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Master's Thesis

Logopeder og foreldre sine opplevde utfordringer og muligheter med telehelse

Speech-language pathologists and parents perceived challenges and opportunities of telepractice

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Preface

My interest in this research area was developed because of the many courses, books, and articles exposed to during my master's studies. Because my master's specialisation was speaking, reading, and writing, Bente's book *Språkstimulering Tale og skrift i førskolealderen* and Irene's book *Språkvansker – teoretiske perspektiver og praktiske utfordringer* provided me with knowledge of developmental language disorder (DLD) among school-aged children. DLD became especially interesting because of my personal experience and relationship with some individuals with this disorder. This was further augmented by the onset of the COVID-19 pandemic, where social distancing mandates interrupted in-person services. The knowledge gained from my readings taught me that an interruption of service among this group could negatively impact their language development. I was also conducting my thesis practicum, and I found out that some students were offered telepractice while others were not. Additionally, because I originate from Canada and live in Norway, I was fascinated by how the two countries addressed interruption in speech-language pathology services differently among preschool and school-age children. Thus, my interest in telepractice as a research study was formed.

To say this thesis has been a learning process would be an understatement. First, I would like to thank Eirik Skjelstad for providing me with support, guidance, and explaining theories and concepts, among other things, throughout my master's studies. I would also like to thank Melissa Purville and Vantha Nong for being my second eyes, providing constructive criticism and giving critical feedback during the process of this study and other assignments. Additionally, I would like to thank my thesis advisor Cecilia Sjoholm for providing me with guidance and supplying me with articles relevant to my research, constructive criticism, advice, feedback, and comments. Furthermore, Gideon Boadu for being a sounding board to bounce ideas, providing feedback, books, articles, and his friendship. Lastly, I would like to thank my husband, Sondre Eikås, for his patience, love, support, and always being there. And Isak Eikås for being in my life and waking me up at night hours.

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List of Abbreviations

ASHA	American Speech-Language-Hearing Association
CAREB-ACCER	Canadian Association of Research Ethics Boards
CATALISE	Criteria and Terminology Applied to Language Impairments: Synthesising the Evidence
COVID-19	Coronavirus disease
DLD	Developmental language disorder
ISTAR	Institute for Stuttering Treatment and Research
NSD	Norsk Samfunnsvitenskapelig Datatjeneste
SLI	Specific language impairment
SLP	speech-language pathologists

Abstract

Title: Speech-language pathologists and parents perceived challenges and opportunities of telepractice

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Purpose: The purpose of this study was to understand the experiences of individuals who participated in telepractice during the pandemic in Norway and Canada and their perceived challenges and opportunities of telepractice. Telepractice has been identified as a successful tool to address the shortages of speech-language pathologists (SLPs) and increase access to people with language disorders. The COVID-19 pandemic resulted in in-person services, including speech-language pathology, being delivered remotely, Therefore, research is warranted on parents' and SLPs perceived challenges and opportunities of telepractice in Norway and Canada.

Method: Four SLPs and five parents who took part in telepractice during the COVID-19 pandemic completed an online survey and in-depth interview. Explanatory sequential mixed-methods and phenomenological approaches were used to document participants' perceived challenges and opportunities of telepractice.

Result: Perceived opportunities of telepractice included continual and consistent support from SLPs; more therapist-parent contact; therapy in a familiar environment; efficiency in relations to travel time and cost of transport. Challenges experienced by participants included heavy parental involvement, limited therapeutic alliance, lack of physical contact, economic barriers, and technological glitches.

Conclusion: The participants in this study liked telepractice because of the opportunities that telepractice offers, such as therapist-parent contact and efficiency of not having to travel. The challenges of telepractice such as heavy technological glitches and limited therapeutic relationship was a draw back for the participants. For the parents, the challenges can be reduced with better communication and explanation from their SLPs of what to expect with telepractice. For the SLPs, some of the challenges can be addressed by taking courses and seeking mentorship from SLPs with experience in telepractice.

Keywords: telepractice; therapeutic alliance; parental involvement; speech-language pathologist, developmental language disorder (DLD)

Sammendrag

Tittel: Logopeder og foreldre sine opplevde utfordringer og muligheter med telehelse

Forfatter: Rita Osei

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Hensikt: Hensikten med denne studien er å forstå erfaringene til brukere av telehelse i Canada og Norge under pandemien og deres opplevde utfordringer og muligheter med telehelse. Telehelse har blitt identifisert som et suksessfullt verktøy for å bøte på logopedmangelen og øke tilgjengeligheten for mennesker med utviklingsmessige språkforstyrrelser. COVID-19 gjorde at flere fysiske tjenester i stedet ble nettjenester, inkludert språkstimulering. Derfor er det nyttig å undersøke hvordan foreldre og logopeder oppfattet utfordringer og muligheter med telehelse i Norge og Canada. **Metode:** Fire logopeder og fem foreldre som benyttet telehelsetjenester under COVID-19 pandemien fullførte et nettskjema og et dybdeintervju. En sekvensiell forklarende designstudie med blandede metoder og fenomenologisk tilnærming ble brukt til å dokumentere deltakernes opplevde utfordringer og muligheter med telehelse. **Resultat:** Opplevde muligheter inkluderte kontinuerlig og konsekvent støtte, mer terapeut-foreldrekontakt, terapi i kjente omgivelser, effektivt i forhold til kostnader og tid brukt til transport. Utfordringer deltakerne erfarte inkluderte stort foreldreengasjement, begrenset terapeutisk allianse, manglende fysisk kontakt, økonomiske og teknologiske barrierer, samt tekniske feil. **Konklusjon:** Deltakere i undersøkelsen likte telehelse på grunn av muligheter som terapeut-foreldrekontakt og effektiviteten ved å unngå transport. For foreldre kan utfordringer bli redusert med bedre kommunikasjon og veiledning fra logopeder om hva som må forventes med telehelse. Noen utfordringer for logopeder kan løses med opplæring og mentorskap fra logopeder med erfaring innen telehelse.

Nøkkelord: telehelse, terapeutisk allianse, foreldreengasjement, logopeder og utviklingsmessige språkforstyrrelser (DLD)

1. Introduction

Traditionally, therapy for developmental language disorders (DLD) has been conducted in-person. However, this changed in March 2020 when COVID-19 was declared a pandemic. Like most other countries, Norway and Canada went into lockdown, resulting in the halt of critical therapeutic services to limit the spread of the COVID-19 (McLeod, Ballard, Ahmed, McGill, & Brown, 2020, p. 1805). This measure in place by the government "increased [the] risk of lifelong social, educational, and vocational limitations" (McLeod et al., 2020, p. 1805) as children were now experiencing a disruption in their speech-language therapy sessions. In order to mitigate these risks while limiting the spread of the virus, the delivery of the therapies went online and has been widely adopted to provide therapeutic services (Lam, Lee, & Tong, 2021).

The American Speech-Language-Hearing Association defines telepractice as the "application of telecommunications technology to the delivery of professional services at a distance by linking clinician to client, or clinician to clinician, for assessment, intervention, and/or consultation" (Rangarathnam et al., 2015, p. 386). Telepractice addresses accessibility challenges faced by the underserviced population and those living in remote communities (Bernie, 2019; Fairweather, Lincoln, & Ramsden, 2016; Haynes & Langevin, 2012). In the cities, telepractice provides speech-language services to those who cannot access speech-language pathologists (SLPs) services due to disability, work commitment and transportation (Bridgman, Onslow, O'Brian, Jones, & Block, 2016). In remote areas, telepractice reduces waiting times and addresses inaccessibility. Additionally, telepractice allows speech-language pathologists (SLP), who typically have caseloads that spread over large geographical areas, to provide support with more frequency (Bernie, 2019; Hines, Bulkeley, Dudley, Cameron, & Lincoln, 2019)

1.1 Interest and aim of the research

I am interested in the topic of telepractice because of my personal experience of knowing individuals who have worked with speech-language pathologists (SLP)s and those who did not have access to SLP due to geographical and economic challenges. In addition, I wanted to research this topic because of the scarcity and barriers many faced to accessing this essential

service. Finally, Telepractice is a relevant topic to research because the COVID-19 pandemic forced schools, jobs, and many services to adapt to remote and or virtual practices, including speech-language therapy.

When I first decided to study telepractice, my first objective was to compare how Norway and Canada were addressing speech-language therapy among preschool and school-age children. However, as I contacted speech-language pathologists (SLPs) and schools to conduct preliminary research, I learned that many SLPs in Norway were not providing the service because of the challenges. This was the same in Canada. I then contacted several authors who had written articles about telepractice in Norway, and they also informed me that there was limited research in this area. I became intrigued and thought that rather than compare the two countries, it would be better to discuss how participants from Norway and Canada perceived the challenges and opportunities of telepractice.

This dissertation aims to identify some of the perceived challenges and opportunities of telepractice in Canada and Norway. The study results can help one understand why some SLPs and parents are reluctant to explore this mode of delivery for their children and identify solutions to the challenges. It may also encourage clinicians and parents to partake in telepractice.

Through mixed methods study, this project will ask:

What are the perceived challenges and opportunities of telepractice?

The research question will be explored through two sub-questions:

1) What are the attitudes of parents and SLPs regarding the use of telepractice methods?
2) How do parents and SLPs think of their experience using telepractice to obtain support for their children and provide support for clients?

Question one explored the participants' attitudes towards the use of telepractice. This was done through questionnaires and in-depth interviews. Question two explored the participant's experience of telepractice using questionnaires and in-depth interviews. The challenges and opportunities of telepractice from participants' perspectives are drawn upon from participants' experiences and for the researcher through conversation with participants.

1.2 Background of the Study

Studies have found that telepractice can provide similar therapeutic results as in-person therapy (Fairweather et al., 2016; P. A. Mashima & Doarn, 2008); however, there are few studies on the use of telepractice among preschool and school-age children in Norway and Canada. In Norway, research on telepractice has mainly focused on adult aphasia rehabilitation patients (Becker, Kirmess, Bønes, & Hansen, 2013; Øra et al., 2020). Becker et al. (2013) states that telemedicine is especially useful in Norway as it has vast geographical regions, and many small municipalities face difficulties recruiting professionals, including speech therapists. They add that the lack of speech-language therapists (SLPs) in these small communities makes it problematic for individuals requiring speech-language services to obtain the five hours of minimum training a week recommended by Helsedirektoratet (Becker et al., 2013).

Like Norway, access to speech-language pathologists (SLPs) is limited in many remote areas in Canada (Haynes & Langevin, 2012; Sicotte, Lehoux, Fortier-Blanc, & Leblanc, 2003). To address the shortage, institutions like the Institute for Stuttering Treatment and Research, a part of the University of Alberta's Faculty of Rehabilitation Medicine, use telepractice to service clients near and far to offer access to those who otherwise would have been deprived or underserviced (Haynes & Langevin, 2012).

Despite its enormous benefits, the documented challenges of telepractice such as therapeutic alliance, technological problems, and lack of training prevents SLPs and clients from exploring this mode of delivery (Fairweather et al., 2016; Tucker, 2012). Since the pandemic, there has been an increase in telemedicine studies, including telepractice in Canada (Macoir, Desmarais, Martel-Sauvageau, & Monetta, 2021); however, Norway is still lagging on research in telepractice, especially among children.

1.3 Overview of the study

I have conducted this study using explanatory sequential mixed methods (3.2.4). In addition, I was inspired by the phenomenological approach (3.2.5) and used the theory of constructivism and sociocultural theory (2.1). I chose the journal article format for my research; therefore, the research is divided into five sections, introduction (1); theoretical framework and previous

research (2); research methods (3); dissertation article (4), thesis reference list (5), article reference list (6) and appendix (7). I wrote the journal article based on the guidelines of the International Journal of Speech-Language Pathology. The thesis is different from the journal article because I have elaborated constructivism, sociocultural theory, and phenomenological approach in the thesis. Finally, the journal article will present the study's results, discussions, and conclusions.

Chapter one of this dissertation paper presents the introduction of the study, why I undertook this study, and the research question. Chapter two covers previous studies that have been conducted on telepractice, and explains the developmental language disorder; and the theoretical framework. Chapter three covers the research methodology used to conduct the study, including the phenomenological approach. Chapter four is the journal article. In the journal article, I present the result, discussion, and conclusion of the thesis. Additionally, I chose the International Journal of Speech-Language Pathology as my journal of choice. Chapter Five is the references used in chapters one to three. Chapter six is the references used in the journal article. Finally, chapter six is the appendix, where I include the survey questionnaires and the ethical documents that I needed to undertake the research.

