76*	33
Urban	*151*	67
Rurality as Reported by Health Professions Shortage Area		
Rural	*44*	19.38
Urban	*150*	66
No Data Found	*33*	14.54
Internet Fluency		
Overall Competence		
1 - Not at all competent	*1*	0.44
2 - Low competence	*5*	2.2
3 - Neutral	*18*	7.93
4 - Competent	*140*	61.67
5 - Very competent	*63*	27.75
Total Average (*SD*)	*4.12*	0.68
Technology Use		
Overall Competence		
1 - Not at all competent	*0*	0
2 - Low competence	*2*	0.88
3 - Neutral	*14*	6.17
4 - Competent	*133*	58.59
5 - Very competent	*78*	34.36
Total Average (*SD*)	*4.25*	0.61

Table 1 outlines the results of the participants demographics and background. The majority of survey participants were female (96.47%), and over 70% were between the ages of 30-59. Participants were mainly Non-Hispanic/White (89.87%). Asian Americans, Black/African Americans, and Hispanic summed up to about 10% of the participants. The educational level for most partakers was a Master's degree or higher. Almost three-fifths of the population had held certification for 20 years or less. When asked about their work settings, about 60% stated that they worked in a school, which was followed by about 33% of participants working in a private practice. Another 23% of participants worked in an Early Intervention and the remaining 17% of

participants worked in either a hospital, residential health care, or a nonresidential healthcare. In analyzing the service provisions of participants, an interesting finding was revealed. Eight percent of participants (*65/210*) noted that they only provided services via telepractice. In contrast, 28% (*65/210*) of participants were providing services face-to-face only. Over half of participants, (55.51%, *126/210*) indicated that they were using a combination of both telepractice and face-to-face services.

Although telepractice was not an inclusion-criteria for this study, participants were asked about their training level of telepractice and what venues of telepractice they were using or had used in the past. In terms of training level, 38% of SLPs marked that they had received formal training, while over half of those surveyed stated they had no formal training, rather they had taught themselves. Together these two groups made up 95% of those surveyed. When asked about which venue of telepractice they had used, 90% of SLPs used videoconferencing technology, such as Zoom, Webex, or Skype with another 30% using email or phone call/chat technology.

Regarding telepractice experience, four-fifths of participants had only been using telepractice for 2 years or less, and a similar percentage of SLPs had only used telepractice in a pediatric setting for 2 years or less. Each SLP was asked to give their county and state as well as the rurality of where they lived. In order to verify rurality, researchers utilized a database found on the Health Resources and Services Administration's website (Department of Health and Human Services, n.d.). Over three-fifths of respondents stated that they practiced in urban areas while the other two-fifths stated they practiced in rural areas. In connection with rurality, survey participants were also asked which state they practiced in. In order to clearly define the geographical areas of the United States, researchers aligned their findings with National Geographic's defined

geographical boundaries (O'Connor, 2012). Results indicate an even distribution of participants in each geographical region. Of importance are the mid-west area, the southeast/south area, and the west area. SLPs in these three areas made up over 70% of the surveyed population.

Additionally, within the first section of the study, participants were asked to report data regarding their caseloads. Each question was divided between both populations (ASD and SSD), and both age brackets (children ages 0-3 and children ages 4-8). Also, participating SLPs were asked to report their caseloads for both disorders and age brackets for their entire working history and telepractice only. In the end, a total of 219 SLPs gave information concerning their caseloads. There were 8 SLPs who did not answer the question completely, thus their responses were not recorded and were not used during data analysis.

Looking at Table 2, the results for each SLP's caseload is recorded in regards to their entire working history and telepractice only. The first aspect took into account the total amount of children with an SSD the answering SLP had seen for their entire working history. Starting with the first age bracket, 21% (46/219) of SLPs noted that they had seen 100+ children ages 0-3 with an SSD for their entire working history. This was then followed by results for the older age bracket, wherein which 54% (118/219) of SLPs also noted that they had seen 100+ children ages 4-8 with and SSD for their entire working history. The second aspect asked each SLP to report once again the number of children they had seen with an SSD, but only via telepractice. Caseload numbers for each age bracket were low. Over 55% (124/219) of SLPs noted that they had seen 0 children ages 0-3 with an SSD via telepractice. The same trend was displayed for the older age bracket.

