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New Mexican Parents' Perspectives Regarding Public Schools' Communication and Language Services for Their Elementary-Aged Children with Autism Spectrum Disorder During Covid-19

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NEW MEXICAN PARENTS' PERSPECTIVES REGARDING PUBLIC SCHOOLS' COMMUNICATION AND LANGUAGE SERVICES FOR THEIR ELEMENTARY-AGED CHILDREN WITH AUTISM SPECTRUM DISORDER DURING COVID-19

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by

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ABSTRACT

This study explored five New Mexican parents' perceptions of changes to the public school-based communication and language services for their children with autism spectrum disorder (ASD) during the Covid-19 pandemic and the subsequent advantages and disadvantages of these changes. The parents participated in semi-structured interviews between October 2020 and February 2021. All of the parents reported their children's services had eventually gone completely remote, but one had secured some in-person instruction time for her child by the time of her interview. Three parents reported reduction in school-based communication and language services for which they sought to compensate through other means. Qualitative analysis of the interviews identified six disadvantages to remote service delivery and one advantage. Implications for future practice and research are discussed.

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Chapter 1

Introduction

New Mexican Parents' Perspectives Regarding Public Schools' Communication and Language Services for Their Elementary-Aged Children with Autism Spectrum Disorder During Covid-19

Recent estimates suggest that 1 in 54 children in the United States has been diagnosed with autism spectrum disorder (ASD; Maenner et al., 2020). One of the essential diagnostic criteria of this disorder includes deficits in social communication and interactions (American Psychological Association, 2013). In addition to challenges with the social aspects of communication (i.e., pragmatics), children with ASD often have difficulties with other areas of language such as grammar (Durrleman & Delage, 2016) and narrative discourse (Hilvert et al., 2020, Ferretti et al. 2018a) which can contribute to problems with reading comprehension and written expression. Additionally, around 30% of children with ASD may also be considered minimally verbal (Anderson et al., 2007; Tager-Flusberg & Kasari, 2013) and may require augmentative and alternative communication systems to replace or supplement vocal language (Ganz, 2015). Due to such social-communication, language, and learning needs, school-based services such as special education and speech-language pathology (SLP) therapy are, therefore, an essential support for most children with ASD. For instance, a 2018 survey of more than 5,000 parents of children with ASD found that 81% of the children (ages 5 to 9) received SLP services, and many also received social skills training from other professionals (Monz et al., 2019). Special education services for children with ASD often

incorporate instruction in communication and language skills necessary for functional communication, emotional regulation, literacy, and class participation.

Covid-19's Effects on School-based Services

The physical distancing measures taken by public schools in the United States after the onset of the Covid-19 pandemic significantly disrupted speech-language therapy and other communication services for students with disabilities (including those with ASD). By early May 2020, forty-eight states and Washington, DC had shut down schools for the remainder of the academic year (Chavez & Moshtaghian, 2020). At the end of March, the governor of New Mexico, citing public health concerns in the face of the pandemic, announced the closure of all public school buildings and a transition to a learn-at-home model until the end of that school year (New Mexico State Government, 2020).

At the end of March 2020, following the initial closing of schools nationwide, the Simons Powering Autism Research (SPARK) project conducted an online survey of over 8,000 parents with children with ASD from across the United States regarding the impact of the pandemic on their children's services and therapies. Sixty-three percent of the respondents reported severe disruptions in services and therapies and 64% percent reported that speech-language therapy was most disrupted. At this time, only 35% of the respondents reported their children were receiving services remotely, and of these respondents, 57% reported their children were not making satisfactory gains. Two months later, in May 2020, Parents Together conducted a nationwide survey of over 1500 parents and found that, of those whose children had disabilities, about 80% reported there had been a reduction in their

children's Individualized Education Plan (IEP) services and 40% of those parents reported their children were receiving no IEP services at all. Additionally, a May 2020 survey of 501 American superintendents found that 83% or participants reported that their districts were struggling to equitably meet the needs of their special education students (American Association of School Administrators, 2020). In New Mexico, and many other states, while state education officials declared that restarting face-to-face instruction for students with disabilities was a top priority, the 2020 summer surge in Covid-19 cases resulted in schools delaying the resumption of all in-person classes and related service therapies (Mullandmullan, 2020). Thus, school SLPs, special educators, and families of children with ASD nationwide continued to be faced with the challenge of working out how to best meet the communication needs of their students remotely. In addition, many families of children with ASD experienced greater emotional stress due to the disruption of daily routines and financial hardships resulting from the pandemic, making it difficult for many caregivers to provide the same level of support to their children as they did before the pandemic (Tohidast et al., 2020).

For many educators and service providers, the transition to remote services during the pandemic may have been their first experience with tele-practice. At the start of the pandemic, the American Speech-Language-Hearing Association (ASHA) reported seventeen states did not have any licensure laws or regulations for the online delivery of speech-language therapy (2020). Prior to the pandemic, the Speech-Language Pathology, Audiology and Hearing Aid Dispensing Practices Board of New Mexico had encouraged providers in

New Mexico to provide teletherapy in order to expand service options. A state Telehealth Act has been in effect since 1978 and was most recently amended in 2007. It permits the usage of interactive audio, video, and data communication to provide and support health care delivery (Government of New Mexico, 2020).

Despite some established telehealth systems in New Mexico, the speed and scale at which the transition to remote services occurred during the pandemic presented challenges for SLPs and educators nationwide. For instance, a national survey of 280 school-based SLPs in the May of 2020 found that of the 75% who reported that they had been required to transition to teletherapy, 62% reported that they had not been not included in the decision-making and planning process, 56% reported they felt like they had not been given adequate time to prepare, and only 27% strongly felt they had been provided with adequate digital tools to facilitate a smooth transition (Sylvan et al., 2020). Furthermore, 76% of these SLPs reported that they had had to modify IEP service minutes. Additionally, SLPs and other service providers who work with children with ASD likely had additional challenges in helping children adjust to teletherapy since children with ASD often insist on sameness (APA, 2013) and experience anxiety when routines are changed (Ozsivadjian, 2012).

Research on Tele-practice for Children with ASD Prior to the Pandemic

Prior to the pandemic, there was limited research examining the effectiveness of SLP tele-practice with children with ASD. A 2018 systematic literature review reported that 14 studies had examined tele-assessment or tele-intervention with people with ASD (Sutherland et al., 2018). While overall findings across studies indicated that the outcomes of teletherapy

sessions were equivalent to in-person sessions and better than groups without telehealth sessions, only six of the fourteen studies reviewed included school-aged participants (Sutherland et al., 2018). Since the publication of that review, some studies have explored this topic. For example, a study of children with ASD (ages 0 to 10 years) found that there were no significant differences in the outcomes of a parent-mediated intervention when it was delivered online versus in-person, but the study had only 30 participants (Hao et al., 2020). In another study involving a random control trial with parents of children with ASD in Italy, parents who receiving training and real-time home coaching in implementing Applied Behavior Analysis (a common approach used by a broad range of ASD interventionists) via videoconferencing had similar positive outcomes as those who received the training and coaching in person (Mariano et al., 2020). However, cultural and state intervention differences may make it difficult to replicate the results in the United States. Based on these prior findings, while teletherapy shows promise for improving outcomes for children with ASD, it is unclear if therapy services provided by clinicians who had to quickly transition to telehealth during the pandemic would show equally effective outcomes.

Research on Virtual Schooling for Children with Disabilities Prior to the Pandemic

Before the pandemic, the enrolment of special education students in virtual schools was increasing significantly. During the 2016 to 2017 school year, full-time virtual schools in 34 states, including New Mexico, enrolled over 295,000 students, and their proportion of students with disabilities approximated the national average. However, little is known about the types and severity levels of virtual students' disabilities, or about how IEP services have

been delivered at these schools (Morin et al., 2018). Additionally, Miron et al. (2018) reported that there was evidence indicating that students enrolled in full-time virtual schools were underperforming compared to those in traditional schools, and that virtual schools tended to spend less money on special education services.

A systematic review of research regarding online learning and students with any kind of disability also concluded that there was not sufficient evidence to be able to draw any conclusion about the achievement of students with disabilities who participated in an aspect of the online learning continuum which included full-time virtual schooling (Rice & Dykman, 2016). Research also suggests that special education teachers might be limited in their knowledge of remote learning. For instance, Smith et al.'s 2016 nationwide survey of 48 special education faculty members found that a majority had not incorporated instruction on instructional design and assessment for online learning into their teacher preparation courses. Additionally, Beck and Beasley (2021) conducted 19 focus groups with 92 online teachers and found that the majority of the teachers' comments indicated only a novice level of understanding about how to differentiate curriculum to meet the diverse needs of students. These results make it likely that pre-Covid, most virtual schools were not well-prepared to address the needs of students with complex communication and language needs. Thus, it is necessary to understand whether schools that had to transition during the pandemic were able to meet the needs of children with ASD.

Parent Perspectives on Tele-practice Services Before the Pandemic

Determining the perspectives of parents, who play a key role in successful implementation of IEP services for their children, may enhance understanding of the overall effectiveness and social validity of tele-practice services. For instance, in the field of mental health, parent satisfaction with interventions has been shown to affect follow-through with treatment and outcomes for children (Graf et al., 2014; MacKenzie et al., 2004). A small number of studies prior to the pandemic used qualitative methods to explore the benefits and challenges of tele-practice for families of children with ASD.