2. Theoretical framework and previous research

2.1. Theoretical framework: Constructivism theory and sociocultural theory

I utilise the theory of constructivism and sociocultural theory to explain how speech-language pathologists (SLPs) can use their in-person experience and adapt to telepractice. Constructivism and sociocultural theories often co-exist in the same learning situations. Constructivism is a learning theory that explains how knowledge came about or how the learner came to know it (Schunk, 2013). It asserts that we construct or formulate new knowledge or ideas by adapting new information based on our previous knowledge and experiences (Schunk, 2013). This theory inspired me because it is often used in education and learning, especially experimental learning, by using the learner's previous knowledge as a foundation and building on it with new knowledge. Constructivism argues that individuals reflect on their past experiences and knowledge to formulate ideas or opinions on a new experience. It focuses on the individual and the needs of the individual by finding means and tools which adequately support the learner. This theory is applicable to telepractice because the SLPs are using the knowledge, tools, and experiences that they have acquired from conducting in-person therapy and are applying it to telepractice (Hines et al., 2019; Macoir et al., 2021). Through interaction with patients during telepractice, SLPs are able to determine which tools or methods from in-person sessions can be applicable to telepractice and what new tools or methods should be developed to service telepractice patients.

In education and learning, constructivism asserts that there is no single method of arriving at a teaching method that is supportive and applicable to everyone. In Piaget's theory of constructivism, people use prior experiences to make sense of their new experiences (Schunk, 2013). He argues that when people are in a new situation, they assimilate or accommodate to their new reality (Schunk, 2013). For example, an SLP who has only conducted in-person sessions will use their in-person experience and adapt it to telepractice.

The second theory that will be explored is the sociocultural theory. Sociocultural theory is applicable to telepractice because it asserts that the social environment is an important facilitator in the development and learning of the individual or student (Schunk, 2013) It suggests that the individuals learning process is a result of cultural, language, symbols, social

interaction and the institutions one engages in, in their social environment (Schunk, 2013). Cognitive changes in the student occur when the student can use the tools acquired from their social interaction and environment by internalising and transforming them to make it their own during interactions (Schunk, 2013). What this means is that understanding of the tools and concepts such as in-person speech-language therapy can help the student solve a problem or adapt to a situation that they may later encounter such as telepractice.

Lev Vygotsky is perhaps one of the most significant contributors to the sociocultural theory. In addition, to acknowledging the inner learning process (cf. Piaget, referred in Schunk, 2013), Vygotsky emphasised the significance of learning as a social process. Individuals (the student), according to Vygotsky have the capacity to adapt or alter their environment to serve their purpose (Lev Semenovič Vygotsky, Roster, Bielenberg, Skodvin, & Kozulin, 2001). That is, the individual (student) uses the language, symbols, or tools, that they have learnt and utilise it to serve them when the situation arises (Schunk, 2013).

The pandemic created an environment where SLPs had to adapt and learn to provide services virtually by using their knowledge of in-person experience and apply them to telepractice (Macoir et al., 2021). Furthermore, social interaction with patients with different diagnoses, needs, and symptoms will further facilitate the development and learning of the SLPs as they enter the telepractice environment. In this new environment, the SLPs will also identify which speech-language therapeutic tools work for which types of clients in the telepractice environment. The possibility of this rose because the SLPs were able to internalise and transform their previous knowledge, symbols, and tools gained from the in-person environment and adapt them to the virtual environment.

In constructivism and sociocultural theory, active learning helps learners to develop knowledge for themselves (Schunk, 2013). For the student to be an active learner, the student must first try to understand the subject's basic principles and draw from their experience. Then actively set goals, find out what works and what does not, and monitor and evaluate themselves to understand and see their progress (Theodoros, 2011). A teacher or a mentor may also guide the student to perform the said task that they cannot perform or experience difficulties performing independently (Lev Semenovič Vygotsky et al., 2001).

Vygotsky's Zone of Proximal Development illustrates that the student has his or her own capabilities; however, through nurture and support from an educator or mentor, the student

can develop his or her skills (Lev Semenovič Vygotsky et al., 2001). The zone, therefore, is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance, or in collaboration with more capable peers" (L. S. Vygotsky & Cole, 1978, p. 131). The mentor will slowly reduce their support as the student become more confident in their skills and ability to perform the said task.

In constructivist teaching, students are challenged to discover the answers independently. It is not about the right or wrong answer but rather challenging the students' thinking to ensure that they can construct new knowledge from their experiences (Schunk, 2013). This requires teachers to provide a constructive learning environment where students can develop new knowledge and skills. Simultaneously, peer-to-peer learning and interaction between the student, the teacher and learning artefacts are emphasised (Schunk, 2013). This combination of constructivist and sociocultural approach can be useful to understand how learning takes place.

Dewey (1938) explained that the knowledge and skills acquired from one's experience are instrumental for the person to effectively deal with other situations that they will come across later in their life. Therefore, for the SLPs who have only conducted in-person therapy, the knowledge, skills, and tools they have acquired will be instrumental when exploring telepractice.

In Canada, provinces and territories are responsible for their educational system and, therefore, do not have a centralised federal education system. However, in a Norwegian context, there is a consensus regarding the significance of social aspect and peer-to-peer learning within an educational setting (Imsen, 2020). Knowledge may also come by way of social interaction with people who play mentor-type roles in our lives, such as parents and teachers (Schunk, 2013). Through communication with those in their cultural environment, individuals learn the language, symbols, and tools and acquire the competence needed to "develop higher-level of cognitive functions" to understand concepts and conduct problem solving (Schunk, 2013, p. 428). Individuals in our cultural environment may include teachers, who are "the organs through which pupils are brought into effective connection" with knowledge and skills (Dewey, 1938, p. 18).

As a therapeutic tool, telepractice is a new mode of delivery that many SLPs are not accustomed to. Therefore, the learner must keep in mind that a method that works for one SLP in telepractice cannot necessarily be applied to everyone because a person's knowledge is constructed based on their situational experiences. Furthermore, while a style, tool, or approach may work for one SLP and their clients, it does not mean that it would work for another SLP and their clients. Thus, the learner must also adapt the new knowledge to their situation and experience.

The opportunities of constructivist and sociocultural learning are that it provides hands-on learning for learners. These theories enable the learners to tap into their previous knowledge and experience and apply it to their new learning while also learning from peers and instructors. For example, in speech-language pathology, SLPs who have had experience with the in-person mode of delivery may apply their knowledge and experience in telepractice. Those who require further support can obtain support from their mentors or teachers to address the challenges that they experience.

The limitations of the constructivism and sociocultural theories are that the teacher or mentor must be cognisant and observant of the student and their needs. The educator or mentor must understand the learner's needs and make changes to the environment when the learners are experiencing difficulties understanding the concepts (Schunk, 2013). Another limitation is that the student is often guided rather than taught, as they are expected to tap into their knowledge and experience to solve problems (Schunk, 2013). In general education, this may lead the student to draw an incorrect conclusion or feel neglected by the teacher.

2.2. Language Disorder

The term spesifikke språkvansker, which translates to specific language impairment (SLI), is used in Norwegian language literature to describe those with developmental language disorder (DLD). SLI was also used in English language literature; however, the term SLI as of 2016 was not recommended by the Criteria and Terminology Applied to Language Impairments: Synthesising the Evidence (CATALISE) consortium (D. V. M. Bishop et al., 2017). CATALISE argues that the term SLI does not reflect the clinical realities of children affected by the disorder and can rather exclude many of those children from receiving service (D. V. M. Bishop et al., 2017). Additionally, it can "affects access to services as well as hindering research and practice" (D. V. M. Bishop et al., 2017, p. 1068). This author used Norwegian

and English language literature where the term SLI was used to refer to developmental language disorder. In this study, DLD will be used for the sake of uniformity.

2.2.1. Developmental Language Disorder

Developmental language disorder (DLD) is a term developed by the CATALISE consortium to describe children whose “language disorder was not associated with a known biomedical aetiology” (D. V. M. Bishop et al., 2017, p. 1068). The severity of language disorders varies from reading and writing difficulties to difficulties understanding and speaking – with problems ranging from a few sounds to the inability to communicate verbally or even swallowing (P. Mashima & Doarn, 2009; Ottem & Lian, 2008b). The characterisation of DLD is explained by Evans and Brown (2016) as

> ... the inability to master spoken and written language expression and comprehension, despite normal nonverbal intelligence, hearing acuity, and speech motor skills, and no overt physical disability, recognised syndrome, or other mitigating medical factors known to cause language disorders in children. (p. 899)

Developmental language disorder affects five percent of Norwegians and one percent of Canadians (CASLPA-ACOA, 2005; Norge, 2016). Children are said to have language disorders if it impacts their "social interaction and educational progress" and are expected to endure language problems up to middle school and beyond (Bishop et al., 2017, p.1070). These comprise of children with known and unknown aetiology (Bele, 2008; Ottem & Lian, 2008b). Four percent of Canadian pre-schoolers require speech-language services (CASLPA-ACOA, 2005). One in ten children between the ages of six to ten in Norway has a language disorder (Hollund-Møllerhaug, 2010). Monsrud (2003) adds that five to seven percent of all children have an unknown cause of language disorder, and it is often the parents who identify that their child may have communication difficulties.

Developmental language disorder becomes apparent in the early preschool years when language development does not occur at its expected rate for no apparent reason (D. V. Bishop & Snowling, 2004; Tager-Flusberg & Cooper, 1999). Diagnostic criteria for language disorder differ from country to country; however, there is consensus among clinicians and researchers that children with language levels noticeably below the expected age level are out of line with their language development (D. V. M. Bishop et al., 2017; Evans & Brown, 2016, p. 899; Ottem & Lian, 2008a). Developmental language disorder can be identified in children before the age of three; such children exhibit few words and or no word combinations (Tager-

Flusberg & Cooper, 1999). According Kristoffersen and Simonsen (2001), the size of a child's vocabulary identifies if the child is behind linguistically compared to average children of their age. They explain that if a 24-month-old child cannot produce 50 words or less and cannot combine words when average children at that age are able to combine words, of which some children may know as many as 615 words, then this is an indication of linguistical delay. Furthermore, these children often experience difficulties learning new words, conducting grammatical errors, and have difficulties understanding others when they find themselves in situations that are linguistically demanding (Vartun, Boesen, & Thorsen, 2021).

There are differences in severity and symptomatology of those impacted by DLD; however, there are also common deficit profiles. The common deficit is that children with DLD experience "delayed onset and slower acquisition of the lexical, syntax, and grammatical morphological aspects of spoken and written language coupled with non-linguistic cognitive processing, learning, and memory impairments" (Evans & Brown, 2016, p. 900). D. V. Bishop and Snowling (2004) add that there are similarities between dyslexia and DLD. Children with these two diagnoses exhibit phonological processing difficulties, academic and other behaviours difficulties. In *Språket som fundament for matematikkmestring* (*language as a foundation for mastering*) Lunde (2003) writes that mastering mathematics requires good language skills. In language, for example, developing a meaningful sentence constitutes grammar, syntax, etc (Lunde, 2003). The same can be applied to mathematics; both require good knowledge of the rules to formulate a coherent sentence or arrive at an appropriate answer (Lunde, 2003). Nevertheless, for some children, these language impairments can be corrected during their first school years, and for others, the impairment persists throughout their lives (Bernie, 2019; Tager-Flusberg & Cooper, 1999).

Behavioural, social, and mental health issues are more prevalent among children with DLD than those with normal language development (Hollund-Møllerhaug, 2010). Furthermore, children with DLD tend to play with children younger than themselves, which is especially salient during the preschool years (Monsrud, 2003). Monsrud (2003) argues that it is because the younger children are potentially at the same level in language development as children in their age group and can partake in play activities. DLD may also impact an individual's ability to have a meaningful relationship, a healthy work environment and reduce income potential (Evans & Brown, 2016). Despite over a century of knowledge of developmental language disorder (DLD) and decades of study, the cause of the disorder is still unknown (Evans & Brown, 2016). In addition, the causes of some DLDs are linked with other developmental

issues such as autism, Down syndrome, and Landau-Kleffner syndrome, while for others, there is no known cause (Evans & Brown, 2016).

2.3. Telepractice

This literature review will describe telepractice as a proof of concept and how it is utilised to serve patients, primarily focusing on children. The literature used are mainly from Canada, Norway, Australia, the USA, Brazil, and Hong Kong. First, I will begin by explaining telepractice, followed by users' experiences with a focus on the benefits, effectiveness, and barriers. Lastly, I will discuss the attitudes of users which are also covered in my empirical research.