Table 2. Information regarding participant's caseloads.

		Speech Sound Disorders								Autism Spectrum Disorder							
		Entire Working History				*Telepractice Only*				*Entire Working History*				*Telepractice Only*			
		Ages 0-3		*Ages 4-8*		*Ages 0-3*		*Ages 4-8*		*Ages 0-3*		*Ages 4-8*		*Ages 0-3*		*Ages4-8*	
		N	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*
0 Children	*Number of SLPs*	27	*12.61*	5	*2.28*	121	*56.54*	43	*19.63*	39	*17.81*	9	*4.11*	135	*63.08*	61	*27.85*
1 - 10 Children		42	*19.62*	15	*6.85*	63	*28.77*	83	*38.78*	61	*28.5*	20	*9.13*	55	*25.7*	104	*48.59*
11 - 20 Children		27	*12.33*	8	*3.65*	20	*9.34*	37	*17.28*	24	*11.21*	34	*15.88*	13	*5.94*	26	*12.14*
21 - 30 Children		23	*10.5*	12	*5.48*	5	*2.28*	20	*9.34*	24	*10.96*	25	*11.42*	5	*2.28*	11	*5.14*
31 - 40 Children		15	*6.85*	9	*4.11*	1	*0.46*	13	*5.94*	13	*5.94*	24	*11.21*	2	*0.91*	4	*1.83*
41 - 50 Children		10	*4.57*	8	*3.65*	1	*0.46*	3	*1.4*	16	*7.31*	24	*11.21*	1	*0.46*	1	*0.46*
51 - 60 Children		9	*4.11*	11	*5.02*	1	*0.46*	3	*1.37*	7	*3.2*	21	*9.59*	2	*0.93*	3	*1.37*
61 - 70 Children		5	*2.28*	10	*4.57*	1	*0.46*	2	*0.91*	4	*1.83*	7	*3.2*	0	*0*	1	*0.46*
71 - 80 Children		3	*1.37*	6	*2.74*	0	*0*	3	*1.37*	3	*1.37*	10	*4.57*	0	*0*	0	*0*
81 - 90 Children		3	*1.37*	8	*3.65*	0	*0*	1	*0.46*	1	*0.46*	2	*0.91*	0	*0*	0	*0*
91 - 100 Children		6	*2.74*	8	*3.73*	0	*0*	2	*0.91*	0	*0*	5	*2.28*	0	*0*	1	*0.46*
100+ Children		44	*20.56*	114	*53.27*	1	*0.46*	4	*1.83*	22	*10.28*	33	*15.42*	1	*0.46*	2	*0.91*

Note: There were 8 SLPs who did not provide their caseload information, resulting in caseload information from 214 participating SLPs. Each column displays the number of SLPs (followed by the percentage) who have that many children on their caseload. The numbers in each column add up to 214 and the percentages in each column add up to 100%.

Thirty-eight percent (84/219) of SLPs reported that they had seen 1-10 children ages 4-8 with and SSD via telepractice.

Much like the first two aspects, the third aspect asked SLP's to report the amount of children ages 0-3 with ASD they had seen for their entire working history. Almost 30% (64/219) of SLPs noted that they had overseen the care of 1-10 children ages 0-3 with ASD for their entire working history. For children ages 4-8 with ASD, numbers were more scattered with 15% of SLPs stating that they had only seen 11-20 children for their entire working history and another 15% noting that they had seen 100+ children for their entire working history. Scores for the fourth aspect continued to look at ASD but reflected the telepractice caseloads of participating SLPs only. Over 60% (134/219) of SLPs stated they had 0 children ages 0-3 with ASD on their telepractice caseloads only. This was then followed by 48% (106/219) of SLPs who noted that they only had 1-10 children with ASD ages 4-8 on their telepractice caseloads.