Using case study methodology, Hines et al. (2019) found that four families of children with ASD (ages 5 to 8) who lived in remote and rural Australia reported positive parental outcomes of speech-language teletherapy (Hines et al., 2019). Although the parents described needing time to adjust to and accept the teletherapy approach, they reported several benefits of tele-practice. Specifically, the parents reported they were pleased with their children's progress, appreciated the timeliness and consistency the teletherapy provided, and felt that the teletherapy helped them learn how to better help their children. None reported any issues with technology as being insurmountable. The researchers noted, however, that the practitioners' skills at rapport building and communicating with the families appeared to play a critical role in the success of the treatments. A related study by Ashburner et al. (2016) used structured interviews to determine how four parents of children with ASD in rural Australia perceived remote versus face-to-face delivery of early intervention programs for children with ASD. The authors applied a generic qualitative thematic analysis approach using some a priori codes such as advantages and disadvantages of remote services. Parent

participants reported advantages related to the convenience of remote services. For instance, parents noted that they saved time not traveling to appointments, there was more flexibility with scheduling, and they were able to meet with all members of their children's multidisciplinary team more easily. They also felt they benefited from the coaching the providers gave them while online. Disadvantages of remote services were, however, also reported. For example, parents suggested that technical difficulties were often a problem, and they felt that they would have had better rapport with their therapists if they had been able to meet them face-to-face to first. The parents felt that in-person therapy enables everyone to get a better "overall picture" of each other.

In another related study, focus groups were conducted with 37 English-speaking and Spanish-speaking parents of children (ages 0-9) who had received early intervention services (Yang et al., 2020). Ten participants were parents of children with ASD. Participants did not have prior experience receiving teletherapy services for their children but were presented with information about tele-practice and asked about their attitudes towards this approach. Participants, who were living in the American Midwest, expressed both concerns and potential advantages of telehealth. While parents expressed a preference for in-person visits in comparison to telehealth and viewed telehealth as a supplement rather than a replacement for in-person services, they also noted that telehealth services were better than no services. Parents also expressed concerns about their ability to access necessary electronic devices, high speech internet and unlimited data and to provide learning and therapeutic materials, as well as doubts about their ability to provide assistance during their children's sessions (e.g.,

how to prompt their children or how to manage their children's attention and behavior). Potential advantages suggested by parents included increasing family engagement and therapist knowledge of families and decreasing logistical barriers to service access. Given the small scales of the studies, geographical differences, and the fact that these services were not the result of a rapid transition during a pandemic, it is unclear if results would apply to parents in the United States during Covid-19.

Research on Virtual Learning and Tele-practice Services During the Pandemic

In the past year, a handful of studies that have examined the effectiveness of remote communication and language services for students with disabilities, and the perspectives of parents of children with ASD regarding remote services during the pandemic have been published. For example, Lam et al. (2021) surveyed 84 parents of students in Grades 1 through 7 in Hong Kong who received speech-language services via teletherapy while their schools were shut down. Sixty-eight percent of their children were identified as having ASD, but no information about the range of the severity of their children's symptoms was provided. Parents reported that they found the teletherapy to be effective; however, they still demonstrated a significant preference for in-person therapy and a belief that in-person therapy is more effective than teletherapy. Given the survey's closed choice format, the reasons behind the parents' perspectives could not be identified. It is also possible, given the cultural differences between Hong Kong and the United States, that American parents' attitudes about teletherapy may differ.

Another recent study by Tomaino et al. (2020) tracked the progress of 40 elementary and secondary school students with severe special needs after their private school switched to full-time remote learning via Zoom shortly after the onset of the pandemic until the end of the school year. The students, many of whom had ASD, were public school students with minimal or no verbal functional communication who had severely aggressive behaviors that necessitated their placement in a specialized primary and secondary private school contracted by their school district in California. Seventy-five percent of the students in the study did not demonstrate any regression in the skills targeted in their IEPs. This outcome suggests that virtual schooling can be a successful alternative for students with complex communication needs especially given the fact that the school staff had little research-based evidence to guide them and had had to make the transition quickly. On the other hand, the study also found that, like the parents in Lam et al.'s (2020) study, most of the students' parents perceived remote learning as less effective. They expressed concerns about the lack of social interaction and reported that their children's challenging behaviors increased after the onset of Covid. The majority also reported that their children needed intensive support from them to be able to participate in their classes.

Parenteau et al. (2020) conducted semi-structured phone interviews to examine the perspectives of 15 parents of children with ASD, aged 11-21, who attended a private school in California, regarding the impact of Covid-19 on their children. The parents shared concerns about their children's e-learning. Some reported fears that their children were "missing out" on learning during important developmental windows. Many reported a

significant decrease in opportunities for social interactions. Other problems with e-learning that they identified included an initial increase in challenging behaviors as some children had difficulty adjusting to the new instructional medium, a decrease in services due to the child's difficulty with attending to the screen, difficulties communicating in virtual group sessions (talking over each other), the lack of hands-on learning, and a sense that e-learning cannot replace in-person school. Parents also reported that their children often needed intensive support, and it was difficult for some parents to provide the time needed, often because of work demands.

The Need for Continued Research in Virtual Learning and Tele-practice

Many school districts in New Mexico did not return to in-person learning until April 5, 2021, and, even then, some schools found that they had to revert to remote services after outbreaks of Covid-19 cases or a low number of students or staff due to other pandemic concerns (New Mexico Public Education Department, 2021). On May 9, 2021, an article in the *New York Times* reported that while 88% of elementary and middle schools had reopened nationwide, more students were continuing with remote learning than attending in-person, including a majority of Hispanic students and other students of color. Moreover, the article claimed many schools currently are contemplating providing families the option of sending their children back to in-person classes or continuing with remote learning for the upcoming 2021-2022 school year (Goldstein, 2021). This, and the significant increase in students with special needs enrolling online schools that was occurring before the pandemic struck (Morin

et al., 2018), means that the need for SLPs and special educators to be able to provide effective communication and language services virtually is likely to persist.

There also is a possibility that some families will have found that their children were more responsive to teletherapy than in-person therapy and education and wish to continue remote services for that reason. Since 90% of American students with ASD attend public schools (The United States Department of Education, 2019), research on the effectiveness of special education services delivered online for students with ASD is critical to inform future practice and help ensure students with ASD are able to receive free and appropriate educations (FAPE) in virtual settings. More qualitative work examining parental perspectives on remote services for children with ASD in public schools during Covid-19 would be beneficial. In particular, more information is needed regarding children with ASD in primary grades, who have limited technological and literacy skills and, often, shorter attention spans which necessitate more oral instruction and direct support from SLPs, teachers, and caregivers. Although survey methods could be used to provide information on parents' views of the communication and language services of their elementary school-aged children with ASD in public schools during the pandemic, a qualitative study would allow for a richer understanding of successes and challenges of tele-practice that might not be identified in a close-ended survey. A qualitative study could provide recommendations for improving family-centered practices and future distance learning and teletherapy and suggest successes and challenges that could further explored in additional qualitative or survey studies.

Study Purpose

The purpose of this study was to (a) describe parental perceptions regarding how public schools in New Mexico provided communication/language services for elementary-aged children with ASD have changed since the pandemic, and
(b) describe parental perceived advantages and disadvantages of services during the pandemic.

Chapter 2

Method

Participants

Previous structured interview studies involving family perspectives of teletherapy services for children with ASD have included a minimum of four parents (Ashburner et al., 2016; Hines et al., 2019). Five parents (four mothers and one father) participated in this study. Their children's grade levels at the time of their interviews ranged from kindergarten through third grade. Three of the parents identified themselves as Caucasian, and two as identified themselves as Hispanic. According to parent report using the Childhood Autism Rating Scale -- Second Edition (CARS-2; Schopler et al., 2010), one child had severe symptoms of ASD, and the other four had mild-to-moderate symptoms. The child with severe symptoms and two of the other children were in self-contained classes (consisting of only students with IEPs) while parents of the other two children reported that they were mostly mainstreamed (placed in general education classes). All the children received SLP services. The child with severe symptoms was a girl; the other four were boys. All five parents were from the Albuquerque metropolitan area. Characteristics of the participants and their children are presented below in Table 1.

Table 1

Characteristics of the Participants and Their Children

	Parent Demographics	Child Demographics	Child CARS-2 Score and Parent's Report of Child's Communication	Classroom Placement
1	Mother Caucasian Some college	First Grade 7-years-old Caucasian Female	42 (Severe) Uses AAC Minimally vocal	Self-contained special education classroom; SLP services
2	Mother Hispanic Some college	Kindergarten 6-years-old Hispanic Male	32.5 (Mild-moderate) Uses AAC Vocal	Special educator and general educator co-taught class; SLP services
3	Mother Caucasian Some college	Kindergarten 6-years-old Caucasian Male	36 (Mild-moderate) Vocal	Mostly mainstreamed with pull-out SLP services
4	Father Caucasian Graduate degree	3rd grade 9-years-old Caucasian Male	36 (Mild-moderate) Uses AAC Vocal	Self-contained special education classroom; SLP services
5	Mother Hispanic Associate degree	2nd grade 7-years-old Hispanic Male	31.5 (Mild-moderate) Vocal	Mostly self-contained with inclusion for specials; SLP services

Note. AAC= Augmentative and Alternative Communication.