2.3.1. What is telepractice

Telepractice is the use of telecommunications technology to provide a professional speech-language pathology service remotely (Fairweather et al., 2016; Rangarathnam et al., 2015). Telepractice uses telecommunication to deliver support to patients from professional SLPs or special educators, so the client is in a different physical location than the clinician. With the advancement of technology and the availability of the world wide web to the general population, there has been a growing interest in utilising these resources to provide patients health services (Becker et al., 2013). Telepractice is used to diagnose and treat patients, provide rehabilitation services, and therapeutic interventions (Becker, Kirmess, Bønes, & Hansen, 2013; Cason & Cohn, 2014; Tucker, 2012; Øra et al., 2020). Researchers in speech-language pathology have found that telepractice is currently used to assess and treat articulation disorders, language and cognitive disorders, autism, fluency disorders, dysarthria, and voice disorders (Cason & Cohn, 2014; Fairweather et al., 2016). Additionally, in locations where there are SLPs, telepractice is used to ease the caseload of the onsite SLPs (Tucker, 2012).

Moreover, literature from Canada, Australia, China, Hong Kong, Brazil and the USA has documented that the use of telepractice was further augmented by the onset of the COVD-19 pandemic in 2020 when in-person services ceased to control the COVID-19 virus spread (Dimer, Canto-Soares, Santos-Teixeira, & Goulart, 2020; Gabrielle, Rodriguez, & Martino, 2020; Lam et al., 2021; Macoir et al., 2021; McLeod et al., 2020). Additionally, evolving

health care policies, improvements in infrastructure and communication technologies have increased the use of telepractice (Walters et al., 2021).

2.3.2. Suitability of telepractice for clients

Telepractice is not a good fit for everyone, both clients and practitioners alike. The practitioners must possess knowledge and skills about the technology being used to ensure that the privacy and security of the client are maintained. Additionally, they must be creative, animated, and be willing to engage in trial and error. Patient candidacy is determined on a case-by-case basis. In a literature review, P. A. Mashima and Doarn (2008) discovered that patients comfortable with computers, including sitting in front of it, following instructions, using the keyboard, and seeing materials on a computer screen, were generally considered to be suitable candidates.

Speech-language pathologists (SLPs) in Tucker's (2012) study of telepractice in schools reported that students with behaviour needs were challenging to work with because they would not adhere to microphone prompts or interact with SLPs during sessions. Clients requiring touch and proximity, such as those requiring oral peripheral mechanisms, were also difficult to support (Macoir et al., 2021). In addition, sensory impaired children, and those with severe and profound "cognitive impairments" may experience difficulties grasping the interactive process over a monitor" (Sicotte et al., 2003, p. 1102; Tucker, 2012, p. 52). Children on the spectrum with little or no expressive speech skills were also deemed unsuitable (Macoir et al., 2021). Furthermore, patients who require "practices related to swallowing, dysphagia and feeding disorders, orofacial myofunctional disorders, childhood apraxia of speech, phonological skills and hearing loss" (Macoir et al., 2021, p. 1090) were deemed, unsuitable candidates. There are also reservations by SLPs about the acoustic integrity of the telepractice equipment to fully capture the client's sound as it requires proximity and touch, both of which are impossible to do remotely (Macoir et al., 2021).

When identifying clients who will benefit from the use of telepractice, many researchers have documented that modification and adaptation should be made to accommodate the various needs and limitations of the client, which are physical, cognitive, cultural or linguistic (Cason & Cohn, 2014; Hines et al., 2019; Pickering et al., 1998). However, it may be feasible to use telepractice for clients who need support in articulation processing, oral and written language, reading and spelling disorders, grammatical skills and developmental language disorders

(Macoir et al., 2021, p. 1090). Cason and Cohn (2014) indicate that the practitioner's responsibility is to provide the necessary training so that the support person (parents, teachers, e-helpers, etc.) may be appropriately utilised during telepractice delivery for clients who require a support person. Hines et al. (2019) indicated they had frequent communication with the school principals, teachers, and parents to support their patients during.

2.3.2. Technological selections used in telepractice

Telepractice uses "synchronous (live, real-time interaction) and or asynchronous (recorded/ store-forward) methods to provide support" (Cason & Cohn, 2014, para.11). The American Speech-Language-Hearing Association (ASHA) recommends sufficient equipment to ensure smooth service (Cason & Cohn, 2014). Options of hardware include a desktop computer, mobile smart devices (tablet, laptop, smartphone) or specialised systems like GlobalMed, 2013, Zoom, and Teams (Cason & Cohn, 2014; Haynes & Langevin, 2012). Reliability of internet connection, adequate bandwidth, and appropriate technical support impact the quality of the service. Therefore, the client's therapeutic needs are considered when selecting which method and equipment to optimise therapy sessions (Cason & Cohn, 2014; Haynes & Langevin, 2012).

2.3.3. Opportunities: Accessibility and service efficiency

The use of telepractice is beneficial in countries like Canada and Norway, where both countries have large geographical areas and limited SLPs. Telepractice increases the amount of service that clients receive as it ensures equal access to services when limitations are due to geographical barriers (Tucker, 2012; Øra et al., 2020). As the second-largest country in the world in landmass, Canada, with 38 million inhabitants, 30% of Canadians reside in rural areas (Haynes & Langevin, 2012; Pickering et al., 1998) and have limited or no access to speech-language therapists (Haynes & Langevin, 2012; Pickering et al., 1998). Similarly, with its many fjords, islands, and an estimated population of 5.3 million, Norway has the second-longest coastline, next only to Canada. In both countries, small communities experience difficulties recruiting the necessary specialists (Becker et al., 2013; Haynes & Langevin, 2012; Pickering et al., 1998; Øra et al., 2020). It is documented that "Canadian professionals working in remote communities also are likely to stay only a few years" (Pickering et al., 1998, p. 13). Telepractice allows those in rural and remote communities access to consistent health services

not directly available in their communities (Haynes & Langevin, 2012; Sicotte et al., 2003; Tucker, 2012).

ISTAR, a self-funded Institute of the Faculty of Rehabilitation Medicine at the University of Alberta, indicates that 70% of the clients in their intensive program reside outside of their Edmonton offices (Haynes & Langevin, 2012). Institutions like ISTAR use telephone and secure web conferencing to conduct long-distance assessments of school-aged children and adults. When necessary, audio/video samples are sent via mail or email to support the client's treatment (Haynes & Langevin, 2012). In Norway, many commune districts do not have a speech-language pathologist who can provide the necessary support for the inhabitants (Becker et al., 2013; Øra et al., 2020). This is especially difficult for some aphasia patients who require five hours a week of speech training recommended by Helsedirektoratet (Becker et al., 2013; Øra et al., 2020). Øra et al. (2020) wrote that the intensive therapy regimes recommended for patients with aphasia are challenging to provide in Norway due to geographical barriers and shortage of SLPs, among other constraints.

Tucker (2012), study on the use of telepractice in schools documents that “when students receive the needed basic skills and services they were previously lacking, they benefit from increased access, programming options, and learning” (Tucker, 2012, p. 53). The shortage of SLPs in rural and remote areas is not an isolated problem in Canada and Norway but the whole world (Freckmann, Hines, & Lincoln, 2017; Haynes & Langevin, 2012). In the USA, there is expected to be a 19% increase in the demand for SLPs, as many SLPs retire (Tucker, 2012). School boards in the USA are issuing emergency orders due to SLP shortages, as “the clientele continues to grow in size and diversity” (Tucker, 2012, p. 48).

As a service delivery model, telepractice is also offered to individuals in the cities and those who live near SLP practitioners. In the cities, telepractice is used to support people of all ages with various health statuses who find it challenging to materialise out of their homes, especially in the winter months (Macoir et al., 2021). Bad weather, heavy traffic, and forgetfulness contribute to appointment cancellations (Macoir et al., 2021). Additionally, telepractice is offered to individuals who are unable to access speech- language services on a consistent basis due to economic issue and other responsibilities (Cason & Cohn, 2014; Macoir et al., 2021). When the above mentioned are an obstacle, Telepractice allows instant service, rescheduling and accommodation to patients who require it (Cason & Cohn, 2014; Macoir et al., 2021). Furthermore, telepractice allows clients and practitioners to save travel time,

reducing cost and fatigue while increasing the consistency and frequency of sessions (Cason & Cohn, 2014; Dimer et al., 2020; Freckmann et al., 2017).

Cason and Cohn (2014) write that telepractice enables clients and their families to be serviced in their authentic, natural environments. Additionally, it enables parents to view their children's therapy sessions and communicate with the interdisciplinary team that supports their children (Cason & Cohn, 2014). Parents in Hines et al. (2019) study was reported to be "enthusiastic when they saw children responding positively, being engaged in activities and achieving goals" (p. 602).

Telepractice can also accommodate clinicians and clients to continue obtaining and providing uninterrupted services irrespective of their situation. Hines et al. (2019) documented that they provided a six-year-old autistic child with speech-language delay, social, emotional and motor planning difficulties with telepractice sessions while travelling in a caravan (Hines et al., 2019). Another example is an SLP clinician in New Jersey who experienced power loss following Hurricane Sandy in 2013 (Cason & Cohn, 2014). The clinician continued her practice full-time after relocating to a hotel with internet access (Cason & Cohn, 2014). Telepractice enables SLPs who travel to remote areas to provide services to service many clients with little or no travel (Tucker, 2012). One SLP expressed in Tucker's (2012) study, "I can move 120 miles in 45 seconds" (Tucker, 2012, p. 54).

2.3.4. Barriers to telepractice

This section discusses barriers that would prevent clients, parents, and clinicians from engaging in telepractice. The following barriers will mainly be discussed: assistant and e-helpers, technological barriers, environmental barriers, attitudes of clinicians and parents towards telepractice and therapeutic alliance.

2.3.4.1. Assistant and E-helpers

In telepractice, having an assistant, e-helpers, or parents present can be vital. These individuals are essential in setting up the telepractice equipment, ensuring that the client is on time for their session, and managing the client's behaviour (Cason & Cohn, 2014). Additionally, they can help the SLP establish therapeutic relationships and resolve many of the technical issues that may arise (Tucker, 2012).

2.3.4.2. Technological barriers

There are barriers to telepractice, such as the internet, reliable telephone network, and the cost of long-distance phone calls, are among a few (Haynes & Langevin, 2012). In a research on the perspective of SLPs on the use of telepractice, the common challenges experienced by participants included computer crashing, microphones not working, frozen video connection or frozen screen pictures, technology glitches, and no technical support (Hines et al., 2019; Tucker, 2012). In addition, unfamiliarity and inadequate training in telepractice equipment pose barriers for practitioners. Macoir et al. (2021) found that 73.5% of SLPs reported a lack of training and expressed interest in telepractice training sessions.

2.3.4.3. Environment barriers

The online environment and the distant elements of telepractice affect the presentation of the therapy (Tucker, 2012). Studies documents that readjusting to telepractice has proven to be a challenge for many SLPs (Tucker, 2012). Tucker (2012) writes,

> these differences entailed learning to give more auditory and visual feedback to the students as to how things look and sound and remembering to tell students on the other side of the transmission if something was not working. (p. 51)

During in-person sessions, tongue depressors are used to show the student or the client where the tongue should be placed when a particular sound is made (P. A. Mashima & Doarn, 2008; Tucker, 2012). However, with telepractice, clinicians use drawings, e-helpers, assistants, parents and other tools to help clients make the right sound (P. A. Mashima & Doarn, 2008; Tucker, 2012). With very young children, partitioners use "physical redirection such as hand over hand guidance" (Tucker, 2012, p. 52) or demonstrating to the child. However, some telepractice practitioners found it tricky to elicit the same result far away (Tucker, 2012).

In Tucker (2012) study, the SLPs compensated for the lack of physical contact by becoming more animated, descriptive in their explanations and using visuals to move the articulators. Also, they asked assistants and others to "help with the physical work – to help the kid touch or bite [his] lip" (Tucker, 2012, p. 57). The success of telepractice sessions depends on the relationship between the therapist, patients, and assistants, such as E-helpers and parents.

2.3.4.4. Attitudes of clinicians towards telepractice

The negative attitudes of clinicians who have taken part in telepractice impact the motivation and willingness of SLPs who have not tried telepractice. Participants in the studies of Tucker

(2012) and Freckmann et al. (2017) expressed that other SLPs informed them of their dissatisfaction with telepractice before they took part in telepractice. Other SLP called the mode of delivery “ridiculous" and believed telepractice did not work (Tucker, 2012). Theodoros (2011) mentions that the attitudes of clinicians can hinder its introduction and adds, “for most speech-language pathologists (SLPs), face-to-face interaction within a clinical setting is the 'gold standard' of care that cannot be substituted” (p. 18).