Rapport Building Perceptions Results

Table 3 displays the perceptions SLPs have towards rapport building within telepractice. The average rating and standard deviation for each question is displayed, as well as the question and the answer choices provided. Overall, SLPs reported that rapport building was *important* for the success of telepractice sessions resulting in an overall average of 4.7 for each disorder and age group. When asked to compare the importance of rapport building in telepractice sessions compared to in-person sessions, SLPs average rating was between *neither less important nor more important* and *more important*. The averages for each disorder were 3.5 for those with SSD and 3.7 for those with ASD.

Of those surveyed were asked if prior training before telepractice delivery was needed in order for the clinician to successfully build rapport, as well as how often they made rapport

Table 3. SLP perceptions of rapport building in telepractice sessions *(n = 221)*

	Speech Sound Disorders				**Autism Spectrum Disorders**			
	Ages 0-3		*Ages 4-8*		*Ages 0-3*		*Ages 4-8*	
Please rate the importance of rapport building for the success of telepractice sessions.	4.72 (Mean)	*0.60 (SD)*	4.74 (Mean)	*0.48 (SD)*	4.70 (Mean)	*0.67 (SD)*	4.78 (Mean)	*0.57 (SD)*
	1 – Not at all important 2 – Low importance 3 – Neutral 4 – Important 5 – Very important							
Please rate the importance of rapport building in telepractice sessions compared to in-person sessions.	3.56	*0.80*	3.54	*0.73*	3.70	*0.85*	3.74	*0.84*
	1 – Much less important 2 – Less important 3 – Neither less important nor more important 4 – More important 5 – Much more important							
Please rate the necessity of training regarding telepractice rapport building prior to providing telepractice.	3.68	*0.99*	3.58	*0.99*	3.89	*0.99*	3.88	*0.97*
	1 – Not at all necessary 2 – Low necessity 3 – Neutral 4 – Necessary 5 – Very necessary							
Please rate how often you make rapport building a priority during telepractice sessions.	4.29	*1.05*	4.27	*0.98*	4.32	*1.08*	4.39	*1.00*
	1 – Never 2 – Seldom 3 – Sometimes 4 – Frequently 5 – Always							
Please rate the importance of disorder severity regarding its influences on rapport building in telepractice.	3.57	*1.15*	3.59	*1.12*	3.90	*1.17*	3.98	*1.19*
	1 - Not at all Important 2 - Low importance 3 - Neutral 4 - Important 5 - Very important							
Please rate your overall perception of rapport building via telepractice.	4.56	*0.61*	4.56	*0.57*	4.64	*0.58*	4.68	*0.54*
	1 – Not at all important 2 – Low importance 3 – Neutral 4 – Important 5 – Very important							
Age and Disorder Question Averages	4.23	*0.49*	4.05	*0.54*	4.19	*0.42*	4.24	*0.44*
	SSD *Ages 0-3*		**SSD** *Ages 4-8*		**ASD** *Ages 0-3*		**ASD** *Ages 4-8*	

building a priority during telepractice sessions. Outcomes for the first question revealed that in general having training prior to delivering telepractice was between *neutral* and *necessary.* Averages ranged from 3.5-3.6 for those with an SSD, and 3.8 for those with ASD. As for prioritizing rapport building in telepractice sessions, all SLPs surveyed indicated that they *frequently* made rapport building a priority with averages ranging from 4.2-4.3 for both disorder populations.

The last section asked each SLP if disorder severity affected rapport building in telepractice sessions and, in general, their overall perception of rapport building via telepractice. Data for the first question, disorder severity, showed an average of 3.5 for children who have SSD and 3.9 for children who have ASD. This indicates that SLPs believe that disorder severity has a *neutral* to *important* influence on the ability for the SLP to build rapport in telepractice sessions. As for the second question, answers pertaining to SLPs overall perception of rapport building were marked as *important* to *very important* with an overall average of 4.5-4.6 for both disorders.