Inclusion Criteria, Recruitment, Screening, and Informed Consent

Participants had to be the parent or legal guardian of an elementary-aged child with ASD who had been enrolled to receive public school special education services in NM prior to and during the Covid-19 pandemic. Participants also had to self-report that their child had communication needs. Additionally, participants had to be able to access Zoom (e.g., with internet or cell service on a mobile device or computer) and be proficient English speakers.

Two of the five participants were initially recruited following their participation in a larger survey regarding the school-based services of children with ASD during Covid-19. E-flyers with links to the survey were posted to social media sites and/or emailed to organizations known to be of interest to families of children with ASD and professionals who work with children with ASD in New Mexico. Survey questions were used to (a)screen out participants who did not meet inclusion criteria to participate in the current study, (b) provide information on participant demographics (e.g., age and communication needs of the child, participant ethnicity), and (c) provide information regarding the types of school-based communication and language services the child was receiving. Survey participants received a $10 Amazon code and were asked to indicate whether they are interested in completing a follow-up interview.

All survey participants who met study criteria and indicated an interest in the follow-up interview study were contacted via email to set up a consent meeting. Only two potential participants responded to email requests. Due to the low number of interested participants recruited via the larger survey, a second round of recruitment was conducted. A new flyer

that directly described the current (interview) study along with a description of incentives ($50 Amazon gift card code) was redistributed via the previously mentioned social media sites and organizations, and interested participants were asked to contact the researcher directly. The researcher then sent the initial survey link to potential participants who inquired about the study. Five more potential participants contacted the researcher following this round of recruitment. Three of the five met criteria based on the survey. (The children of two other interested parents were not elementary school students.) Potential participants who met criteria were sent a consent form via email, which they were asked to read prior to a consent meeting. During the consent meeting (conducted via Zoom) the researcher reviewed all sections of the form and participants were given the opportunity to ask questions about each section. After all questions were answered, interested participants were asked to verbally affirm their consent. After consenting, the parents also completed the CARS-2 (Schopler et al., 2010) to provide an estimate of their child's autism severity level. CARS-2 severity classifications correlate with other measures (Reszka et al., 2014).

Research Design

The study was approved by the University of New Mexico's Institutional Review Board. This study used a semi-structured interview approach which involves using a small set of predetermined, open-ended questions to guide the interview process and generating follow-up questions to participants' responses in order clarify aspects of their responses or to elicit more elaboration (DiCicco & Crabtree, 2006). The interviewers use the participants' own wording as much as possible when generating the follow-up questions (DiCicco &

Crabtree, 2006). In this study participants individually participated in semi-structured interviews, and their transcripts were recorded and analyzed using a generic qualitative analysis approach (similar to Ashburner et al, 2016) for extracting sub-themes from across responses from different interviews.

Research Team and Reflexivity

The primary investigator who conducted all interviews and completed the primary qualitative coding was a graduate student in speech-language pathology. She has a M.Ed. in Special Education and ten years of experience working with children with ASD and their parents. An assistant professor in the Speech and Hearing Sciences Department, who has extensive experience working with children with ASD and their families assisted in the process of creating and refining codes. A post-baccalaureate student volunteer in speech and hearing sciences (with a degree in English) assisted with editing transcriptions and inter-rater agreement.

Both the primary investigator and the assistant professor were former special education teachers. While the primary investigator's knowledge of special education may have impacted the type of follow up questions she asked during the interviews, she used the participants' own words when creating clarifying questions to limit bias. Additionally, the assistant professor had previously worked with two of the participating parents on intervention-based research studies. To prevent bias regarding the interpretation of quotes, all identifying information was removed from transcripts prior to coding.

Procedures

Interviews

All interviews were conducted by the primary investigator. Interview questions were developed by the primary investigator (in consultation with thesis committee members) and based upon current news reports regarding Covid-19, and prior related research (e.g., Ashburner et al., 2016). The interviewer conducted recorded interviews (about 45 minutes to 1 hour in length) with five participants using a Zoom Pro Account from a secure home office with no other persons present. All interviews were conducted between October 2020 and February 2021. The audio, video, and text-transcription files were recorded and stored in password protected Zoom cloud account. The interviewer asked the following three primary questions.

1. Please describe how your child's communication or language services have changed since the onset of the Covid-19 pandemic.
2. Describe any useful aspects of how your child is currently receiving communication or language services/ compared to how your child was receiving services prior to Covid-19.
3. Describe any negative aspects of how your child is currently receiving communication or language services compared to how your child was receiving services prior to Covid-19.

If there was any need for clarification or follow-up questions, the interviewer used participants' own words when asking the questions. Zoom transcriptions (with any

identifying information removed) and with interview videos were uploaded to the secure encrypted file sharing program that only research team members could access.

Data Analysis

The primary investigator transcribed the recorded interviewers with the assistance of Zoom's automatic transcription tool. The post-baccalaureate student checked the transcriptions for accuracy and helped edit and reformat the verbatim transcriptions to make them more easily readable (e.g., eliminated fillers such as *um* and repeated words that did not change meaning, reformatted responses into paragraphs).

The primary investigator and the assistant professor then analyzed the interviews by using a thematic analysis approach similar to Ashburner et al. (2016). Thematic analysis can be used to gain deeper understanding of the attitudes and experiences of participants regarding the research topic of interest in order to better inform the development of future service models and policies (Ashburner et al. 2016; Bryman, 2008). The researchers modeled their approach after the matrix-based thematic framework suggested by Ritchie and Lewis (2003). This method involves reading over the interview transcripts to identify common themes and subthemes, assigning codes to themes and subthemes, applying the codes to transcript statements, and sorting the coded information into a table (Ritchie & Lewis, 2003). The two researchers separately engaged in several read-throughs of the transcripts to gain an overall understanding of responses and took notes on possible emergent subthemes for each of these primary categories. They applied the following a priori broad level themes based on the three overarching questions asked in each interview: (a) changes to services, (b)

advantages of current services, and (c) negative aspects of current services. They then each developed a set of preliminary descriptive sub-themes (e.g., “regression in skills" or “parental advocacy”) based upon their readings and notes. The researchers then compared their lists of preliminary sub-themes to refine, expand and collapse them until an agreed upon list of sub-themes was created. They then created a list of codes for the sub-themes. The student investigator then reviewed each participants’ responses to each question and labeled each response with all applicable developed codes (i.e., chunked direct quotations into phrases or statements related to specific codes). She then sorted each participants’ responses by theme and sub-theme in a table format.

Reliability

In order to test for reliability, the student investigator randomly selected two direct quotations assigned under each code, scrambled all of the quotations, and asked the student volunteer to independently assign them the codes that had been developed by the primary investigator and professor. Initial inter-rater agreement was 85%. Discrepancies were then discussed until 100% agreement was reached. For example, the second rater initially coded a parent’s account of gathering study materials from her child’s teacher and then tutoring her child nightly as advocacy, while the primary rater had coded it as a compensatory measure to make up for reduced services. Upon discussion the raters agreed that within the context of this study, parental advocacy meant working toward acquiring more school-based services. The second rater agreed that the parent tutoring her child for a couple hours every night then should be coded as a compensatory measure.

Additionally, to help strengthen the reliability and validity of the study, each participant was invited to examine the sub-themes identified for their transcript, to examine the direct quotes from their own interview transcripts that helped determine the sub-themes, and to provide feedback as to whether they agree with researchers' preliminary conclusions. They were asked to rate their degree of agreement with a 5-point Likert Scale (i.e., with 1 being "strongly disagree", 2 being "disagree", 3 being "neutral", 4 being "agree", and 5 being "strongly agree". They were also asked to provide written comments to help explain or clarify their level of agreement. Two participants provided feedback. Both scored the preliminary conclusions for each of their direct quotations with a 5 "strongly agree". Neither felt the need to add any commentary.

Chapter 3

Results

The qualitative content analysis revealed subthemes for each of the three overarching themes which included changes to communication/language services since the onset of Covid-19, useful aspects of these changes, and negative aspects of these changes. A list of sample quotes for each theme and subtheme is provided in the Appendix.

Changes Since the Onset of Covid-19

Three primary subthemes for this larger theme included: (a) move to remote classes and therapy services, (b) reduction in minutes for communication and language services, (c) attempts to compensate for reduced services with non-school-based services.

Move to Remote Classes and Therapy Services

All five parents reported that their children's school services had moved completely online once schools resumed operation after temporary closures due to the onset of Covid-19 ("As for his teachers and in-school SLP and other services, the only thing that's really changed is it's all gone virtual." "Everything's online."). One parent reported that her child's school had resumed in-person services for all students for a few weeks, but had switched back to fully remote services after a surge in Covid-19 cases within New Mexico. Participant 1, the parent of the child with severe symptoms of ASD, reported that her daughter had begun to receive hybrid services (after she advocated for them) in October.