Tucker (2012) and Macoir et al. (2021) document that telepractice would benefit from having mentors and supervisors who have experience in telepractice and a positive outlook on it. Mentorship and supervision will ease some of the concerns, fears, what-ifs and how questions that are preventing SLPs from providing telepractice services. In addition, those experienced in telepractice indicate that identifying materials and finding out what will work require trial and error (Tucker, 2012). However, over time, one becomes confident and discovers which materials, "games, items, or stories are suitable for a particular type of client and communication disorder" (Tucker, 2012, p. 55).

2.3.4.5. Attitudes of Parents

Participants in Tucker’s (2012) and Lam et al. (2021) study reported cases where the parents, teachers, and helpers had negative attitudes toward telepractice. Some of the above-mentioned groups refused to participate in telepractice in general (Tucker, 2012). Clinicians found that the patients and families that were not receptive assumed this delivery model would not provide the same benefits as in-person consultations (Dimer et al., 2020; Tucker, 2012).

In a study of parents' and students' perceptions of telepractice services conducted by Lam et al. (2021), the parents rated the effectiveness of telepractice lower than onsite practice even though their children were satisfied with the therapeutic results. In Hines et al. (2019) study, parents were reluctant toward telepractice but proceeded to try telepractice due to limited alternatives. As a result, parents were enthusiastic after seeing their children respond to the therapy, engage in the therapeutic activities, and achieve the parent's set goals.

Families find the process of telepractice less time-consuming than in-person therapies (Hines et al., 2019), which requires families to "pack up all of their kids, drive, entertain them all for 30 minutes while one gets therapy, then travel home" (Tucker, 2012, p. 54). According to Hines et al. (2019), parents accept telepractice because it provides regular access to therapy with no associated travel cost, which fits with their daily routines and supports families' busy

schedules and competing responsibilities. Similarly, for autistic children, the in-home sessions lessened the stress for the child in terms of getting to the appointment and being in an unfamiliar space, thereby creating a relaxed atmosphere for the child to receive support (Hines et al., 2019).

Parents provide "greater engagement and support, as seen by SLPs when parents were able to discreetly observe the therapy session remotely or access online session notes commonly available on telepractice platforms" (Walters et al., 2021, p. 104). In addition, some SLPs reported receiving better attitudes and involvement from the parents of their students when they showed the parents excerpts of the session that showed the progress of how their child was doing (Hines et al., 2019; Tucker, 2012).

2.3.5. Therapeutic alliance

The three main components of therapy are: "goals, which generally relate to specific outcomes; bonds, which refer to the interpersonal relationships between therapy participants; and tasks, which involve activities inside and outside of therapy sessions" (Freckmann et al., 2017, p. 310). "Goals" and "tasks" are concrete; however, "bond" requires an emotional component from participants (Freckmann et al., 2017). Bonds create trust; enable the client to feel at ease, safe, open and desensitised to communicate their challenges; and participate in the therapeutic process (Freckmann et al., 2017; Osborne, Pensinger, & Tetnowski, 2015).

The therapist-client rapport and relationship are essential for the success of speech-language pathology services (Freckmann et al., 2017). Studies in telepractice have documented that establishing positive therapeutic alliances is possible (Fourie, Crowley, & Oliviera, 2011; Freckmann et al., 2017; Osborne et al., 2015). Freckmann et al. (2017) research study sought to investigate the therapeutic alliance (affective bond) of 18 telepractice SLPs and 12 in-person SLPs and their patients who were children. They found no significant difference in the bond developed between the children who received in-person sessions and telepractice sessions with their SLPs (Freckmann et al., 2017).

Cangi and Toğram (2020) document that establishing a therapeutic alliance also depends on the client's preference. Some clients prefer close contact or touching, and others like the virtual environment because it makes them feel more confident, less pressured, and eased (Cangi & Toğram, 2020). In Plexico, Manning, and DiLollo (2010) study, clinicians whom participants

perceived as competent were those that promoted positive therapeutic alliance and took a holistic approach to understand the client's communication disorder (Plexico et al., 2010).

3. Research Methods

This section discusses the methods used to conduct the research. This study has a combined qualitative and quantitative design consisting of in-depth interviews. The data material is analysed through the phenomenological methodology. The study draws inspiration from a mixed-methods design, in which quantitative survey-based data collection was utilised to gather empirical material, and a qualitative approach was utilised to analyse the data material.

According to Cohen, Manion, and Morrison (2018), "a sample size of thirty is held by many to be the minimum number" that can be used in quantitative study (p. 203). I acknowledge that the sample population of nine people is too small to be considered quantitative. However, I was inspired to use quantitative method and therefore utilises some methods traditionally linked to quantitative methods in combination with qualitative method for this study. Therefore, while the sample size is smaller than the recommended to be considered quantitative, I will still refer to it as quantitative in this study for simplification and clarification. Thus, I am using a mixed methods approach which will be further explored below.

Below, the population sample will be discussed; followed by the study procedure; study design, data preparation and analysis; additionally, my role as a researcher, a prelude to the journal article and concluding remarks.

3.1. Population Sample

3.1.1. Snowball Sampling

Participants were recruited using snowball sampling techniques. With this sampling technique, the researcher identifies individuals with the characteristics or qualifications relevant to the phenomena the researcher set out to study (Jacobsen, 2015). Those individuals are then asked to identify others who have similar characteristics or qualifications and would be interested in participating in the study (Thagaard, 2013). This technique enables researchers to obtain "as many participants as possible" (Robinson, Bridges, Rollins, & Schumacker, 2019, p. 298). The limitation of this approach is that the sample population is not random, but rather it is

purposive sampling (Jacobsen, 2015). Therefore, the population sample is not suggested to represent the population. My research adheres to the same assumption.

3.1.2. Participant recruitment

The participant requirements were any parent whose child is or had been taking telepractice since March 2020. I canvassed my social circle to see if their child(ren) had or was receiving telepractice or knew anyone whose child(ren) had or was receiving telepractice. This enabled me to obtain five parents from Canada. In Norway, I canvassed the schools of my employment, the daycare my son attended and posted my research on several mother's groups for children receiving speech therapy on Facebook. Unfortunately, I was unsuccessful in obtaining parental participants from Norway. The five parental participants were all Canadians. The ages of their children ranged from three to nine years.

In recruiting speech-language pathologists (SLP), the requirements were any special education teachers or SLPs who had been providing speech therapy remotely before or after March 2020 and were still doing so. In addition, I asked individuals I knew who had children in speech therapy and retrieved the contact information of their speech-language pathologists. I also went online, found speech pathologists, and wrote to some. In Norway, I also sought SLPs through the Norsk Logopedlag, online, LinkedIn and used the snowball sampling method. I received several feedbacks; however, a majority indicated that they opted not to offer the service due to the challenges associated with telepractice. I was able to obtain one participant who partook in telepractice in Norway. Therefore, the study consisted of three SLPs from Canada, one SLP from Norway and five parents from Canada.

3.2. Procedure

3.2.1. Ethics

I contacted the Canadian Association of Research Ethics Boards (CAREB-ACCER) and the Norsk Samfunnsvitenskapelig Datatjeneste (NSD), who assessed projects in "relation to current research ethical rules" (Thagaard, 2013, p. 24). The application was sent to NSD, including my research questionnaires, project description, and consent form. Ethical approval was obtained from NSD (appendix 4). However, the CAREB-ACCER (appendix 5) deemed

ethical approval unnecessary for my research because the information collected on participants was non-nominative. This was also reported by Macoir et al. (2021) when they conducted studies on the changes in the use of telepractice in SLPs in Quebec. They report that "the study sought to collect non-nominative information about the participants" (p. 1088) and did not require CAREB-ACCER approval.

3.2.2. Informed consent

All the participants were provided with a consent form (appendix 1) which they read, signed, and returned to the researcher before the questionnaire and interviews took place. The consent form described the project, purpose, volunteer participation, privacy, data collection, and participants' rights.

3.2.3. Mixed method approach

Mixed method is defined by Cotten, Tashakkori, and Teddlie (1999) as using a "combination of qualitative and quantitative approaches in the methodology of a study" (p. ix). In mixed method research, qualitative stories of experiences support quantitative trends that pervade the lives of individuals. Mixed method supports the understanding of a topic in greater depth, provides comprehensive means to answer questions that could have been missed using one method, and limits the shortcoming of using one method. Quantitative method documents the patterns and width of the data, while qualitative methods explain the data's depth and experience (Bowen, Rose, & Pilkington, 2017). Combing these two methods enables triangulation, greater validity, and a decrease in bias.

Mixed methods were employed in this research because I was interested in understanding participants' experience of telepractice. I drew inspiration from quantitative methods, and I also used qualitative method in this study because both methods provide different but complementary information. In drawing my inspiration from quantitative method, I considered the advantages of the survey design, including the rapid turnaround in data collection, the size of the population, and the time participants can allocate to my research. Additionally, I thought about what would enable me to collect quantifiable data to evaluate trends and attitudes towards telepractice without it being time-consuming. As I was interested in the participant's experience, I was aware that quantitative method lacks an understanding of the context behind

the trends in the lives of participants and silences participants' voices. However, qualitative methods would enable me to capture the participants' experiences in their own voices.

The qualitative method enabled me to gather in-depth information about the participants' experiences with few questions. Therefore, the in-depth interview technique was used because it is useful when one would like to obtain the subjective meaning of a phenomenon (Jacobsen, 2015). The strength of this style is that it enables the researcher to ask follow-up questions or probe participants on issues that the researcher had not thought of beforehand (Thagaard, 2013).

3.2.4. Explanatory sequential mixed method

There are over forty mixed methodologies, and of these, the most popular and one of the most difficult to implement is the sequential, explanatory, mixed method (Bowen et al., 2017). This research employs the sequential, explanatory mixed-method approach. In the sequential approach, the quantitative data collection is first collected, followed by the qualitative data. Finally, the qualitative data findings are used to contextualise the quantitative findings (Bowen et al., 2017; Creswell & Plano Clark, 2011).

In this study, the quantitative data helps us understand the trends in participants' attitudes towards telepractice. The qualitative data documented the participant's experiences of telepractice and explained the trends in quantitative data through personal stories as expressed by the participants in their own words.

3.2.5. Phenomenological inspired approach

The phenomenological approach inspired this study because the research sought to explore the participants' subjective experiences and the meaning they "attribute to their experience of a phenomenon" (Thagaard, 2018, p. 40; Tichenor & Yaruss, 2018). In this study, it is participants' experience of telepractice as a phenomenon during the COVID-19 pandemic. Heralded by Edmund Husserl and developed by the contribution of other philosophers, including Martin Heidegger, phenomenology is commonly used in the health and humanities disciplines (Boadu, 2021; Thagaard, 2018; van Manen, 1997). "Phenomenology is the study of essences" (van Manen, 1997, p. 39). The "essence" is a good linguistic description of the phenomenon so that those who have not experienced the phenomenon can "grasp the nature

and significance" of the experience even though they were not present (van Manen, 1997). Phenomenology is interested in the "concreteness (the ontic)" and the meaning "(the ontological) of the lived experience" (van Manen, 1997, p. 39). According to Thagaard (2013), the phenomenological approach has no specified range of procedures for conducting research. Nevertheless, I would like to admit that my research is limited because I did not have access to many of the documents used by other researchers in phenomenological research. These often include therapy notes, SLP lesson plans, and observation notes (Boadu, 2021; Cangi & Toğram, 2020; Osborne et al., 2015; Tichenor & Yaruss, 2018).

Nonetheless, using phenomenological approach as my inspiration, in my opinion, is a better fit to document participants' experience of telepractice during the pandemic. As the phenomenological approach inspired the study, priority was given to qualitative data. The connection between the quantitative and qualitative data is that the qualitative data was able to achieve an in-depth and richer explanation of participants' experiences and provide a reason for the quantitative trends.

Recent studies in telepractice have used phenomenology to explore participants' perceived challenges and opportunities of telepractice. Cangi and Toğram (2020) used mixed methods and phenomenology to study the effectiveness of telepractice in people who stutter by comparing telepractice and in-person speech therapy. Quantitative findings identified no significantly different between the two groups; however, qualitative analysis revealed that therapeutic components, suitability, technology, and preference were emergent themes. Tichenor and Yaruss (2018) study used the phenomenological approach and qualitative research to study participants' experiences at the moment of stuttering. They found that participants experience loss of control, sensation or feeling of stuttering, and inability to execute a well-planned speech (Tichenor & Yaruss, 2018). Osborne et al. (2015) used the phenomenological approach to research the therapeutic outcome of managing a child who stutters, their parents, and the graduate clinicians who work with them. They discovered that all stakeholders view the therapeutic outcome as a success even though the child continued to stutter. In addition, the authors found that stakeholders shifted the success of the therapy from a decrease in stuttering to "increasing the communicative competence of the child" (Osborne et al., 2015).