Table 3 displays the averages for each perception question sectioned off for each disorder and age bracket. The averages from each disorder and age population were then averaged together and displayed at the bottom of the table. The combined averages of each disorder and age bracket were then used for our ANOVA analysis. Results of SLP responses for rapport building perception in telepractice indicated a significant interaction between age and disorder ($F(1, 221) = 16.571$, $p < .001$) was found. For the SSD populations, the ratings for rapport building perception were not significantly different between the two ages ($p = .388$)

In the opposition, for the ASD populations, the ratings for rapport building perception were significantly higher for the 4-8-year-olds than the 0-3-year-olds ($p = .005$). Although no main effect for age was found ($F(1, 221) = .932$, $p = .335$), there was a main effect for disorder (F (1,

221) = .52.495, $p < .001$). For both ages, the ratings for rapport building perception were significantly higher for the ASD populations than the SSD populations.

Rapport Building Strategies Results

Table 4 displays SLP's responses towards different strategies and how those strategies affect the overall ability for one to build rapport within their telepractice sessions. The first questions asked SLPs to note how often they used an e-helper. For both populations, averages ranged from 3.3-4.4 indicating that surveyed SLPs use an e-helper either *sometimes* or *frequently*.

In addition, SLPs were asked about verbal cues and non-verbal cues. Verbal cues consisted of tone of voice, stressing important concepts, and repeating information. Non-verbal cues consisted of eye contact, smiling, nodding, and posture. When analyzing the data for verbal cues, all scores averaged a 4.4, meaning on average SLPs *frequently* used verbal cues to build rapport. As for non-verbal cues, participant scores averaged a 4.6 indicating that they *frequently* or *always* used non-verbal cues to help them build rapport. Respondents were also asked about the effectiveness of an initial in-person session before telepractice sessions begin. Scores for this question averaged 3.6-4.0. Overall, it appears that the average rating for the ASD population was slightly higher than the rating for the SSD population.

Finally, within this section, two questions were asked regarding how often SLPs used rapport building strategies. The first asked about the general use of rapport building strategies within telepractice; the second asked how often they used rapport building strategies within telepractice sessions when compared to in-person sessions. When asked about the general use of rapport building strategies within telepractice sessions, respondents indicated that they *frequently* or *always* used rapport building strategies within their telepractice sessions, resulting in an overall average of 4.5. Regarding their use of rapport building strategies within telepractice sessions

Table 4. Rapport building strategies used by SLPs in in telepractice sessions (*n = 221*)

	Speech Sound Disorders				**Autism Spectrum Disorders**			
	Ages 0-3		*Ages 4-8*		*Ages 0-3*		*Ages 4-8*	
Please rate how often you need help from an e-helper (e.g., parent, grandparent, SLP assistant) to build rapport with clients via telepractice.	4.40 (Mean)	*0.90 (SD)*	3.30 (Mean)	*0.94 (SD)*	4.61 (Mean)	*0.83 (SD)*	3.95 (Mean)	*0.90 (SD)*
			1 – Never 2 – Seldom 3 – Sometimes 4 – Frequently 5 – Always					
Please rate how often you use verbal cues (e.g., tone of voice, stressing important concepts, repeating information, listing information in sequential steps, etc.) to establish rapport in telepractice sessions.	4.44	*0.84*	4.40	*0.77*	4.41	*0.92*	4.41	*0.85*
			1 – Never 2 – Seldom 3 – Sometimes 4 – Frequently 5 – Always					
Please rate how often you use non-verbal cues (e.g., eye contact, smiling, nodding, posture, etc.) to establish rapport in telepractice sessions.	4.62	*0.74*	4.60	*0.71*	4.60	*0.82*	4.61	*0.77*
			1 – Never 2 – Seldom 3 – Sometimes 4 – Frequently 5 – Always					
Overall, please rate how often you use rapport building strategies in telepractice sessions.	4.55	*0.75*	4.52	*0.72*	4.59	*0.79*	4.59	*0.76*
			1 – Never 2 – Seldom 3 – Sometimes 4 – Frequently 5 – Always					
Please rate how often you use rapport building strategies in telepractice sessions compared to in-person sessions.	3.46	*0.75*	3.37	*0.71*	3.55	*0.85*	3.55	*0.80*
		1 – Much less often 2 – Less often 3 – Neither less often nor more often 4 – More often 5 – Much more often						
Please rate how important an initial in-person session is in establishing rapport for telepractice clients.	3.83	*1.15*	3.67	*1.18*	4.04	*1.15*	3.99	*1.17*
		1 - Not at all Important 2 - Low importance 3 - Neutral 4 - Important 5 - Very important						
Age and Disorder Question Averages	4.22	*0.46*	3.98	*0.60*	4.30	*0.43*	4.18	*0.42*
	SSD *Ages 0-3*		**SSD** *Ages 4-8*		**ASD** *Ages 0-3*		**SSD** *Ages 4-8*	

compared to in-person sessions, results displayed averages ranging between 3.3-3.5 implying that rapport building strategies, are used between *neither less often nor more often* and *more important* when compared to in-person sessions.