Reduction in Minutes for Communication and Language Services

Three participants reported their children were receiving fewer minutes of social communication/language-related instruction and treatment than what they received before the onset of Covid-19. Participants 1 and 3 reported that their children had received no SLP services from the time school buildings closed in March 2020 until school resumed in the fall. Participant 3 reported, “Last year, being in [our school district] like we received no services for that last few months of school. I mean no services.” Participant 1, whose child has severe ASD, noted that her child’s SLP did email her three times over that period to check in about how she was doing, but she also reported that she felt like any attempts of her daughter's special education teacher to facilitate her child’s communication also ended. Participant 1 also reported a drastic reduction in instructional hours that continued when school resumed in the fall. She estimated that after school resumed her child received only 30 minutes of daily instruction online with her class. The previous year, she reported, her daughter had attended school full-time, five days a week. She also reported that, as of October 2020, her child had not been receiving any individual instruction or therapy, and the school had never sent any materials home. Participant 1 added it was only after she worked her way up the district ladder to the superintendent that she had finally been able to obtain some in-person instruction (3.5 hours a day, two days a week, at a different school than her daughter’s). She also reported that educational assistants were present in the on-site classroom, but the special education teacher provided instructional services remotely. Participant 5 reported, in February 2021, that her child’s self-contained class had had no special education teacher for approximately two months. During that time, she reported, the

class was run by educational assistants who were using general education materials that were too advanced for her son. Participants 1 and 5 reported that the schools had discontinued individual SLP sessions and placed their children in groups that met once a week. Participant 5 reported that her child's school had combined SLP and occupational therapy minutes into one session for 45 minutes a week. She noted that it was only offered at a time when she and her husband, who both worked outside of the home, were not able to be present to support her child, and she felt her son was unable to engage in sessions independently.

Attempts to Compensate for Reduced Services with Non-School-Based Services

The same three parents who reported a reduction in services reported that they had attempted to compensate for the reduced IEP service minutes through non-school means. Participant 5 reported she had started to tutor her child herself for approximately two hours a night after she returned home from work in an attempt to help her child regain lost literacy skills and maintain the improvements he had made in his articulation and expressive language skills the previous year. She added that he had rarely had homework before Covid-19. Participant 3 reported increasing private therapy services. Participant 1 reported that she doubled the amount of private applied behavioral analysis (ABA) services (a common early intervention for children with ASD) her child was receiving.

Useful Aspects of Remote Learning and Therapeutic Services

There was only one useful aspect of remote learning that was identified by at least three parents: increased transparency of school-based interventions. These parents reported that remote learning and therapy enabled them to have a better understanding of the

interventions school professionals were using with their children, and this transparency helped them better support their children. Participant 2 reported, "**[**Last year] I was not able to be in the classroom with them. They considered that more as a distraction…. It's kind of like when we were doing ABA at home, you're actually able to see all the progress and see what they're learning and what the goals are. That's been kind of a positive for me because when they talk about his emotional stuff [during social and emotional education activities] …. They give me ideas on how to help him calm down and how to help him self-regulate. Those have been very, very helpful with him." Participant 4 liked seeing how his son's work had been individualized and modified to match his son's learning pace and felt like he was able to work as a team with the teacher to help his child to "stay focused and on track." Participant 5 described how the semester packets her son's SLP had created and arranged for her to pick up helped her better understand what the SLP had been working on with her son.

Disadvantages to Remote Learning and Therapy Services

There were six subthemes related to disadvantages. These included: (a) parents having to advocate for services, (b) lack of peer interaction, (c) a belief that in-person schooling would be better, (d) regression in communication and language skills, (e) difficulties communicating online during synchronous learning, and (f) initial increase in challenging behaviors upon transition to remote services.

Parents Having to Advocate for Services

Four of the participants reported they had had to take extra measures to ensure the needs of their children were adequately met. Participant 1 described the lengthy process by which

she acquired more instructional and service minutes and some in-person learning for her child with severe ASD symptoms, which involved working her way up her school district's ladder. She reported:

> "I had to fight to get her a placement [at another school in the district that is providing in-person instruction].… They told me, 'Well, this is what the school board decided. So that's what we have to do.' And then I reminded them there's federal laws and that goes above the school board....so I went up to the superintendent and that's when things started to finally happen."

Participant 1 also reported having had to educate her child's new SLP that her child was minimally vocal and therefore could not independently answer questions online without using her speech-generating device. She also reported she had to make multiple requests to meet with her child's SLP to discuss reinstating her child's individual speech therapy minutes.

Participant 3 described having to call an emergency IEP meeting because she was concerned that he was not receiving the services he was supposed to because he couldn't sit and focus during remote instruction and therapy and she felt that the school staff did not "see" the challenges her son was having. Participant 4 described how his child had been initially mainstreamed into a general education class, but, after seeing how challenging it was for the classroom teacher to manage class discussions and activities online, he told his child's special education teacher that mainstreaming was not going to work for his child. He also reported that "there was a whole hullabaloo of having to do transfer paperwork" and that he

had “gotten very good at wording transfer papers.” Finally, Participant 5 described having to advocate for her son’s class after a new teacher (the school’s former science and technology teacher) was hired. She reported that initially the new teacher “sat back” and was “just kind of letting the educational assistants (EAs) do what they were doing [to a point] where the parents were all confused,” so she decided to complain and explain how the students were not working at the correct levels for their development. She added, “I don't think anybody was explaining that to her … she kind of cut it back and is now going back to where they're learning.”

Lack of Peer Interaction

Four of the parents expressed concerns regarding their children missing out on peer interaction. Participants 2 and 5 spoke about how their children had just begun to show interest in playing with their peers their age before Covid-19 began and regretted that the pandemic had disrupted these trajectories. Participant 2 also noted, a “huge negative [has been] that [my child’s] not getting those instances to practice his language, you know, with other kids in a social situation with them because right now. Like, I think he would comment more on his peer stuff if they were in person. Whereas, like right now they're having a prompt him to do that.” Participant 3 noted, “There's no way [for my child] to actually interact with his peers when he's in a small group. When you're on Google classroom and Google meet you have to mute yourself so you're not talking over each other so it's not cutting people out, so there's no back-and-forth communication happening.” Participant 4 felt

that not having in-person recess was interfering with his child's social skills development and formation of friendships.

A Belief that In-Person Schooling Would Be Better

Four participants (including participants 2 and 4 who felt that their children were making satisfactory progress) expressed a belief that in-school learning would be better for their child, due to weaknesses in the virtual medium. Such weaknesses included the inability of interventionists to get the whole picture of their child, a lack of activities for hands-on learners, a lack of peer modeling, and a child's discomfort of mixing school and home environments. For instance, Participant 2 explained,

> "[My child's very much a hands on, kiddo. And so, he does so much better in an in-person situation…. Like I know which is so crazy, because we have seen progress, but I know with him we could be seeing a whole lot more. He could be learning so much more right now if we were in person…. He absolutely needs that environment, and he compartmentalizes, so school is school, and home is home, and he very much does not want to be doing school things at home."

Participant 2 also felt her child had benefited from peer modeling before Covid-19. She said, for example, "It's just harder to do [online testing] at home, whereas … at the school… he basically like flew through it because he was in an environment where like it made sense. Everybody is sitting and doing it." Participant 1 also felt that her child does better in-person than online. She described how her daughter had struggled to engage when

her private speech therapy temporarily went remote because of Covid-19 but then immediately became more responsive when it reverted to in-person. She felt so strongly that her child needed in-person instruction that she approached her district's superintendent to advocate for an on-site placement for her.

Participants 3 and 4 both discussed how they felt that there were things school interventionists missed when they did not spend time in-person with their children. Participant 3 believed her child's SLP and teachers missed opportunities to hear his stuttering and were not about to see how challenging his behaviors had become off screen. She also questioned the effectiveness of conducting speech-language evaluations remotely:

> "[My child's school SLP] attempted to do an evaluation for us …She wasn't getting an accurate depiction because it was back and forth, and the computer was cutting out and talking over. And then the interaction that she needed to see with teachers and peers can't happen at all. I don't know how they're doing any type of evaluation over the computer."

Participant 4 remarked, "It's really hard to kind of get the best measure of what kids are able to do when you just see [them] in this structured online environment."

Regression in Communication and Language Skills

The same three participants who reported there was a reduction in their children's IEP service minutes for communication or language-related skills, also reported their children demonstrated regression in skills in the areas of communication and language. Participant 3 reported she had witnessed a decline in her child's emotional awareness skills. Participant 1

reported that her child, who had been minimally vocal, had stopped using any vocal speech: "I can't remember the last time I've heard actual words…. I would say consistently she had like 12 words now she has nothing." Participant 3 reported that her child had lost significant ground in his reading skills which included both decoding and comprehension skills. She reported that he had ended the year before at grade level in reading but "now [in January of second grade] we just had his IEP like maybe a month ago... And they told us his math is right where it's supposed to be, but his reading is at a kindergarten or first grade."

Difficulties Communicating Online During Synchronous Learning

Three participants reported that their children had difficulties communicating via their schools' videoconferencing platforms (e.g., Zoom or Google Chat) during synchronous class and group times. Participant 2 and Participant 3, whose children were mainstreamed in kindergarten classes, also reported that their children were initially overwhelmed by communicating on screen. Participant 2 commented, "It's 20 kindergarteners who don't know how to mute themselves. …And I think for him, that was just way too overwhelming. You know, that's a lot of visual going on. That's a lot of sound going on." Participants also reported problems with lag-time which disrupted conversational flow and problems with volume control. Participant 2 reported that her child's teachers sometimes interpreted his longer processing time when responding to questions, as him either not being engaged or as a technical glitch. Participants 2 and 5 also reported that their children were soft-spoken and, so, were talked over at times because others had difficulty hearing them. Participant 5 explained that her child, who is in a self-contained class, is "so quiet and timid that the other

kids kind of overbear him so they can't really hear [him] … [other parents] should be muting their kids so my kid can be heard, but it's just you know they're all trying to have social communication time." Participant 3 reported that staff from her child's school had been so tightly controlling students' turn-taking to prevent them from talking over each other during discussions in class and in small groups that they had prevented opportunities for social interaction for her child and other students.