3.2.6. Justification for the approach

Several research designs were considered for their effectiveness in retrieving participants' experiences and providing voices to participants. Ethnography, case study, and phenomenology were potential options. However, phenomenology seemed to be the perfect research approach because of several limitations, including the COVID-19 pandemic, travel restrictions, expenses, and feasibility. Therefore, this study was inspired by the phenomenological approach because it is the most suited to record the concrete experiences and the meaning of those lived experiences in the participants' voices.

3.3. Study design

3.3.1. Survey questionnaire

The research questionnaires and design were based on literature covering the attitudes, opportunities and challenges of telepractice. I utilised some of the questions from (Lam et al., 2021) because the research questionnaires of these authors were pre-approved by several SLPs, a resource that I did not have. Two sets of questionnaires were developed: one for the parents (Appendix 2) and the other for the SLPs (Appendix 3). The questionnaires were translated into both English and Norwegian. The themes of the questionnaire for the two sets were the same; however, the SLP questionnaire consisted of 10 questions, and the parents had 11 questions. The questionnaires were divided into five sections: demographic, implementation, attitudes, user experience, and efficacy. The questionnaires consisted of open-ended, close-ended, and Likert scale questions.

Section A: Demographic

The questions in this section surveyed the age and grade level of the children of the parents in this study. This section was asked only of the parents.

Section B: Telepractice Implementation.

Three questions surveyed the quantity and frequency of telepractice sessions. All participants were surveyed if the pandemic impacted the frequency of sessions given and received.

Section C: Attitude towards telepractice methods

A five-point Likert scale was used to survey eight questions on the satisfaction level of participants. This covered comfortability with using the telepractice system, setting up devices (only parents were surveyed), privacy, expectations, quality of therapy, and recommendations to others.

Section D: Use of telepractice experience

Five survey questions inquired about the challenges and opportunities of telepractice, recommended therapeutic exercises for parents to do at home, whether parents were applying them and therapeutic mode of preference.

Section E. Telepractice Efficacy

A five-point Likert scale surveyed seven questions on telepractice efficacy. The questions related to child enjoyment, training aims, meeting the child's needs, enhancing speech and language abilities, treatment progress, treatment frequency, and treatment duration. Participants were asked to add or say more about the issue discussed in the interview if they wished.

3.4. Conducting surveys and interviews

3.4.1. Survey

Participants were provided with a link to the questionnaires, which they could access and complete online. The questionnaires were available online for five weeks and took five to 20 minutes to complete. Upon receiving the questionnaire, a follow-up qualitative interview was conducted virtually and took between 25 - 45 minutes to complete. Due to geographical distance, costs, and social distance mandates, all the interviews were conducted on Zoom.

3.4.2. The interviews

The interview adhered to principles of phenomenology, where words and phrases used in the interviews were first used by the participant (Tichenor & Yaruss, 2018). Then, the participant's own words were used to clarify and ask follow-up questions (Tichenor & Yaruss, 2018). Four main questions were asked during the interviews with participants. Participants were also asked to clarify some of the answers provided in the questionnaires to gain a more detailed description of their experiences. Those questions were randomly

selected. The interviews were transcribed simultaneously during the interviews on my computer except for one. During that interview, the participant questioned why I was not recording and requested that I record to ensure that I captured everything. I also transcribed while she was talking.

3.4.3. Zoom interview

All interviews with parents were conducted virtually from their homes, and interviews with the SLPs were held virtually from their work office or home office. The video option was enabled for all the participants except for one. This participant had her children within proximity and did not want to be on video; however, I used my video option to maintain continuity.

3.5. Data preparation and analysis

3.5.1. Data preparation

As previously stated, all the data was transcribed simultaneously during the interview. After the interviews, I went over my writing to spell out words that I wrote in short form during the interview. This was to ensure that I captured the essence of the participant's attitudes towards telepractice, its implementation, efficacy and experience were accurately captured when I would later write my paper. In addition, the one interview that was recorded was also transcribed. Finally, all the questionnaires and interviews were printed and categorised.

3.5.2. Data analysis: Coding, Categorisation, and theming

Because the population sample was small, I did not use statistical software for my quantitative data (Cohen et al., 2018); instead, it was manually counted. Thematic analyses were used to analyse qualitative responses. Creswell (2013) defines thematic analysis as “a method for identifying, analysing and reporting patterns (themes) within data” (Braun & Clarke, 2006, p. 79). According to Boadu (2021) data analysis is a messy reiterative procedure that necessitates the researcher to interact with the data until it becomes logical. The steps used to analyse the data followed those outlined by Creswell (2013).

All the interviews were read in their entirety; notes were taken and reviewed; central ideas which answered the question were identified and highlighted. The data was then divided into

two separate files, SLPs and parents, and entered into Excel in order of question numbers. This method enabled me to know each participant's answer to each question. For example, the parental respondents were asked, *"what were some of the positive (opportunities) attributes about remote therapy?"*. All the parents' answers to this question were placed underneath this question. Finally, I conducted horizontalisation where significant statements were highlighted and given equal value, as described by Creswell (2013). Participants' statements that highlighted the essence of their experiences were collected and parsed into quotations.

The five sections of the questionnaires helped with the coding, where the participants' words, statements, and expressions to describe their experiences guided the general coding. With this information, clusters were made on the different experiences expressed by the participants. This resulted in 21 clusters.

A re-evaluation of the data and the codes was used to reduce the number of clusters. It was essential to capture the essence of each participant's experience and ensure that I did not overlook or miss any experiences that would be imperative to the study (Boadu, 2021). I looked at the clusters to find patterns and reflected on the essence of what those participants were trying to relay. From there, many of the clusters were merged and thematised into meaningful themes and subthemes. This resulted in five themes (accessibility and efficiency; parental involvement; lack of physical contact; expectations of telepractice; and preference and recommendation).

3.6. Trustworthiness

Methodological rigour in research is maintained through verification, validation, and validity (Creswell, 2013). Verification standard was achieved through bracketing past experiences, survey questionnaires, interviews, obtaining adequate participant samples and adhering to the principles of phenomenological research (Creswell, 2013). Research validity "is the outcome goal of research and is based on trustworthiness and external reviews" (Creswell, 2013, p. 270). Validation was accomplished using mixed methods data collection. Additionally, the findings were compared to other studies. This enabled triangulation. Furthermore, the research strategies outlined by Creswell (2013) were followed.

3.7. Limitations of the Research

This study has several limitations. One limitation is the size of the sample population. The sample size does not meet the minimum requirements for quantitative research (Cohen et al., 2018). The study consisted of four SLPs and five parents. Of the four SLPs, three are from Canada, and one is from Norway. All five parents are from Canada. The system of support for children in Canada is not the same as in Norway; therefore, the opinions and views are those of the participants, and it is based on their experiences, the environment in that they interact, and the institution system that they work in. The findings, therefore, cannot be generalised to the population of SLPs in Canada and Norway and all parents in both countries. Doing so would be problematic due to the variety of experiences, cliental background, training, and other factors that influence perceived challenges and opportunities of telepractice. Furthermore, due to distance, economics, and the pandemic, all the interviews were conducted over zoom. Additionally, time limitations and client-patient confidentiality, among other obstacles, impacted my ability to obtain documents such as client reports and SLPs lessons and notes to increase this study's methodological rigour.

3.8. Delimitations of the Research

A major delimitation of this study is that my research only focused on those who were speech-language pathologists. I used the mixed methods approach because I felt that the nature of the research and sample size enabled a phenomenologically inspired approach to capture an in-depth examination of participants' views on telepractice. My research focused on the parent who had children in early childhood and elementary school and involved nine participants. Furthermore, I chose to conduct all the research using zoom.

3.9. Assumptions

The assumptions that I bring to this study are rooted in the literature that I read and the conversations I had with people in Norway and Canada as I attempt to obtain participants for the study. First, I assume that many SLPs are unwilling to partake in telepractice because of the challenges that studies have documented. Secondly, telepractice is offered less by Norwegian SLPs due to the documented challenges. Lastly, I assume that the documented challenges can be decreased with mentoring, training, and practice.

3.10. Role of the researcher

In the phenomenological approach, the researcher needs to be empathetic and be willing to open themselves up to "the experiences of the people being studied" (Thagaard, 2013, p. 40). Additionally, they must remove their preconceived notions and be conscious of their previous knowledge of the phenomena, biases, and how they may affect their research interpretation (Creswell, 2013; Thagaard, 2013). An attempt was made to be conscious of these biases during my research.

In being inspired by the phenomenological approach, I was aware as a researcher that I needed to conduct epoche or bracketing so that I can adequality understand and document the essence of participants' experiences in this study (Creswell, 2013; van Manen, 1997). However, I was also cognisant of my active role in selecting the themes, and topic, formulating interview questions, conducting the interviews and how these impacted this research study and my interpretation (Boadu, 2021; van Manen, 1997). This phenomenon is eloquently described by Srivastava and Hopwood (2009),

> Patterns, themes, and categories do not emerge on their own. They are driven by what the inquirer wants to know and how the inquirer interprets what the data are telling her or him according to subscribed theoretical frameworks, subjective perspectives, ontological and epistemological positions, and intuitive field understandings. (p. 77)

In listing significant statements and clustering them into themes and meaningful units, I had to interact with data, reflect on them, and identify which statements best described the essence of the participant's experience of telepractice as I interpreted it. My role in this research is somewhat reflexive.

3.11. Prelude to the journal article

I chose an article-based thesis because I wanted to challenge myself academically. Additionally, I am thinking of conducting further studies for my PhD therefore, writing an article-based thesis would give me the opportunity and experience of writing an article. Furthermore, I chose the International Journal of Speech-Language Pathology for my Article because it is a journal that research speech-language therapy. Many of the articles in this journal build upon available material, with a few researchers using the same method and approach as I used in my study. Moreover, there is an interest in the effect of the COVID-19

pandemic on speech-language therapy among children. A combination of these motivated me to choose this journal.

Constructivism and sociocultural theory were critical in conducting my study. However, I did not include them in the journal article because I did not think that it will substantiate the quality of the journal article. However, I chose to include it in the thesis section of the study because it gives context to the reader.

3.12. Concluding remarks

Like other countries, Canada and Norway face a shortage of SLPs and consistent access to SLPs (Hines et al., 2019; Tucker, 2012). If these two countries are to support their population despite the shortages of SLPs, then changes need to be made to how speech-language therapy is delivered. Telepractice is being used to address deficiencies and accessibility in many countries (Hines et al., 2019; Tucker, 2012). However, the perceived challenges and opportunities of telepractice continue to be an obstacle for both SLPs and clients to partake in this model of delivery (Tucker, 2012). I hope the result of this study will provide insight both into the perceived challenges and opportunities and the actual conditions of telepractice in Canada and Norway. Therefore, further research is necessary on how social and economic background impacts access to telepractice. In addition, the pandemic has familiarised preschool and school-age children with technology for education and social support in Norway; therefore, telepractice research on preschool and school-age children is warranted as telepractice services are offered to this group in Norway.

Additionally, why some SLPs are unwilling to offer telepractice and parents reluctant to engage is baffling. I hope this paper sheds light on challenges that impact the broader use of telepractice and document some of the solutions to resolve these challenges. I desire that the answers identified by participants in the study can shed light on ways to resolve some of those challenges, change attitudes, and guide more SLPs into offering telepractice services.

4. Dissertation article

Speech-language pathologists and parents perceived challenges and opportunities of telepractice

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Abstract

Purpose: This study aimed to research the experiences of individuals who participated in telepractice during the COVID-19 pandemic. Telepractice has been identified as a successful tool to address the shortage of speech-language pathologists (SLPs). The pandemic resulted in in-person services, including speech-language pathology, being delivered remotely. Therefore, research is warranted on parents' and SLPs perceived challenges and opportunities of telepractice in Norway and Canada.

Method: Four SLPs and five parents who took part in telepractice during the COVID-19 pandemic completed an online survey and in-depth interview. Explanatory sequential mixed-methods and phenomenological approaches were used to document participants' perceived challenges and opportunities of telepractice.

Result: Perceived opportunities of telepractice included continual and consistent support from SLPs; more therapist-parent contact; therapy in familiar environment; efficiency concerning transport. Challenges experienced by participants included heavy parental involvement, limited therapeutic alliance, lack of physical contact, economic barriers, and technological glitches.