When looking at table 4, the averages for each strategy question, sectioned off for each disorder and age bracket, are displayed. The averages from each disorder and age population were then averaged together and displayed at the bottom of the table. The combined averages of each disorder and age bracket were then used for our ANOVA analysis. Results of this analysis revealed a significant interaction between age and disorder ($F (1, 221) = 50.582$, $p <. 001$). It should be noted that the 0-3 ages on average were rated higher in rapport building strategy use than the 4-8 ages, yet this difference related to age was less obvious in the ASD populations than in the SSD populations. Additionally, there was a significant main effect for age ($F (1, 221) = 134.762$, $p < .001$). Surveyed SLPs reported using rapport building strategies more frequently for children ages 0-3 than for children ages 4-8 ($p < .001$). Further, a significant main effect for disorder was also found, ($F (1,221) = 44.487$, $p < .001$). Results indicated that SLPs used rapport building strategies more often with the ASD population than with the SSD population ($p <. 001$).

Telepractice Rapport Building Achievement Results

Along with questions about perceptions and strategies, SLP participants were also asked about their personal achievements within their own telepractice sessions (Table 5). Those surveyed were asked to rate the quality and speed of their rapport building within telepractice sessions. They were also asked to rate their speed and quality of their rapport building when compared to in-person sessions.

Overall, when asked to rate the quality of their rapport building on average the majority of participants stated that their ability to build rapport via telepractice was *satisfactory.* When

Table 5. Individual SLP achievement while using telepractice (*n = 221*)

	Speech Sound Disorders				**Autism Spectrum Disorders**			
	Ages 0-3		*Ages 4-8*		*Ages 0-3*		*Ages 4-8*	
Please rate the quality of your rapport building via telepractice sessions.	3.48 (Mean)	*0.79 (SD)*	3.85 (Mean)	*0.81 (SD)*	3.25 (Mean)	*0.92 (SD)*	3.51 (Mean)	*0.86 (SD)*
	1 – Very poor 2 – Poor 3 – Satisfactory 4 – High 5 – Very high							
Please rate the quality of your rapport building via telepractice sessions compared to your in-person sessions.	2.52	*0.74*	2.67	*0.71*	2.37	*0.91*	2.52	*0.83*
	1 – Much lower quality 2 – Lower quality 3 – Same quality 4 – Higher quality 5 – Much higher quality							
Please rate the speed of your rapport building via telepractice sessions.	2.81	*0.86*	3.16	*0.83*	2.49	*0.92*	2.76	*0.84*
	1 – Very slow 2 – Slow 3 – Neutral 4 – Fast 5 – Very fast							
Please rate the speed of your rapport building via telepractice sessions compared to your in-person sessions.	2.30	*0.75*	2.51	*0.71*	2.09	*0.82*	2.23	*0.77*
	1 – Much slower 2 – Slower 3 – Similar 4 – Faster 5 – Much faster							
Age and Disorder Question Averages	2.78	*0.51*	3.05	*0.60*	2.55	*0.50*	2.76	*0.55*
	SSD *Ages 0-3*		**SSD** *Ages 4-8*		**ASD** *Ages 0-3*		**SSD** *Ages 4-8*	

asked to compare the quality of their rapport building in telepractice sessions to in-person sessions, SLPs responded that their rapport building was of lower quality with averages ranging from 2.3-2.6.