Initial Increase in Challenging Behaviors During Transition

Three participants reported that their children initially exhibited increases in challenging behaviors at the start of remote learning, but that they felt subsequent interventions appeared to help diminish these behaviors. Participant 1 described how her daughter had "a lot of physical aggression" toward her during virtual classes, which "she never had [done] before". She added, it was "a struggle just to get her to sit", but she'd noted that after her daughter started going to school in-person, two half days a week, "the physical aggressions during the virtual learning [decreased] significantly". Participant 2 reported her child is "much better behaved when he's out in the world… He's a rule follower. So, like when he's in the classroom, he naturally …will just follow along with what everything else is doing because that's what's in his head." She felt her child had a difficult time adjusting to the more relaxed home environment where things could be less predictable, and he butted heads with his sibling. Fortunately, she added, they had been able to work through those challenges over time. Participant 3 reported that the previous year, pre-Covid, her child had been "a model student" but, initially, after classes began being remote, he was so

“overstimulated by the computer screen” that he was unable to sit through class sessions which “led to behavioral issues." Eventually, she and school staff were able to create flexibility in his schedule, so that if he was having a rough day, his sessions with his SLP or special education teacher could be rescheduled to later in the week. She also reported she was able to help create a more dedicated workspace for his remote learning that was freer from distractions. In his case, she thought, there was more at home that was distracting for him, than at school.

Chapter 4

Discussion

The findings of this study provide insight into how parents of elementary aged children with ASD perceived school-based communication and language interventions during the Covid-19 pandemic. Parents noted there were significant changes to the delivery of services, and while increased transparency was identified as one potential benefit of remote services, overall parents indicated that there were far more disadvantages to this approach. Some of these findings parallel results from previous studies examining parental perspectives of virtual services.

With regard to the changes in the delivery of their children's services, all five participants in this study reported that their children's school classes and IEP services transitioned from in-person to fully remote learning. One participant, whose child has severe symptoms of ASD, was able to transition her child to a hybrid learning model (a mix of in-person and remote instruction) in October 2020. These findings are consistent with news and public education administrative reports indicating that most students in the US transitioned to fully remote learning during the pandemic (Chavez & Moshtaghian, 2020; New Mexican State Government, 2020). Three parents also reported a reduction in their children's services (with two reporting that there had been a brief discontinuation of SLP services altogether), a problem that was also voiced by a majority of participants in the Spring 2020 surveys by SPARK and Parents Together. Interestingly, the parent whose child has severe symptoms of ASD also reported a significantly greater reduction in services than the others. Tomaino et al.

(2020) also suggested that students with severe and profound needs may have been receiving very limited services from public schools during the pandemic. To try to compensate for lost school services, participants in the current study sought out non-school measures. Similarly, Kurth et al. (2020) found that many parents and other primary caregivers of elementary-aged children with ASD reported that, whenever they were unable to obtain adequate services, they looked for services elsewhere (often paying out of pocket).

In terms of parents' perceived advantages and disadvantages of the changes to services during Covid-19, collectively, only one advantage stood out in our analysis. The majority of the participants felt that remote learning had helped make school-based interventions more transparent. They appreciated having a deepened understanding of the interventions and felt that this knowledge better enabled them to help support their children's progress. This perspective echoed the sentiments of the parents of children with ASD in the qualitative studies by Hines et al. (2019) and Ashburner et al. (2016).

While parents did not identify a variety of advantages of services delivered during Covid-19, quantitative analysis identified six subthemes related to disadvantages. First, three parents reported observing regression in their children's skills. These reports of regression do not support prior research indicating that the outcomes of remote services can compare favorably to in-person services (Sutherland et al., 2018; Lam et al., 2021). However, these same three participants were also the ones who reported reductions in services, and they did not explicitly discuss whether they thought their children's regression was more due to a reduction of service minutes or ineffective services. This regression in skills also is not

surprising given the extensive body of work that extended gaps from school, such as summer breaks, result in loss of skills learned during the previous months of schooling (Alexander et al., 2007). Children with more severe disabilities are particularly vulnerable to such regression. In fact, parent-initiated court cases, in which such regression was documented, resulted in the Extended School Year provision of the Individual with Disabilities Education Act (Queenan, 2015).

Another disadvantage participants identified was the feeling that they had to advocate to ensure their children's individualized needs were adequately addressed by their schools. These measures included contacting a district superintendent and citing special education law, filling out transfer requests to acquire a preferred placement, educating special education staff about particular needs of their children, and calling an emergency IEP meeting when a child was not making progress. While the need for advocacy by parents of children with ASD had been documented prior to Covid-19 (Kurth et al., 2020), it is possible that the seismic changes to educational services wrought by the pandemic elicited more advocacy actions from parents than average.

Other disadvantages identified by the participants were consistent with those reported in recent qualitative studies examining parent responses to speech-language teletherapy and virtual schooling for children with ASD. For instance, the belief that remote learning could not provide adequate opportunities for peer interaction (reported by four participants in this study) was shared by parents of schoolchildren with ASD in two other recent studies (Parenteau et al., 2020; Tomaino et al., 2020). In this study, some parents reported that

attempts for peer socialization online was either completely prevented by tightly controlled turn-taking, or it was compromised by peers talking over each other. Moreover, technical difficulties with volume control and lag time, also interfered with their children's ability to communicate with their classmates in general.

Some participants in this study reported that their children initially exhibited more challenging behaviors (e.g., a tendency to be overstimulated by the screen, an inability to focus, and displays of physical aggression or frustration) when their services first transitioned online, which also supported prior findings from Parenteau et al. (2020) and Tomaino et al. (2020). Fortunately, the participants in our study reported their children's challenging behaviors decreased over time via the use of interventions such as creating a dedicated workspace free of distractions, allowing flexible scheduling, and acquiring some in-person time.

Finally, four parents (including two who did not report any regression in their children's skills) also felt that remote learning could not meet their children's needs as well as in-person learning. For example, some parents reported that their children needed more natural models and hands-on learning opportunities. Recent research suggests that parent preference for in-person services over remote services is common for parents of children who have ASD, even when parents have observed their children making progress during remotely delivered interventions. (Lam et al., 2021; Parenteau et al., 2020; Tomaino et al., 2020; Yang, 2020; Ashburner, 2016).

Implications for Future Practice

Given declining Covid-19 rates in the United States, it is likely most children with ASD will return to in-person schooling if they have not already done so. However, one silver lining of the Covid-19 pandemic is that it has accelerated efforts to close the digital divide in the United States, making tele-practice accessible to more and more students, including those living in remote areas. For example, over the past year, the New Mexico Public Education Department (NMPED) has worked to accelerate efforts to increase both mobile and fixed WiFi hotspots across the state, distribute Chromebooks to students without any technology, lay hundreds of more miles of fiber, and negotiate with internet service providers to provide low-cost plans to students and teachers, and, on April 30, 2021, the First Judicial District Court of New Mexico ordered the NMPED to accelerate its efforts further. (NMPED, 2021). With increased access and the nationwide increase in virtual school enrollment and tele-therapy that was occurring before Covid-19, school districts and providers may want to further consider ways in which a variety of tele-practice models may benefit individual students. Findings from this study, coupled with prior research, suggest specific considerations for tele-practice models and have implications for transitioning children with ASD back to in-person schooling.

Tele-Assisted Parent Training and Coaching

There is a small but growing body of evidence that parents of children with ASD, like the majority of participants in this study, appreciate how tele-practice enables them to get a better sense of what specialists actually do when treating their children, and this knowledge helps parents feel like they can better support their children (Hines et al., 2019; Ashburner et

al., 2016). In addition, videoconferencing can help eliminate the scheduling challenges many parents have with traveling to meetings (Ashburner, 2016). Although the transparency and scheduling advantages may not outweigh several of the disadvantages of full-time virtual learning cited by parents, supplemental tele-based parent training sessions could be used to support in-person learning (Ashburner, 2016). Tele-assisted intervention partnerships between parents and school practitioners may help augment school learning and reduce family stress (Simacek et al., 2021). A growing body of research shows parental coaching can help school-age children with ASD improve their skills in a broad-range of areas (including communication and language) while also helping improve parent satisfaction and well-being (Hong et al, 2018; Rispoli et al., 2019). Recent research also specifically suggests that tele-based coaching for parents of children with ASD can increase parents' use of evidence-based strategies while also leading to positive outcomes for children, such as increasing communication skills and reducing challenging behaviors (Lindgren et al., 2020; Marino et al., 2020; Wattanawongwan et al., 2020)

While parent-involved tele-therapy may have some advantages, it is important that the demands of parents' other roles and responsibilities are respected when planning for tele-assisted home practice. For instance, findings from this study indicated that during the pandemic, parents had to take on roles such as advocate and tutor, while also devising ways to better structure their home and schedules to support their child's learning. School professionals should seek input regarding parents' interest in being trained and coached, their priorities for skill development, and their perceived availability to support home practice.