Conclusion: Participants favoured hybrid delivery of speech-language services. The parental challenges can be reduced with better communication and explanation from their SLPs. While the SLPs challenges can be addressed through courses and mentorship.

Keywords: telepractice; therapeutic alliance; parental involvement; speech-language pathologist, developmental language disorder (DLD)

Logopeder og foreldre sine opplevde utfordringer og muligheter med telehelse

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Sammendrag

Hensikt: Hensikten med denne studien var å undersøke erfaringene til brukere av telehelse i Canada og Norge under pandemien. Telehelse har blitt identifisert som et suksessfullt verktøy for å bøte på logopedmangelen. Pandemien resulterte i at flere fysiske tjenester i stedet ble nettjenester, inkludert språkstimulering. Derfor er det nyttig å undersøke hvordan foreldre og logopeder opplevde utfordringer og muligheter med telehelse i Norge og Canada.

Metode: Fire logopeder og fem foreldre som benyttet telehelsetjenester under COVID-19 pandemien fullførte et nettskjema og et dybdeintervju. En sekvensiell forklarende designstudie med blandede metoder *og* fenomenologisk tilnærming ble brukt til å dokumentere deltakernes opplevde utfordringer og muligheter med telehelse.

Resultat: Opplevde muligheter inkluderte kontinuerlig og konsekvent støtte, mer terapeut-foreldrekontakt, terapi i kjente omgivelser, effektivt i forhold til transport. Utfordringer deltakerne erfarte inkluderte mye foreldredeltakelse, begrenset terapeutisk allianse, manglende fysisk kontakt, økonomiske og teknologiske barrierer, samt tekniske feil.

Konklusjon: Deltakere i undersøkelsen foretrakk å kombinere fysisk og nettbasert språkstimulering. Foreldrenes utfordringer kan reduseres med bedre kommunikasjon og forklaring fra logopedene. Mens logopedenes utfordringer kan adresseres gjennom opplæring og mentor ordninger.

Nøkkelord: telehelse, terapeutisk allianse, foreldredeltakelse, logopeder, utviklingsmessige språkforstyrrelser (DLD)

Introduction

Government-mandated social distancing guidelines transitioned many in-person services to online and telephone service delivery as governments attempted to slow down the spread of the COVID-19 virus (McLeod, Ballard, Ahmed, McGill, & Brown, 2020). Traditionally, an in-person service, speech-language pathology (SLP) is included in the rehabilitation services that have been affected by the pandemic. Without the service, children face an "increased risk of lifelong social, educational, and vocational limitations" (McLeod et al., 2020, p. 1805). As a result, telepractice has become the preferred alternative to providing speech-language pathology services (Lam, Lee, & Tong, 2021; Macoir, Desmarais, Martel-Sauvageau, & Monetta, 2021).

Telepractice uses telecommunications technology to provide a professional speech-language pathology remotely (Fairweather, Lincoln, & Ramsden, 2016; Rangarathnam et al., 2015). Telepractice allows those in underserved and remote communities access to health services not available in their communities (Haynes & Langevin, 2012; Sicotte, Lehoux, Fortier-Blanc, & Leblanc, 2003; Tucker, 2012). Additionally, it increases and ensures equal access to services when limitations are present due to geographical, health, and economic barriers (Macoir et al., 2021; Øra et al., 2020). Telepractice allows rescheduling and accommodation for patients who require it (Macoir et al., 2021). Moreover, it enables clients and practitioners to save travel time, reducing cost and fatigue while increasing the consistency and frequency of sessions (Cason & Cohn, 2014; Freckmann, Hines, & Lincoln, 2017).

This research aims to study the perceived challenges and opportunities of telepractice as identified by those who experienced the phenomena during the COVID-19 pandemic. The following two research questions were addressed in the study:

1) What are the attitudes of parents and SLPs regarding the use of telepractice methods?
2) How do parents and SLPs think of their experience using telepractice to obtain support for their children and provide support for clients?

Setting the stage: Developmental language disorder (DLD) and the use of telepractice

Five per cent of Norwegians and one per cent of Canadians are affected by developmental language disorder (DLD) (CASLPA-ACOA, 2005; Norge, 2016). There are no universally

diagnostic criteria for DLD; therefore, diagnosing criteria differ across countries (Evans & Brown, 2016). However, clinicians and researchers universally agreed that children whose language levels are noticeably below the expected age level are out of line with their language development (Bishop et al., 2017; Evans & Brown, 2016, p. 899; Ottem & Lian, 2008a). In addition, developmental language disorder (DLD) impacts children's "social interaction and educational progress" (Bishop et al., 2017, p. 1070). These include children with known and unknown aetiology (Bele, 2008; Ottem & Lian, 2008b). Therefore, studies recommend that children with DLD be diagnosed in their early years, such as preschool before the disorder becomes a handicap and the children experience social and academic issues (Evans & Brown, 2016; Simonsen & Bjerkan, 1998).

What is telepractice? Opportunities and challenges.

The American Speech-Language-Hearing Association (ASHA) defines telepractice as the "application of telecommunications technology to the delivery of professional services at a distance by linking clinician to client, or clinician to clinician, for assessment, intervention, and/or consultation" (Rangarathnam et al., 2015, p. 386). Telepractice comes in the form of "synchronous (live, real-time interaction) and asynchronous (pre-recorded/store-forward)" (Cason & Cohn, 2014, p. 11) format. Additionally, telepractice is utilised to diagnose, assess and treat patients with articulation disorders, autism, fluency disorders, dysarthria and voice disorders, and language and cognitive disorders, as well as to provide rehabilitation and interventions services (Becker, Kirmess, Bønes, & Hansen, 2013; Cason & Cohn, 2014; Tucker, 2012; Øra et al., 2020). A study of six children living in remote communities found that the children responded positively to stuttering treatment and the patient's stuttering range decreased substantially. The stuttering range continued to decline six months after the treatment (Sicotte et al., 2003). In a study of four ASD children who received therapy through telepractice, all the children demonstrated improvements specific to goals set by their parents at the beginning of the treatment (Hines, Bulkeley, Dudley, Cameron, & Lincoln, 2019).

Despite the benefits, there are documented challenges. These include technological glitches, SLPs unable to manage clients with behaviour challenges, and maintaining patients' attention (Theodoros, 2011). In addition, studies have documented that the lack of physical contact and the virtual elements of telepractice have created challenges for establishing therapeutic relationships between patients, parents and SLPs (Fourie, Crowley, & Oliviera, 2011; Macoir et al., 2021). This area is especially concerning because studies have documented that

therapeutic relationship impacts treatment efforts and contributes to the patient's willingness to contribute to therapeutic effort (Fourie et al., 2011). Studies have also documented that parents' negative attitudes, their involvement, and the attitudes of SLPs impact the broader use of telepractice (Tucker, 2012). Other documented challenges experienced by clients include access to equipment, adequate bandwidth, and untrained parents or support persons to assist the client (Tucker, 2012).

Telepractice in Norway and Canada

With large geographical areas, low population density, and small communities, Norway and Canada experience difficulties recruiting the necessary specialists (Becker et al., 2013; Haynes & Langevin, 2012; Øra et al., 2020). For example, many community districts in Norway do not have permanent speech-language pathologists (SLP) who can provide the necessary five hours a week of speech-language training that Helsedirektoratet recommends to aphasia patients. Similarly, in Canada, "speech-language pathologists (SLPs) are a scarce resource and their availability is especially limited in remote areas" (Sicotte et al., 2003, p. 253). As part of the Faculty of Rehabilitation Medicine at the University of Alberta, the Institute for Stuttering Treatment and Research (ISTAR) is a self-financed institution that services remote communities that do not have SLPs. The institute specifies that 70% of the patients in their intensive program live outside of their Edmonton offices (Haynes & Langevin, 2012).

Telepractice studies in Norway have primarily focused on adult aphasia patients (Becker et al., 2013; Øra et al., 2020). While there have been studies of telepractice in Canada during the pandemic, there are still limited studies about the perceived challenges and opportunities experienced by SLPs and parents during the pandemic in Canada and Norway. Furthermore, there has been an increase in the use of technology to support society during the pandemic, as many services have been redirected to remote. Therefore, it would be interesting to understand participants' attitudes towards telepractice by documenting the experiences of those who took part in telepractice. The knowledge of participants' experiences, challenges encountered, and solutions could assist the profession in Norway and Canada "to provide quality telepractice services to meet the needs of an increasingly diverse clientele" and underserved populations (Tucker, 2012, p. 48).

Methods

Ethical approval

Ethical approval was obtained from Norsk Senter for Forskningsdata (NSD) in Norway. In Canada, the Canadian Association of Research Ethics Boards (CAREB-ACCER) deemed ethical approval unnecessary for the information collected on participants was non-nominative. All the participants completed a consent form before the study.

Study design

For this study, I employed a sequential, explanatory mixed-method approach. The mixed method supports the understanding of the topic in greater depth, provides comprehensive means to answer questions that could have been missed using one method, and limits the shortcomings. In addition, the phenomenology approach inspired the qualitative method part of this research study.

Participant recruitment

The snowball sampling technique was used to recruit participants because the technique permits researchers to attain "as many participants as possible" (Robinson, Bridges, Rollins, & Schumacker, 2019, p. 298). The participant requirements were any parent in Norway and Canada whose child was or had been participating in telepractice therapy since March 2020. A prerequisite for the practitioners were any SLPs or special education teachers who had been providing telepractice therapy before or after March 2020 and was still doing so. Therefore, I appealed to my social network to see if their child(ren) was receiving telepractice or knew anyone whose child(ren) was or had received telepractice. I also contacted the schools of my employment, the daycare my son attends and the list of SLPs on Norsk Logopedlag, and I posted my research on social media. This resulted in nine participants; four SLPs (one Norwegian and three Canadians) who offered telepractice and five Canadian parents whose children were engaged in telepractice as of March 2020.

A survey questionnaire was first collected, followed by qualitative in-depth interviews. In mixed method research, qualitative stories of experiences support quantitative trends that permeate the lives of individuals.

Materials

Survey questionnaires were designed using literature that has covered similar topics. In addition, a few questions from Lam et al. (2021) survey questionnaires were utilised for this study since their study survey questionnaires were pre-approved by numerous SLPs, a resource that I did not have. Two separate questionnaires were developed for the parents (appendix 2) and the SLPs (appendix 3).

A survey questionnaire was first collected, followed by qualitative in-depth interviews. In this study, I refer that I used quantitative methods; however, according to (Bishop et al., 2017), "a sample size of thirty is held by many to be the minimum number" that can be used in a quantitative study. Though I acknowledge that the number of participants in this study is too few for the research to be considered quantitative, I was inspired to use the quantitative method and therefore utilised some traditionally linked quantitative methods in combination with the qualitative method. Throughout this paper, I will refer to some quantitative aspects of my method design as quantitative.

Due to the low population of the sample size, the questionnaire was collected to get an overall attitude of the participants and their experience; importance was given to the qualitative results. This approach was taken because I was interested in participants' general attitudes towards telepractice as I documented their perceived challenges and opportunities. Furthermore, I wanted to see the trends in participants' responses, which would give me a background to the interview. Therefore, the importance of the study was not the quantity of the participants but their experience and explanation a' to why the participants felt the way they did towards telepractice. Thus, the phenomenological approach was utilised because I was interested in explaining the trends in participants' answers by gaining an understanding of the phenomenological experience of the participants as it relates to telepractice.

Phenomenological inspired Research

In this study, I was interested in the meaning of a group of people who shared a common experience attributed to their experience; therefore, I was inspired by the phenomenological approach. Phenomenology "describes the common meaning for several individuals of their lived experiences of a concept or a phenomenon" (Creswell, 2013). However, Thagaard (2013) writes that phenomenology has no prescribed set of methods for conducting research. Therefore, my phenomenological approach to this research entailed using Zoom video

conference to conduct participant interviews. Additionally, I interviewed participants after they took part in telepractice, and I emphasised qualitative data. It is critical to point out that due to inaccessibility and time, I was unable to acquire SLP's lesson plans, make clinical observations, and obtain observation notes, a method that other researchers have used in phenomenological studies (Boadu, 2021; Cangi & Toğram, 2020; Osborne, Pensinger, & Tetnowski, 2015; Tichenor & Yaruss, 2018). Nevertheless, my research develops the themes of therapeutic alliance and parental involvement in more detail than other studies.