Additionally, within this section, SLPs were also asked to report on the speed of their rapport building within telepractice and within telepractice when compared to in-person sessions. Results for the speed of rapport building within telepractice, averages ranged from 2.4-3.1. This indicates that surveyed SLPs believe that their rapport building in telepractice is *slow* or *neutral,* neither fast nor slow. Regarding the reported speed of rapport building within telepractice compared to in-person sessions, participating SLPs stated that their rapport building in telepractice sessions compared to in-person sessions was *slower* with averages ranging from 2.0-2.5 *(*$p < .001$). SLPs reported that rapport building achievement was lower for children within the 0-3 age bracket than children in the 4-8 age bracket ($p <. 001$). Lastly, results indicated that there was a significant main effect for disorder ($F (1, 221) = 91.631$, $p < .001$). Overall rapport building achievement was rated lower in the ASD population than the SSD population ($p < .001$).

IV. DISCUSSION

The present study researched the perceptions SLPs have towards rapport building, the strategies they use, and the achievements of building rapport via telepractice with their clients and their client's families. We implemented a survey model in order to collect responses from SLPs and the responses given were then quantitively calculated and used to answer the following questions: 1) When providing telepractice services to populations with ASD and populations with SSD, how do the rapport building perceptions, strategies SLPs use, and achievements differ between both populations? 2) When providing telepractice services to children ages 0-3 and children ages 4-8, how do the rapport building perceptions, strategies SLP's use, and achievements differ between both age groups?

Perceptions of Rapport Building

There was an interesting interaction between age and population for the perception of rapport building via telepractice. Within the ASD population, it was found that the ratings for rapport building perception were significantly higher for the 4–8-year-olds than the 0–3-year-olds. It should be noted that this difference was not found within the SSD population. This finding contradicted previous predictions as we predicted that SLPs would have increased perceptions regarding rapport building in the 0-3 age bracket than in the 4-8 age bracket. Possible explanations for these findings could be that rapport building between the SLP and the child may not happen. Instead, rapport building was being established between the SLP and the child's caregiver. Therefore, the perceptions of rapport building were lower as rapport building is easier with the child's caregivers than with the child themselves. This explanation was derived from answers in

the strategy section and from research conducted by Akamoglu et. al., (2018). Results within the strategy section indicated that SLPs frequently used an e-helper/aide for children with ASD ages 0-3. Additionally, in Akamoglu et. al., (2018) SLPs noted that they required the use of an e-helper or aide to sit with the child in order to keep them engaged and attentive (Akamoglu et. al. 2018).

Further, participants noted that overall, rapport building was critical for the success of telepractice sessions. These results are similar to findings in Akamoglu (2018) where it is noted that all 15 participants stated that rapport building was critical for the success of telepractice sessions. In addition, when participants were asked about their perceptions of rapport building in telepractice when compared to in-person sessions, results indicated a neutral stance. This means that SLPs perceive rapport building to be important regardless of age or disorder, no matter what service delivery model. These findings also agree with previous research. Distinctively, research conducted by Akamoglu (2018), where it was cited that SLPs valued rapport and the extra workload that accompanied it.

Use of Rapport Building Strategies

Upon reviewing strategy usage in telepractice, a significant interaction was found between population and age. Ratings for the 0-3 age range were higher than the 4-8 age range, and this difference was smaller in the ASD population than in the SSD population. This indicates that the ASD population was more invariant to the influence of age than the SSD population. In other words, participating SLPs appeared to use similar strategies consistently with the ASD population, regardless of younger or older ages, than with the SSD population. These findings disagree with our initial hypothesis. It was originally believed that children with ASD and children ages 0-3 would require more rapport building strategies than children with SSD or children ages 4-8. These results can be explained by looking at the literature. In Naigles (2013), the author reiterates that

ASD affects the way a child interacts with other language and communication partners. For children who have an SSD, joint attention and interactive play are evident, but for children with ASD this is not the case. If SLPs want to build a harmonious and interactive relationship with children who have ASD, they must first target joint attention and social interaction (Naigles, 2013). Since social interaction and joint attention impairments are found in the majority of children with ASD regardless of age, the argument could be made that when SLPs deliver services to children with ASD they are not building rapport first. Instead, they are engaging the client, in hopes of establishing joint attention and social interaction so that meaningful rapport building practices can be shared between the SLP and the child.