While the speed and scale at which schools were forced to change to remote learning made it difficult for schools to carefully plan interventions and provide sufficient parent education during the pandemic. Going forward, establishing a model for tele-assisted parent training and coaching would be beneficial. School districts should consider providing opportunities for service providers and teachers to participate in professional development and training programs focused on tele-practice and parent training/coaching.

Offering parents a variety of methods for training might also increase transparency. For example, training could be offered asynchronously via a written explanation sent via email or by providing the parent access to a pre-created online learning module designed for multiple users. Alternatively, it could be offered synchronously via 1:1 or a group videoconference with other parents whose children have similar interventions. Group sessions via videoconferencing could also facilitate family to family relationships which could help lessen the sense of isolation many parents of children with ASD may feel (Woodgate et al., 2008). Finally, parents of students at brick-and-mortar schools could videorecord home practice sessions for their children's SLPs or teachers to review for progress and provide the parent feedback. Parents of students in a virtual school may also opt to videorecord home practice, or they might have the opportunity to demonstrate home practice in real-time during a video conference.

Direct Teletherapy

While tele-based parent-coaching services may provide benefits, it is also possible that some families of children with ASD, such as those living in rural areas who have limited

access to specialized therapists like SLPs, may want to continue teletherapy services even as children return to in-person schooling. SLPs interested in continuing to provide direct tele-based services should seek out professional development when needed. Additionally, clinicians should consider assessing barriers for successful implementation of teletherapy with individual children with ASD and their families. For instance, barriers parents identified in this study included student difficulties with attending and managing virtual participation in groups. Some parents noted that their children initially showed increased rates of aggression or frustration during the transition to remote learning. Importantly, however, parents reported that some of these issues decreased over time with intervention. Providers should make use of evidence-based antecedent interventions (e.g., visual supports, choice, embedded interests) which focus on modifying the environments in ways that will prevent challenging behaviors and increase engagement (Neitzel, 2009). Some students may also benefit from receiving explicit instruction on video-conferencing skills (e.g., using the chat, mute, or hand raise tools). Practice in generalizing turn-taking skills to remote contexts might also be important for students participating in small group virtual services (e.g., social skills groups).

Alternatives to videoconferencing for remote services should also be considered. For example, video modeling (VM) is easily adaptable to remote learning, and it has been shown to be an effective method for helping students with mild to severe ASD learn and maintain social and adaptive skills (Wynkoop et al., 2020; Qi et al., 2017; Van Laarhoven, 2012). In addition, the number of evidence-based computer-based interventions (CBIs) for students with ASD is growing. CBIs have been shown to be effective in helping students with ASD

build skills in language comprehension, decoding, emotional recognition, mentalizing, and social skills (Khowaja et al., 2020; Rice et al., 2015). Providing more opportunities for asynchronous instruction via VM and CBIs might help meet more students' and their families' scheduling needs.

Virtual Schooling

Although most parents in this study indicated that they believed their children learned better in person, Tomaino et al. (2020) provided evidence that full-time virtual schooling can be effective even for children with severe ASD. Schools and districts that want to consider continuing to offer virtual or hybrid services should seek to collaborate with researchers to build evidence-based programs, consult with administrators from schools that successfully maintained services and achievement levels for students with ASD, and elicit parent suggestions for improving virtual schooling. Schools will need to think flexibly about how each child's instruction and therapies could be delivered across the school day, and consider efforts to reduce parent load and increase children's independence. Additionally, packaged online curriculums designed for typically developing students will likely require differentiation for students with disabilities (Greer et al. 2014).

Federal guidelines for virtual practice and accountability measures also need to be established for virtual schools serving students with ASD (and other disabilities) who receive government school funds. As parents in this study often had to advocate for IEP services during the pandemic, virtual schools should provide parents with a clear and transparent process for addressing concerns. Given the complexities of remote learning, it is inevitable

challenges will arise and problem solving will be needed. Therefore, providing parents with opportunities to regularly check-in with teachers, specialists or the larger IEP team would be recommended. Finally, to ensure the success of such schools, more teaching and SLP training programs and professional development courses need to focus on the design and implementation of virtual interventions.

Return to In-Person Schooling

As children return to schools, districts will need to evaluate whether compensatory services are needed to make up for lost services. SLPs and teachers will need to reassess a variety of communication and language skills and should seek parent input on areas of regression. Given that parents noticed an increase in challenging behaviors when first transitioning to remote learning, school providers should also be prepared to assess and intervene on any challenging behaviors that may occur during the transition back to in-person schooling. Additionally, as a lack of peer interaction was a common parental concern, school personnel may need to prioritize practice with social skills and rebuilding comfort with peer interactions. Finally, as some parents reported that they sought out additional private services during the pandemic, schools should be prepared to collaborate with and gain insight from private clinicians.

Limitations and Considerations for Future Research

As with any qualitative study, the results of this study cannot be assumed to be generalizable and should be considered with caution. Such a small number of participants cannot be considered to be a representative sample of parents of elementary school students

with ASD. For example, all participants lived in or near the same city in the state of New Mexico. Differences in service delivery models during the pandemic, and the relative training and experiences of educators and SLPs providing services in other states or in more rural parts of New Mexico may impact parent perspectives. Given how our participants were recruited, parents in this study may have been more active in autism service circles, and thus had a stronger knowledge base regarding ASD services than other parents of children with ASD. Participants also were all English-speaking and able to find time to support their children's schooling.

Although reliability measures were used, they were limited, and the participants' responses were all subjective. While participant feedback was sought on the findings, only two of the five participants provided feedback. Although increased transparency regarding children's services was a reported benefit of tele-practice, we did not assess how much prior knowledge participants had about their children's in-person services prior to the pandemic. This may also have affected parental report that in-person instruction would be better for their children.

Decisions regarding interview questions and analysis were also subject to the biases of the researchers. The over-arching questions used in the interviews had not been piloted tested and there were only two coders. Furthermore, two of the participants were familiar with the professor who collaborated on this study. The student interviewer was also familiar with Participant 1 before the interviews, from having worked with her during a previous study. Although identifying information was removed from interview transcripts, pre-

existing relationships may still have affected participants' responses or researcher interpretation.

More research with larger sample sizes across a variety of demographic groups is needed to determine the impact of the Covid-pandemic on families of children with ASD in order to inform future catastrophe planning. Future studies could attempt to ascertain if parents' attitudes toward remote services can be improved via more open communication between tele-specialists and families, as Lam et al. (2021) suggest. Exploring the absenteeism amongst students with ASD during the pandemic and its impact is also important. The estimates of absenteeism rates for students with disabilities during Covid-19 have been alarming (Korman et al., 2020), and children with ASD are more vulnerable to skill regression. Research involving the remote learning experiences of secondary students with ASD is also critical. Older students with more advanced technological, literacy, and study skills may have managed remote learning better. Furthermore, while this study included at least one parent who reported having a child with severe autism symptoms, more research is needed to determine whether severity of symptoms and levels of support needs impact parent perspectives of remote learning. More research is also needed to determine which districts and schools were able to maintain better skill maintenance and progress rates for their students with ASD and what approaches they adopted to do so. Researchers could then use these findings to devise and test a set of procedures for introducing remote learning to children with ASD.

While several parents in this study reported regression in their children's communication and language skills, given the nature of this study we could not ascertain (a) whether regression actually occurred, and (b) if it did occur, what was the cause. Future studies could seek to combine parent reports with other measures (e.g., clinician report and direct observation), to better determine possible causes of regression, and design interventions that might prevent it. For example, one parent in this study posited that some of her child's communication regression was related to the fact that school professionals did not know how to engage her child to use her speech-generating device via video-conferencing. If such findings were substantiated across a larger group of children who utilize speech-generating devices and other forms of augmentative and alternative communication (AAC), this would provide further support for studies that provide training in tele-practice AAC interventions for parents and providers (see, for example, Dimian et al., 2018).

Finally, it is essential that more research assess the effectiveness of tele-interventions for individuals with ASD. Such studies should examine new technologies and educational software support across a variety of tele-practice models (e.g., parent-coaching, direct teletherapy and virtual schooling). The effectiveness of common strategies used to increase engagement for in-person learning (e.g., embedding preferred interests) should also be explored in remote learning environments.

Conclusions

Although this is a small-scale qualitative study that should be interpreted with caution, clear themes regarding significant changes to communication and language services

during Covid-19 and perceived disadvantages of these changes emerged. While increased transparency was the only commonly reported advantage of remote learning, parents' perspectives on disadvantages provide insight for improving tele-practice communication and language services for elementary-aged children with ASD. Whenever a decision is made to provide teleservices to a young student with ASD, care should be taken to ensure that the student is prepared for the transition to remote services, that the transition is timely, and that the tele-practitioners maintain evidence-based instructional practices and appropriate service minutes in order to prevent any skill regression and frustration. Service providers also should carefully instruct students and their caregivers on procedures for communicating virtually and for managing technical glitches that might disrupt communication. Open and ongoing communication with caregivers is also needed to ensure they have what they need to help support the student with their remote learning. Finally, SLPs and teachers who provide remote services should be prepared address families' concerns about opportunities for peer interaction and any other concerns parents may have regarding their children "missing out" on in-person learning, especially those parents for whom remote services are not a choice (e.g., due to staffing shortages in remote areas.)