Current research has examined the perceived challenges and opportunities of telepractice by employing the phenomenology approach. Mixed methods and phenomenology were utilised by Cangi and Toğram (2020) to investigate people who stutter by comparing telepractice and in-person speech therapy. Quantitative results determined no significant difference between the two groups. The qualitative analysis discovered several emergent themes, including therapeutic components, suitability, preference, and technology (Cangi & Toğram, 2020). The phenomenological approach was employed by Osborne et al. (2015) to conduct a case study of the therapeutic outcome of managing a child who stutters. The child continued to stutter at discharge; however, those involved in his management viewed the therapeutic outcome as a success. The success of the therapy was shifted from a decrease in stuttering to "increasing the communicative competence of the child" (Osborne et al., 2015, p. 31). My study adds to the literature that I perform this study during the COVID-19 pandemic. Therefore, the pandemic had an Impact on the results. Additionally, I studied participants from Norway and Canada, perceiving their challenges and opportunities of telepractice.

Data collection

The questionnaires were divided into five sections: demographic, implementation, attitudes, user experience, and efficacy. The questionnaires consisted of open-ended, close-ended, and Likert scale questions. The research questionnaires were made available online (Netttskjem) for five weeks (November 9th to December 6th, 2021). The participants spent between five to 20 minutes completing questionnaires. Once the questionnaires were completed, I conducted an in-depth interview with the participants, which took between 25 – 45 minutes to complete. The interviews adhered to the principles of phenomenology; thus, words and phrases used in the interview were first used by the participant (Tichenor & Yaruss, 2018). Due to geographical distance, cost, and social distance mandates, all the interviews were conducted online.

Data analysis

Thematic analyses were used to analyse qualitative responses. Creswell (2013) explains thematic analysis as "a method for identifying, analysing and reporting patterns (themes) within data" (Braun & Clarke, 2006, p. 79). Boadu (2021) adds that this is a messy recursive process that requires the researcher to interact with the data until it makes sense. I followed Creswell (2013) steps to data analysis. Because the population sample was small, I did not use statistical software for my quantitative data (Cohen, Manion, & Morrison, 2018); instead, it was manually counted.

Participants' interviews were read numerous times in their entirety; notes were taken and reviewed, and central ideas which answered the question were identified and highlighted. The data was then divided into two separate files, SLPs and parents, and entered into Excel sheets in order of question numbers. Finally, I conducted 49orizontalization where significant statements were highlighted and given equal value, as described by Creswell (2013). Participants' accounts that highlighted the essence of their experiences were collected and parsed into quotations.

The five sections of the questionnaires helped with the coding, where the participants' words, statements, and expressions to describe their experiences guided the general coding. With this information, clusters were made on the different experiences related to the participants. This resulted in 21 clusters. A re-evaluation of the data and the codes were used to reduce the number of clusters. Many of the clusters merged and thematised into meaningful themes and subthemes. This resulted in five themes (accessibility and efficiency; parental involvement; lack of physical contact; expectations of telepractice; and preference and recommendation).

Results

All nine participants completed the online survey and participated in the in-depth interview. The nine participants consisted of four SLPs (one Norwegian and three Canadians) and five

Table 1: Level of satisfaction and efficiency towards telepractice

Satisfaction towards telepractice	Parents n (5)	SLPs n (4)
Child using telepractice	4	N/A
SLP using telepractice	N/A	3
Setting up telepractice system	5	N/A
Interaction between child-SLP	3	2
Respected privacy	5	4
Telepractice met expectations	2	2
Quality of SL therapy	2	1
Recommend telepractice	2	2
Telepractice efficacy		
Child enjoyed telepractice	5	N/A
Parent understood therapy aims	5	3
The child understood the therapy's aim	N/A	3
Therapy met the child's needs	2	2
Telepractice enhanced a child's SL abilities	2	3
The parent understood the treatment progress	3	N/A
Treatment frequency appropriate	4	3
Treatment duration appropriate	5	2

n=is the study population. N/A= the participant group was not asked the questions.

parents, all of whom were from Canada. The five Canadian parents' children ranged between three to nine years. The majority (3/5) of the children received more than six sessions from their speech-language pathologist. Additionally, most (4/5) of the children received speech-language sessions weekly. However, none of the SLPs in this study provided speech-language services to the children involved in this study.

Quantitative Results

Attitude towards telepractice methods

Likert scales were used to measure the general satisfaction of the parents and SLPs toward telepractice. The results are presented in Table 1. On setting up the telepractice system, all the parents (5/5) were comfortable doing so; a majority (4/5) were also satisfied with their child using telepractice technologies. Likewise, most (3/4) SLPs were comfortable using telepractice technologies. These positive responses may suggest that the participants were familiar with technological systems and smart devices used for telepractice. The parents (3/5) and the SLPs (2/4) had a favourable view of the interaction between the SLPs and their children; and trusted the ability of the SLPs to maintain privacy (parents' survey: 5/5; SLPs' survey: 4/4). However, half of the SLPs (2/4) and less than half of the parents (2/5) were

satisfied with what they expected from telepractice and what they received from telepractice. This expectation could have been negative or positive; nevertheless, it was not what they expected. The participants (parents' survey: 2/5; SLPs' survey: 1/4) were also dissatisfied with the quality of the speech-language therapy; therefore, there was a low number of participants (parents' survey: 2/5; SLPs' survey: 2/4) who said they would recommend telepractice to others. The importance of these results lies in the causes behind the attitudes of participants' responses; I will later discuss them in the qualitative section of this article. Looking at the trends in participants' responses reveals puzzlement, which is difficult to understand; this was why it was vital for me to talk to participants and get some clarification and understanding of the contradictions.

Telepractice efficacy

Participants had a positive response (parents' survey: 5/5; SLPs' survey: 3/4) on the efficacy of telepractice regarding treatment aims. All parents (5/5) agreed that their child enjoyed telepractice. On the other hand, the participants (parents' survey: 2/5; SLPs' survey: 2/4) did not have a high view of telepractice meeting the needs of the children. Most of the SLPs (3/4) scored that their clients' parents understood the therapy aims. Most of the parents (3/5) in this survey scored that they understood the treatment progress. Treatment frequency (parents' survey: 4/5; SLPs' survey: 3/4) and duration (parents' survey: 5/5; SLPs' survey: 2/4) were viewed as appropriate by the participants; however, the participants (parents' survey: 2/5; SLPs' survey: 3/4) were not in agreement about if the treatment enhanced the speech-language ability of the children. I realised the trends in participants responses seemed contradictory. On the one hand, participants indicated that they were satisfied with the treatment aims but did not agree that telepractice enhanced the children's speech-language abilities. I found that an in-depth interview was necessary to explain the trends in the participants' answers.

Qualitative Results

Themes and subthemes

Table 2 contains the themes and subtheme clusters that emerged from analysing the transcripts. In writing the themes and subthemes, some quotes and statements that encompassed the essence of the participants' experiences were included. The objective was to bring in the participants' voices, and give a richer meaning to their experience, and "provide concrete

evidence in support of the themes" (Creswell, 2013; Tichenor & Yaruss, 2018, p. 1184). Unfortunately, not all the subthemes and quotes are included due to time and space limitations.

Table 2: Themes and subthemes	
Themes	**Subthemes**
Accessibility	Continual support and consistency Efficacy, efficiency, and cost Technology devices Familiar space and distractions
Parental involvement	Motivation Client Suitability
Lack of physical contact	Therapeutic alliance Hesitancy
Expectations of telepractice Preference and recommendation	

Theme: Accessibility

Telepractice has many opportunities; one of the opportunities of telepractice is the accessibility to speech-language services irrespective of one's location. Those whose children had in-person sessions before the pandemic had service disruptions and were later offered telepractice. All the parents cited that telepractice provided them with access to speech-language pathology services, a resource that was not accessible at the onset of the pandemic. Telepractice ensured that their children and the clients of the SLPs were supported during the pandemic.

Sub-theme: Access-Continual support and consistency

All participants experienced some type of stoppage or disruption at the onset of the pandemic; however, this changed when telepractice was introduced to more clients, and the therapists were able to provide support. In addition, it enabled access for the SLPs to support clients living in remote areas. The general feeling among the SLPs was summed up by SLP1, who stated that telepractice "*allows us to provide services for people who would otherwise not get it. People who are phobic to leave their homes".* Phrases like "*still support my client*s" and "*able to provide service*" were used by the SLPs in this study. The parents also expressed this sentiment in this study; however, some parents experienced challenges. The

challenge experienced by parent four (P4) was that the school kept changing her son's therapist. She expressed.

> *"I found that they changed therapists a lot. It was not one throughout. He would warm up to one, and then another would take over...I felt that it was difficult for him to warm up to the new therapist. Because he gets to know you, he is a bit shy; he likes to scan people sometimes ...if the session is once a week, it would take like four weeks...and that is time lost".*

This challenge created frustration for the parent and disrupted the therapeutic alliance. The difficulties experienced by P4 were not the case before the pandemic, and other parents did not have the same experience.

Subtheme: Efficacy, Efficiency, and Cost

The efficacy of telepractice is to produce the intended result. Participants cited that telepractice enhanced the children's speech-language abilities, and some parents expressed that they saw improvements in their child's speech and behaviour. For example, P4 discussed that despite the challenges her child experienced with inconsistent SLPs, her child improved, and his confidence increased. She explains, "*I was satisfied, I found that it worked great for my child, his confidence when speaking...he had really improved*". Other parents attributed the improvement of their child's speech-language situation to other things. For example, parent one (P1) cited that his child's diagnosis of selective mutism resolved itself once the family went on vacation.

> *P1: Prior to August, she only communicated with us and a few people, but when we went to Ghana, she talked to everyone and opened up. She had not met any of these people. Prior to that, she did not talk to anyone; she had selective mutism. She talked to us only. Now she is fine. Now there is no issue. We have stopped with the therapy.*

Participants defined efficiency to refer to moments of convenience, saving time and cost. Participants mentioned that with telepractice, there was less cleaning of office area, office toys and less paper usage. They could *"see more clients per day*," *"save travel time*," less driving, removing, and taking children back to daycare. Participants felt less *"rush*ed" and did not have to take time off from work or *"drop everything"* to take a child to therapy. According to the SLPs, these efficiencies meant a decrease in "*no-shows or cancellations"*. *SLP3* explained:

> *"Since we moved online, we have a reduction of no-shows or cancellations by 50%. Some clients forget they had other things they had to do and are running late. Some clients will do it (therapy) at a parking lot or quickly jump online".*

Additionally, telepractice decreased costs to the families in terms of money and time. For those who must come into the city from remote areas, their cost savings include transportation, food, and accommodation. For families that use public transit, telepractice meant that they would not need to "take a half-day off from work" in the winter months. Parent three (P3) expressed that with in-person therapy, she took time off work and lost pay. However, with telepractice, parents cited being able to work from home while allocating time to help their children with their therapy.

Sub-theme: Technological devices

Despite its accessibility, telepractice was still inaccessible to some individuals because of their area of residence, the technology itself, and its cost. Those living in remote regions experienced issues with acquiring enough bandwidth to support telepractice. Some of the clients of SLP2 and SLP3 lacked the technological device and the resources to operate them. Clients who were not economically endowed had difficulties maintaining reliable Wi-Fi, phone, or technological device, *"those kids have to come in"* (SLP2). The SLPs cited that technical glitches, distorted sound, and frozen screens created challenges in conducting smooth therapy sessions. SLP3 expressed that with telepractice, *"you have to have a phone, iPad. You need to have newer technologies and access"*. SLP2 added that *"poverty, stable network and phone"* play a role in telepractice inaccessibility.

Sub-theme: Familiar space and distractions

The participants cited that conducting therapy in a familiar space enabled the children to ease into the sessions quicker, made them comfortable and less anxious, and the parents spent less time calming the children. However, the challenging side of conducting therapy in the home was that the children were also more distracted either by toys, siblings, or other things. In addition, the children would sometimes not respond because they thought their sessions were interactive television shows. Several parents expressed that they had to convince their children that the session was not TV and needed to focus and interact with the SLPs.

Theme: Parental involvement

All participants agreed that telepractice encourages parents to take a more significant role in their child's speech-language therapy. Additionally, it ensured more SLP-parent contact and SLPs-parent coaching, and it enabled the parents and the SLPs to observe how the SLPs and the parents practices the therapeutic tools with the children. One SLP indicated that she would tell the parents of her clients to angle their telephone while teaching them how "to do the play" so that she could see the techniques and how it was working. All the participants agree that because sessions were conducted in the home, it enabled family members to be more involved. Parent four (P4) whose child switched from in-person to telepractice expresses:

> *"I was able to see his challenges, his improvements. How he engaged with the therapist. It was important for me to see how he engaged, how the therapist worked with him so that I can work with him when the therapist is not present".*

One SLP cited that with telepractice, the parents were *"`forced` to engage and do the work"* (SLP2). Unfortunately, this was precisely how some parents felt.