Interestingly, when looking at each question separately within this section, participants marked that they used verbal cues, nonverbal cues, and other rapport building strategies *frequently* no matter the disorder or age. Further, when asked to compare their strategy usage in telepractice to in-person sessions, participants indicated neutrality. This means that participants neither used more strategies nor fewer strategies when working with children via telepractice when compared to in-person sessions. These findings do not agree with previous research as one of the cited barriers was that telepractice required more strategy usage, thereby requiring more time from the SLP (Akamoglu et. al., 2018; Anderson et. al., 2015; Tucker, 2012; Pitt et. al., 2018). According to these findings, it appears that SLPs have similar strategy usage despite the child's disorder or age and despite the way services are delivered.

Rapport Building Achievements

Lastly, results for SLP achievements also showed significance. The significant interaction between age and population indicated that the achievements for the ASD population were less invariant to the influence of age, whereas for the SSD population, there were more achievements

among the 4–8-year-olds than the 0–3-year-olds. This suggests that the ASD population in general is a more challenging population rendering lower achievement levels regardless of age, when compared to a population with fewer challenging behaviors. Explanations for these findings could be found when looking at the development of a typically developing child when compared to a child who is not typically developing. Children ages 4-8 begin a critical period for their cognitive development within this age range (Rosselli et. al., 2014). It is at this time the majority of children are being exposed to school settings where the knowledge of the differing components of language are being displayed. Components such as phonological, lexical, semantic, grammatical, and pragmatic language are all introduced (Rosselli, et. al., 2014). For children with ASD this is challenging as many have an increased difficulty in terms of social interaction and joint attention (Naigles, 2013). Without both interaction and attention much of the language exposure being displayed in the environment of a child with ASD is being dismissed as the child is not attending to it. With this in mind, one can surmise that rapport building would be more successful with an older, typically developing child than with a younger child who is not typically developing.

Descriptive results for this section revealed that the quality of SLPs rapport building in telepractice was *satisfactory.* When asked the same question but compared to in-person sessions, ratings fell to *lower quality.* The other two questions within the strategy section asked about the speed of SLPs rapport building both in relation to telepractice and when compared to in-person sessions. Much like quality, the speed of SLPs rapport building was *slow* both in relation to telepractice and in relation to telepractice when compared to in-person sessions. It should be noted that this was not the case for children ages 4-8 who have an SSD. For this question SLPs indicated that their rapport building was neither fast nor slow. Trends regarding quality, follow

current research, particularly research found in Tucker (2012). Participants in Tucker's study disagreed or strongly disagreed that rapport could be established during telepractice sessions just as effectively as that of in-person sessions. This aligns with responses from our study, where participating SLPs stated that the quality of their rapport building was lower than that of in-person sessions. Further, findings in relation to speed of rapport building also followed current research. In Pitt et. al. (2018), respondent's answers indicated that rapport building took longer during telepractice session than it did during in-person sessions. The findings in Pitt's research agree with our research, as study participants in this study indicated that the speed of their rapport building was *slower* in telepractice when compared to in-person sessions.

Implications and Future Directions

Beyond this study, the question of effective rapport building strategies among other telepractice professions should be asked. Due to the nature of special education and special services, many clients with ASD or SSD will not only see a SLP, but will also come into contact with multiple professionals on the special education team. Working along the same guidelines as this research design, a simple survey could be sent to various SPED professionals asking them to give insight on rapport building strategies used in their treatment sessions. With this information, any special services a child with ASD or an SSD may need could be delivered.

Building onto what was previously mentioned, a strong therapeutic alliance is essential when treating children with ASD and SSD. As telepractice rises in popularity and more school services are offered remotely, research should be done on how school-based SLPs build the rapport needed to bridge the gap between the school environment and parent expectations and wants. In other words, studies should research how SLPs working in schools and treating children with ASD and SSD via telepractice build the necessary rapport needed to form a strong therapeutic alliance

between the school and their client's caregivers. With this information, numerous school-based SLPs could gain insightful information on how fellow practitioners implement telepractice within their schools.