Appendix

Excerpts from Transcripts

Themes and subthemes	Example quotes
Changes since the onset of Covid-19	
Move to remote classes and therapeutic services	Participant 2 **Interviewer:** There's no in-person at all right now. Right? **Participant 2:** No. We had a short period of in-person when they were able to. I think it was three, maybe four weeks at most. And then they went back to remote, and they are - their goal is at the very least, to bring back the special education kids if they're able to. So, if they're able to bring back the small group and have just like five of them there. They're going to try to do that. Participant 3 **Participant 3:** No, it's all online through the school district. Everything is online. Participant 4 **Participant 4:** As for his teachers and in-school SLP and other services, the only thing that's really changed [is] it's all gone virtual.

	Participant 5 **Participant 5:** Yeah, everything's online, right. For him he's with [their school district] everything's online.
Reduction in minutes for communication and language services	Participant 1 **Participant 1:** Yeah, so when it all happened like mid March and like immediately school closed. We stopped getting any SLP services through the school and she would send the SLP would send an email like I think maybe she said like three emails from March to the end of school in May and to say and how is she doing, is she okay but all speech services immediately stopped through the school and, in regards to like what the teacher classroom teacher was doing to like facilitate speech, that stopped also. She didn't get any at all, nothing. And then when school started back up in August…the school had hired a new speech therapist for the school. She met with us -- I'm trying to think -- maybe about two weeks after school started over Google Meet with the classroom and started her first speech therapy session. [My child] is supposed to get two speech sessions. In her IEP she's supposed to get two speech sessions per week 30 minutes apiece, one in a small group setting and one just one on one

with her. And so, she met us in the group session or group meeting in Google Meet with her classroom …. we were just still doing only Google meets once a week for about 20 minutes with her class and it just wasn't working…. And with her teacher in the Google Meets for a class, they do Tuesday through Friday one meet for 30 minutes... And then [my child] is going to school in person, two days a week, right now, she started that about a month ago [October] and she goes to a different school than is her regular school because her regular school doesn't have in-person services. So, she goes there from 8:30 to noon on Tuesdays and Thursdays, and she's there just with the educational assistants (EAs). There are no teachers actually in the classroom. The teachers are virtual….

Before Covid [my child's school day] was Monday through Friday. It was 7:45 to 2:00.

Interviewer: Has the school provided any other resources beyond the school time like activities for her to do at home or --?

Participant 1: No.

Participant 3

Participant 3: Last year, being in [our school district] like we received no services for that last few months of school**.** I mean no services. His special education teacher was still meeting with him, but we weren't receiving OT or speech.

Participant 5

Participant 5: [My son] honestly hasn't had any [SLP services since Covid began]. Um they combined SLP and the speech or the speech and the OT together, and they basically put it at a time where me and my husband --we we both work --we're both full-time. I work at the hospital he works at [proper name]. So, we've been coming home running just to get the two major time slots for his learning, and I told the SLP and the and the OT that I can't do it. Like, there's no way we can get home to get him there, and they were like, "Just put them on. We'll take care of everything." And I'm like we tried it but it's just like it's awful because they're like, "Okay, well, we need you to get scissors. We need you to get glue. We need you to do this," and my son doesn't understand that he can't get it himself...So it's just been worthless to put him on because he's just sitting there while

	everybody else is doing something with their parents, and my son just has to watch... he hasn't participated in any speech from the school. I mean they're offering it to them, but at their times. **Participant 5**: My mother-in-law watches him, while we're at work. But she's Spanish speaking so it's very hard for her to you know, be able to pick what he needs and to help him… **Interviewer**: …So, is he pretty much so, is he getting the same number of minutes -- school minutes -- that he did last year …? **Participant 5**: I think no…. I think definitely getting less.
Attempts to compensate for reduced services with non-school-based services	Participant 1 **Participant 1:** When Covid happened in March... they shut down schools for the rest of the year. And pretty much all schooling stopped for her. She didn't get classroom time. There was nothing…. We doubled up on [Applied Behavioral Analysis (ABA)] services, so we were already doing four to seven. And so, we were doing three hours a day, five times a week. So, she was getting 15 hours of services. We doubled them and she got six hours a day of ABA

services.

Participant 3

Participant 3: We have turned to private, and we're just doing occupational therapy at the moment; however, this occupational therapist has a background in early childhood intervention, and so she is focusing on all aspects of everything and just she's known him since he was little. She was his therapist in early intervention, so we're getting a little bit more help than we would from a typical occupational therapist.

Participant 5

Participant 5: As far as SLP and speech, so I'm kind of taking their paperwork and just doing my own little classes with it to try to teach [my child]…. And [his special education teacher has been working] working with us, and she has been great at now giving us what needs to be done, and so, when we come home that's when school starts with us. Sadly.

Interviewer: …can you give a, like, a rough estimate of how long you spend over the week --like how many hours would you say?

		Participant 5: Like when I get home, we eat dinner and then probably from like seven to nine he's doing homework.
Useful aspects of remote learning and therapeutic services		
	Increased transparency of school-based interventions	Participant 2 **Participant 2:** [Last year] I was not able to be in the classroom with them. They considered that more as a distraction. And so, that to me was not -- It was not fun because I didn't get to see the things. But yeah, now I have been able to. It's kind of like when we were doing ABA at home, you're actually able to see all the progress and see what they're learning and what the goals are. That's been kind of a positive for me because when they talk about his emotional stuff because the school does a really great job with that. It's social and emotional education. So, when they talk about, you know, how you're feeling right now and then they give me ideas on how to help him calm down and how to help [him] self-regulate. Those have been very, very helpful with him, because he has this like high pitch scream when he's upset. Participant 4

	Participant 4: Yeah, I mean the nice thing for me is I can hear what the teacher is saying, and if the teacher doesn't have him quite on task I can go in there and be like, “Wake up.” Interviewer: Right, so you can kind of team with the teacher in a way that you can’t xxx in school. **Participant 4**: Oh yeah, yeah, right. And the thing is ...if I had to look in an advantage to help improve his year that would be it or, basically, we're able to sit there and keep him more focused which is then helping his learning, which is then helping all the standardized tests that he has to take.
	Participant 5
	I guess, the only good aspect that I’ve learned is that when we go to pick up materials of you know, for each semester they're giving him like a packet for SLP and speech and at least I can kind of get a grasp of what they're wanting to work on with him. As far as SLP and speech, so I’m kind of taking their paperwork and just doing my own little classes with it to try to teach him.
Disadvantages of remote learning and	

therapeutic interventions		
Parents having to advocate for services	Participant 1	**Participant 1:** I had to fight to get [my child] a placement [at another school in the district that is providing in-person instruction] because [the district officials] gave the teachers the choices, whether they wanted to be in school or not. And most of them said no. And so, most of the placements are not even teachers. It's EAs teaching...And so it wasn't then like the district found a placement for her. You have to go out to the other schools, and you have to talk to the principals and the principal has to accept any student so they can say, “We'll take them,” or “We won't take them,”… I went to the principal. The principal was like, “Hey, this is what they're telling us.” And so, then I went higher then. I went to up in, you know, worked my way up the chain in this special education department. [I was told,] “We're not doing this, and you just have to accept it,” … They told me, “Well, this is what the school board decided. So that's what we have to do.” And then I reminded them there's federal laws and that goes

above the school board....so I went up to the superintendent and that's when things started to finally happen.

Participant 3

Participant 3: What happened was-- is we called an IEP meeting and I was really concerned because he wasn't receiving the services he was supposed to because he couldn't sit and do it.... I mean as parents it's our job to advocate for our kiddos and I think Covid has pushed us to advocate a lot more -- speak up a lot more, because [the school staff aren't able to see lack of progress].

Participant 4

Participant 4: I mean there was a whole hullabaloo of having to do transfer paperwork...We've gotten very good at wording transfer papers…. At the start of this year, we had him in some general ed ...but we found that, basically, the general ed teacher was doing more disciplining of the class than actual learning -- you know, having many classroom management issues, and we just basically said to the special ed teacher were like yeah this isn't gonna work for us.

Participant 5

Participant 5: He got a second-grade teacher who was a male, and he took over the class and he was his new teacher for the year. And then, all of a sudden, he had an emergency. So, he quit. And so, from what I heard, he was from El Paso and had to move back, so in the meantime we had all the EAs (educational assistants) teaching the class for almost two months. So, it was just like you know the teacher was doing great for their level of education and then, when the EAs took over. They went like roadblocks ahead of where their education was, and I was like, "You cannot teach them that. You have to teach them the fundamentals first before you can jump over here," but they didn't listen. They were doing their own kick. Thinking they were, you know, they were running the show and then all of a sudden, they hired a new teacher. and she came on. And she just, she just sat back and let them do it, and then I finally had to, like, complain. I was like, "You know, I don't think you understand what you walked into. You know, you walked into not what [the EAs] were doing you walked into - what they created." …So, I don't think anybody was explaining that to her. She was just kind of letting the EAs do what they were doing. Where the

	parents were all confused, so once she found out she has kind of cut it back and is now going back to where their learning is. *** **Participant 5:** I've talked to his teacher and she's like oh, you know, there's no such thing as homework and I told her, "You don't understand … that's the only time I can work with my son." I was like, "So I need you to give me what he needs to have done because there's times, where ...I may be home, but I can't sit there and hold his hand like the other parents do, or … walk him through it." I said, "I have to do this, after the fact, and then sit there and walk him through it," and .... I said, "It's hard. You know [my husband and I] both work. We can't quit our jobs..."
Lack of peer interaction	Participant 2 **Participant 2:** He's not getting those instances to practice his language, you know, with other kids in a social situation with them because right now. Like, I think he would comment more on his peer stuff if they were in person. Whereas, like right now they're having a prompt him to do that… Now he is like now he is taking more interest in what other kids are

doing: It was just harder through the computer, you know, cuz he's got to get down there and go, what are they doing?

Participant 3

Participant 3: there's no way to actually interact with his peers when he's in a small group when you're on Google classroom…. There's no, well, we're going to send these two over here to you know, maybe it is play a game, or you know build blocks, where they're using communication skills.

Participant 4

Participant 4: Right now [my child is missing] recess.

Interviewer: Recess. Right and what do you think is important about recess…?

Participant 4: For him, it would help him self-regulate more, and the fact that he's able to interact with kids his own age, but obviously Covid has put the kibosh on a lot of that.

Interviewer: So, you think so you're saying, like you, it would help him with social skills or just … to have friends.

Participant 4: Both.

Interviewer: Both.

	Participant 4: Right and social skills that will help him help him with speech. It'll help him in a number of areas.
	Participant 5
	Participant 5: You know, to be honest, last year, my son was this little shy kid. [He] didn't like to play with kids, you know, and right when the pandemic hit is when he wanted to [go] play. “I want to play with this kid.”… And it, like, broke our [hearts]because, finally, he got out of his shell and he can’t do anything...
A belief that in-person school would be better	Participant 1
	Participant 1: (*During discussion of why outside SLP has been successful)* So, you know, just that being in person is such a huge thing for her. And I think I think that other speech therapists would have worked. But, with it being virtual not the in-person -- couldn't pair --it just didn’t because of that reason right there.
	Participant 2
	Participant 2: He's very much a hands on, kiddo. And so, he does so much better in an in-person situation... Like I know which is so crazy, because we have seen progress, but I know with him. We could be seeing a whole lot more. He could be

learning so much more right now if we were in person. He absolutely needs that environment and he's one of those ones that this is the biggest negative he compartmentalizes. So, school is school, and home is home, and he very much does not want to be doing school things at home. And so that's been a real struggle to get him used to doing any school type stuff…. It's just harder to do [online testing] at home, whereas they were able to do one at the school and he basically like flew through it because he was in an environment where like it made sense. Everybody is sitting and doing it and we're all you know, sitting quietly doing this computer thing.

Participant 3

Participant 3: And [my child's school SLP] attempted to do an evaluation for us and … she spent the amount of time and --I put that in quotations--- that she should have on the evaluation, but she wasn't getting an accurate depiction because it was back and forth, and the computer was cutting out and talking over. And then the interaction that she needed to see with teachers and peers can't happen at all. I don't know how they're doing any type of evaluation over the computer….They would have seen [my son's stutter] if he

	would have been in person, because they're not seeing it. And that's exactly what our gen ed teacher said is, “I don't see it because I don't get to hear him talk with his peers. I don't get to hear him talk to me. “... And then, it was causing behavioral issues that they would have seen in the classroom, but they weren't seeing because he wasn't the
	Participant 4
	Participant 4: There are just some things that you have to do in person that you can't that you really have a hard time dealing or judging over a computer screen…. It's really hard to kind of get the best measure of what kids are able to do when you just see him in this structured online environment …. Do I think my son would benefit in-person, more in person? Yes, I do…. Not that I looked at school as a babysitter, but he needs that social interaction with other people his age.... I feel like the um I mean we're getting somewhere we're just not getting there fast enough. In regard to his services, basically, if they were in person, it would make a difference.
Regression in communication	Participant 1

and language skills	**Participant 1:** I mean, [my child has] lost a lot. She's not even trying to speak a lot anymore. She's not you know she's definitely since Covid happened [she's] definitely regressed ...the verbal and trying to speak and all that so… there's been a big regression in her you know the verbal aspects, 'cause she did have some word she did you know try. She did have some of those things. And we've definitely, I can't remember the last time I've heard actual words…. I would say consistently she had like 12 words now she has nothing
	Participant 3
	Interviewer: What does [your child] work on with his special education teacher [online]?
	Participant 3: That's a joke. I'm sorry. They repeat the xxx for 20 minutes.
	Interviewer: What are his goals?...
	Participant 3: ...Okay, so they do talk about their emotions ...for 30 seconds give or take in the beginning of that period, but again it's holding up a flash card of "I'm happy today," and then "Well, why are you happy?" "Just am." And that's it.

Interviewer: How is it different from what he was doing with a special ed teacher last year?

Participant 3: ...So they were actually working on deciphering between the different emotions, not just what he feels in the moment but ... how he would associate and express that amongst his peers and his teachers and us at home.

Interviewer: …And then for him do you feel like he's had a decline in those skills, or is it more like the SLP isn't meeting his level?

Participant 3: ...we've actually seen a decline.

Participant 5

Participant 5: We had another IEP, and he's regressing in reading …. [Last year] He was right at this grade level they were like even telling us oh he's like already in math he's doing second grade so we're already starting second grade and they told us his reading [phonics and comprehension] and everything was right at you know first grade where he should be. They did his assessment now and we just had his IEP like maybe a month ago... And they told us his math is right,

	where it's supposed to be, but his reading is at a kindergarten or first grade.
Difficulties communicating online during synchronous learning	Participant 2 **Participant 2:** Um, I think he has a hard time with the big group because it's so many faces and … that is a negative for him that … I mean 20 kids on a zoom like you can imagine. And then it's 20 kindergarteners who don't know how to mute themselves. And if she mutes everyone, then they don't know how to unmute themselves and they just recently upgraded. So now she is actually able to mute and unmute students individually, but at the beginning of it was just terrible because like she'd be trying to talk and some other kid like would happen to like be doing something and then lots of them are sitting with like toys in front of them just to keep them there. So, it's like we're all kind of just trying to do the same thing. So, it's so funny. And I think for him, that was just way too overwhelming. You know, that's a lot of visual going on. That's a lot of sound going on…yeah. And that was pretty much right away. He was like, it's too hard. It's too hard, and he wouldn't say that about his small groups so We ended up just focusing on the small group. So, he did lose out

	on … like two months-worth of general ed instruction because of that…. Also, a negative is that you have a harder time hearing him because … when he's not quite sure I guess he's a lot quieter. And so, the teachers can't really hear what he's saying...Also, when you're in this type of setting, it can be more difficult to give him that like three beats before you try to push asking again, you know, just kind of like, give him some time to think about it because… I have seen [it] happen, and I don't think that they realized it's happening. But, he'll start to answer, while they're asking it a second time. ... it's like, they're not giving it quite enough of a delay cuz I think ... there's so many glitches and stuff. They're worried that he's just sitting there not hearing them or that they froze and he didn't hear it or you know something else is going on when really, he just needs a moment, and then he goes to answer, and they're talking so they don't hear him to answering or he answers, really low. And so, they can't hear him, and they end up asking again.
	Participant 3

	Participant 3: ...and Google meet you have to mute yourself so you're not talking over each other, so it's not cutting people out, so there's no back-and-forth communication happening
	Participant 5
	Participant 5: They do have social communication [facilitated by the special education teacher] in the morning, like that's part of the time that when we're there. And we try to get him to talk and you know share, but he um he doesn't say much, and then the teacher when they do ask him, then he'll talk to them, but he's so quiet and timid, that the other kids kind of overbear him so they can't really hear [her son] so it kind of stinks because it's like. You know, they should be muting their kids so my kid can be heard, but it's just you know they're all trying to have social communication time
Initial increase of challenging behavior during transition	Participant 1
	Participant 1: When we have virtual class, we have a lot of behaviors like there's a lot of. Well, she never really had it before, but we have a lot of physical aggression towards me. So it's a struggle, just to get her to sit...I've noticed that she started going to [in-person] school, two days a week because

physical aggressions during the virtual learning have decreased significantly.

Participant 2

Participant 2: He's so well behaved when he's out in the world, you know. He does - he's a rule follower. So, like when he's in the classroom, he naturally on his own will just follow along with what everybody's doing because that's what is in his head. You know, you follow the rules. This is what we're supposed to do…. Whereas at home. This is our relaxing space. And so, we're a lot more like we all kind of do what we each want to do. And that becomes an issue with his sister, and they tend to butt heads a lot. And so, we've been able to kind of work through those things a little bit easier at home now, so that's kind of nice.

Participant 3

Participant 3: … But he was very much overstimulated by the computer screen, and so we were seeing where he couldn't function and he couldn't sit for a session and so what happened was is we called an IEP meeting, and I was really concerned because he wasn't receiving the services, he was supposed to because he couldn't sit and do it. And then, it was

causing behavioral issues that they would have seen in the classroom but they weren't seeing because he wasn't there. At home. And so, we called the IEP and they asked us to work with them and say hey if he's having a bad day let's we try to schedule everything on Tuesday, so that if we have to reschedule throughout the week ...We've also changed he has like a very secluded school area behind our couch in our playroom, and that is strictly dedicated has been since we realized this was going to be long term and not just the end of last year. And we've messed with it enough so that there's not other stimulation going on in the room -- as much as possible, he has a younger brother, and we have animals

Interviewer: Did he get overstimulated in the classroom before [Covid]?

Participant 3: Um no so they were saying that he was a model student, he was taking charge, he was a leader.

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