Further, more research should be conducted on how SLPs provide telepractice to clients with non-verbal or highly unintelligible speech. Seeing a child's gestures in clinic or deciphering child utterances in the therapy room is a feat in and of itself. A push to gather rapport building methodologies used by SLPs servicing clients with limited verbal abilities is a present need. By using this study as a starting point, the research question for a study researching this could be: When using telepractice to treat clients with ASD and SSD, how do SLPs build rapport among clients, caregivers, and e-helpers when the client is non-verbal or has limited verbal abilities. Although this research may garnish a small sample, using a one-shot case study design may give great insights into how this instruction takes place.

Lastly, research could also be conducted looking at how other influential factors impact telepractice rapport building. Namely, researchers could study the SLP's level of experience with the age and disorder, the SLP's years of experience with telepractice, and the SLP's overall internet fluency. In theory, those who have used telepractice longer should perceive rapport building to be important, be more advanced in their strategy use, and have a greater sense of achievement. Additionally, if one is internet fluent, they should be able to troubleshoot many of the problems that past research studies have concluded as barriers to telepractice adoption. Finally, experience with the age and population should render an SLP who is familiar providing the unique services each age and population requires. All of this, when taken into account, could affect the overall perception of rapport building and strategy use that SLPs employ when giving telepractice services to the differing ages and populations

V. CONCLUSION

The current study researched the perceptions, strategies, and achievements of rapport building via telepractice. It implemented a survey design and recruited 227 participants who had telepractice experience with at least one population, children with ASD or children with SSD, and at least one age range of the two ages, 0-3 or 4-8 years old. Reported data showed that age and population had an influence on rapport building during telepractice implementation. An interesting finding is that SLPs had a higher perception for the older children than the younger children for the ASD population, but did not perceive the two ages differently for the SSD population. This may suggest that rapport building with the younger ASD children were mostly with caregivers, not the children directly. In addition, SLPs reported higher perception, more strategy use, and lower achievements among the ASD population than the SSD population, indicating that the ASD population is more challenging due to the challenging behaviors associated with the disorder. Lastly, SLPs appeared to use more strategies but had lower achievements among the younger children than the older children, indicating that the developmental level during 0-3 years old brings about more demands and challenges for rapport building via telepractice.

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Education

2020 – 2021	M.S., University of Mississippi Major: Communication Sciences and Disorders
2015 – 2019	B.A., Ouachita Baptist University Major: Communication Sciences and Disorders

Employment

2019 – 2020	Preschool Teacher Macon Road Baptist School
2017 – 2019	Special Events Coordinator Ouachita Student Foundation
2015 – 2016	Administrative Assistant Intern Ouachita Baptist University

Research Grants/Recognition

2021	Graduate Research Grant The Graduate Student Council (GSC) seeks grant proposals from currently enrolled graduate students in any discipline each Spring. The GSC Research Fund was established to assist ongoing or future graduate student research at

Previous Research

2018	Ouachita Baptist University | Erin Harrington and Jaret Webb Early Educator's Knowledge of Early Language Development

Presentations

2022	University of Mississippi Department Colloquium | April 2022 Building Rapport via Telepractice: The Perceptions and Strategies Used by Speech-Language Pathologists in Speech-Language Telepractice Sessions
2018	Ouachita Baptist University | Scholar's Day April 2018 Early Educator's Knowledge of Early Language Development

Professional Development/Memberships

2021	National Student Speech-Language Hearing Association

Clinical Experience (Internships)

2020 – 2021 Graduate Student Speech Clinician | University of Mississippi

- Received systematic training on running diagnostic and intervention, writing lesson plans, SOAP notes and progress reports

2016 – 2017 Undergraduate Student Speech Clinician | Ouachita Baptist University

- Crafted specifically tailored lesson plans to support and teach multiple clients all while working alongside university personnel to give efficacious and efficient therapy

Clinical Experience (Externships)

2021 Belton Independent School District | Belton, TX

- Aided in diagnosing and treating preschool children and upper elementary children with articulation disorders, receptive/expressive language disorders, ASD, CP, (etc.)

2022 Baylor Scott and White McLane Children's Hospital | Temple, TX

- Conducted speech-language services to outpatient pediatric clients as well as conducted swallow studies and feeding therapy for clients as young as infants to clients as old as geriatrics