> *"I thought I was doing too much work. I don't think that is how speech therapy should be. Then again, I think because it is remote. The instructor is not there, and someone has to do the physical work, and this is the parent. I was expecting the instructor to do most of the work so that I could do my work*" (*P3*).

The SLPs expressed that there was a misunderstanding about their job description as speech-language therapists by parents. SLP2 stated:

> *"Sometimes a misunderstanding or expectation by parents is that we as the therapist will do the work and fix the child. We have not practised like that for a long time…Now the parents have to do the work with their child. I cannot be in the room…Parents sit back, and they say they don't read stories or play with their children. We need them to do those. The virtual visit encourages a therapeutic intervention that we will be working on".*

In this study, all the SLPs indicated that they provided therapeutic exercises for their client's parents to do at home with the client. All the parents confirmed that this was the case with their child's SLP. However, SLP1 cautioned about heavy parental involvement and questioned, "*does my dentist show me how I should fix my mouth?*"

Sub-theme: Motivation

The parents expressed that the children were motivated to start their sessions, and extra motivation was unnecessary. However, the participants agreed that the motivation and energy did not last throughout the sessions. One therapist expressed that the children looked “more alive with in-person therapy”, but on screen, they looked "dead in the face" (SLP4). Some therapists attributed the "dead in the face" look to tiredness from virtual learning during the pandemic; many children, including all children in this study, were partaking in it. The SLPs in this study cited that virtual school rendered the children tired when their speech-language sessions began. Having to “repeat” and “practice” after being on the screen, according to one therapist, is not fun for “them or me”.

Sub-theme: Client Suitability

There was no consensus on the children unsuitable for telepractice; however, SLPs expressed that those children on the spectrum would be challenging to conduct telepractice. This sentiment was agreed upon by a mother with an ASD child; that particular child took part in an in-person therapy. The SLPs were also reflective and indicated that they or someone they knew had experience with children on the spectrum that went well. The SLPs in this study cited client suitability is determined on a case-by-case base. For example, SLP1 added that “some of our children who are visual, and, on the spectrum, I found it easier to connect through the computer with them” (SLP1). Others identified children who were unable to “tolerate the camera," such as Down syndrome, behaviour issues, and hypernasality (several sounds resonate in the nasal cavity) required "motor prompting,” SLP3, for example, expressed experiencing success with a client with Down syndrome and communication issues; in contrast, SLP4 had the opposite effect and categorised children with Down syndrome as unsuitable for telepractice. SLP1 states:

> *“You cannot say never. But I have a child who had a motor-speech, and he was able to do it. I instructed. Other children whom I thought would do well... but they fell apart"* (SLP1).

In some cases, according to SLP1 and SLP2, it was not the child that was unsuitable but the parent. The parent's learning style and learning disability meant telepractice could not be conducted with the child and in-person sessions had to be conducted.

Theme: Lack of physical contact

Participants express restrictions due to lack of physical contact. The SLPs cited that some children require hands-on physical therapy to progress. This involved physical contact with the children to make the right sounds. For example, parent five (P5) cited that when her son was in in-person therapy, *"the therapist would touch him, so he knew how to roll his tongue, she would touch his chin and open her mouth"*. The challenges cited about lack of physical contact included being unable to see clients properly, correctly seeing the SLPs and clients' lip movements. In addition, the SLPs experienced challenges such as the inability to read nonverbal communications of the clients, giving complex instructions to the parents, the parents and support persons unable to follow physical therapy instructions (such as holding a jaw to make sounds), and incorporating games into the sessions.

All the participants expressed that involving games was challenging. One parent said, *"by playing with the child, you can see that if I do this, I can get the child to be comfortable and do what I want" (P2)*. Games were not integrated into one parent's child's session; she cited that games were impossible to incorporate into telepractice. Some parents did not share this perspective and indicated that games were incorporated into their child's sessions. Two therapists stated that they were able to integrate games and get their clients to engage during sessions. An SLP who began to use telepractice because of the pandemic cited that by taking two courses and using trial and error, she was able to identify games, means, and resources to keep her clients engaged throughout the sessions. However, she expressed that *"even my best virtual was 80% of in-person"* (SLP1).

Sub-theme: Therapeutic alliance

The emotional components aspect of the therapeutic alliance, such as trust and respect, were cited as a present by all participants; however, some parents questioned the existence of empathy in their child's therapy. A parent mentioned that the treatment felt systematic; at the end of each session, it was simply *"bye"*, with no rapport. Parents expressed that telepractice did not provide an opportunity for bonding. Those who have had in-person experience compared it to the telepractice experience; and said that there was an opportunity for bonding before and after in in-person therapy. Other parents expressed that the therapist would have been more emotionally involved if they had met their child physically. One parent attributed

it to the SLPs being uncomfortable on screen, a sentiment shared by one SLP. Some parents and the SLPs expressed that a better alliance would have been created with in-person therapy. Other SLPs said that they were able to *"establish relationships"* and create therapeutic alliances with their clients. Therapeutic alliance is often established when goals are set at the beginning of therapy. Goal setting was not asked of participants in this study; however, one SLP mentioned that she sets goals with clients, while two parents cited that "tasks" and "goals" were not established when they compared it to their in-person experience where goals, tasks and bonds were created. Additionally, another parent expressed that it was difficult for her son to warm up to his many therapists because the SLPs kept changing.

Sub-theme: Hesitancy

Participants' hesitancy was attributed to having access to adequate technological equipment, lack of equipment training, the SLP's employer, the mindset of the SLPs, and the unwillingness of the SLP to try telepractice. A first-time telepractice user, SLP2 cited, "*I thought it would not be as effective as in person. Establish relationships, assesses someone"*; she and other SLPs add that a change in thinking helped. Parents in this research did not state that they had hesitancy toward telepractice; however, SLPs in this study indicated that their clients' parents were hesitant to partake in telepractice. All four SLPs in this study indicated that they had to convince their clients' parents to try telepractice. SLP2 indicated that "*some clients believe it would not work. I told them I would not charge them if it did not work. Everyone else paid, only one did not".* The SLPs expressed that the hesitancies of the parents were due to personal preference as some parents wanted more information and evidence of telepractice. SLP3 stated that she was hesitant to offer telepractice to some clients "*because of their economic situation".* SLP2, who had not used telepractice before the pandemic, cited that she took two courses on telepractice, and she found them helpful, and they answered many of her fears and hesitancies. SLP2 expressed that mentorship and supervision would have helped with some of her fears and obstacles. She cited that *"those two curses were very important. I can only imagine if I had someone mentoring for a day. It would be very beneficial. None of our in-person things works on the computer".*

Theme: expectations of telepractice

Participants expressed that telepractice met their positive and negative expectations for the most part. The SLPs' negative expectations were realised in computer glitches and

forgetfulness from parents and teachers. Some SLPs expected to experience difficulties conducting specific therapeutic techniques that require physical contact, establishing therapeutic relationships, hearing and understanding clients, or seeing client movements. These were realised. Some SLPs also expected that they would experience difficulties incorporating games into sessions. Clients with economic issues would not have the proper telepractice equipment (phone, smart device, iPad), limited bandwidth, and financial hardship. The SLPs cited that they did not expect to have the level of contact with parents and the parental involvement that telepractice would require. The SLPs were generally satisfied with this unexpected result. The parents expected less travel, save time, and more convenience.

Furthermore, some parents did not expect excessive involvement, limited therapeutic relationships, and the therapist appearing *"removed"*. As a result, parents were not satisfied. One parent cited that his child's therapist *"did the lesson that was planned and nothing extra"* (P2). The P2 added that she understood that the sessions were not in-person but expressed that the therapist could have done more to ensure that the children's attention was held.

Theme: Preference and recommendation

The opportunities of efficiency and accessibility discussed were cited as to why participants would take part in telepractice. Nevertheless, all participants agreed that age plays a role in their preference. The SLPs mentioned children require more physical manipulations and physical play. Furthermore, children are more challenging to hear and require more assessment for diagnoses. Parents express that as their children grow and become more independent, they will *"choose"* or *"favour"* telepractice. However, the challenges encountered, such as lack of physical contact, and excessive parental involvement, make telepractice less attractive. Both the SLPs and the parent participants mentioned that the child's maturity, disabilities, and diagnosis contributed to their choice of preference. The participants in this study would recommend telepractice because of its opportunities but for older children. One parent sums up the participants' views and adds that it depends on the child *"how advanced the child is with technology, screen, being able to engage without too much external support"* (P3). The parents and SLP alike would recommend a hybrid speech-language pathology service.

Discussion

Perceived opportunities of telepractice

In this study, five parents and four SLPs conveyed their perceived challenges and opportunities of telepractice during the COVID-19 pandemic. Continuity and consistency of service were important to participants to prevent digression of the client's progress. The SLPs liked continually supporting their clients, especially those who would otherwise not have had access to speech-language pathologists, irrespective of location and needs. At the same time, the parents appreciated service consistency and continuity. All the participants favoured cost savings related to not having to pay for transportation, accommodation, and food for those travelling from remote areas.

Additionally, time savings associated with not driving long distances in bad weather and heavy traffic were favoured among participants. Furthermore, SLPs expressed that the convenience of in-home services decreased *"no-shows"*, cancellations, and taking unpaid leave from work. These findings are consistent with other literature (Hines et al., 2019; Tucker, 2012).

Conducting the therapies in a familiar environment is essential for children with social and emotional difficulties (Hines et al., 2019). Participants found it advantageous that the treatments were conducted in a familiar environment. The children were less anxious, and less time was spent getting them physically and emotionally ready, consistent with Hines et al. (2019). Parents also appreciated being more parentally involved, observing positive communications and interaction between the therapist and their child, and learning therapeutic skills to support their child. The opportunities cited by the SLPs included assessing clients remotely, observing how the parents implemented the therapeutic tools, how the parents *"do play"*, and establishing therapeutic relationships.

Perceived challenges of telepractice

A significant challenge and dissatisfaction cited were therapeutic alliance. Participants perceived it as limited or non-existent and expressed that a therapeutic alliance would have been established with in-person services. The therapeutic relationship between the client and the therapist predicts positive outcomes and impacts the patient's willingness to contribute to the therapeutic process (Fairweather et al., 2016). The frequent changes of P4's child SLPs disrupted the therapy and the therapeutic bond formed during therapy. The three main therapy

components are goals, bonds, and tasks (Fourie et al., 2011). For some parents, goals and tasks were discussed, while for others, it was not; however, the log-on-log-off schedule of telepractice made the parents express that their children's therapy was purely tasks and goals and void of bonds. The chit-chat, inconsequential conversation, or small chat that one often engages in before and after therapy with the child and the parents are principal elements of the therapeutic alliance. Some parents expressed that this essential element was missing in their child's therapy.

Other perceived challenges participants experienced in the telepractice environment included technological glitches, improper technological equipment, and client-therapist engagement as challenging to implement virtually. The distance nature of telepractice created challenges for the SLPs to provide physical guidance, hear the correct sounds, and engage in physical games and play. Games and play in speech-language pathology are used to achieve psychological goals, evoke trust and facilitate therapeutic alliance (Fourie et al., 2011). Lack of or inability to integrate games in telepractice may subdue the therapeutic alliance process.

Additionally, conducting therapy in a familiar environment meant some children were more distracted and unfocused. These findings are similar to other studies that mention the importance of the parent or support person in managing the child's behaviour (Haynes & Langevin, 2012; Hines et al., 2019; Tucker, 2012). There was no consensus on suitable telepractice candidates, even though those with ASD were listed as challenging by all SLPs. Other listed variables included children on the spectrum, Down syndrome, behaviour issues, hypernasality, age, those unable to tolerate camera use, and requiring motor prompting. The lack of uniformity in patient candidacy among the SLPs in this study is consistent with other studies (Hines et al., 2019; Tucker, 2012).

Economic hardship, parental involvement, and bonding

There were three findings that I found interesting in this study. The first was economic hardship. Access to technological devices and resources to operate telepractice was not challenging to acquire for the parents in this study. However, financial difficulties related to inaccessibility of phone lines, smart devices, unreliable Wi-Fi, improper equipment, insufficient bandwidth, and poverty created obstacles for some parents and clients of the SLPs in this study to access telepractice. This made hesitation for the SLPs to offer telepractice services.

Another interesting finding was that the distance nature of telepractice elicited greater parental involvement. It allowed parents to observe therapy sessions and enabled the therapist to coach the parents to practice in a familiar environment. Nevertheless, some of the parents expressed that they were doing the therapist's work rather than supporting their child, while the SLP cited this is how it should be.

Lack of bonding was cited as existing between the SLPs and the parents and the SLPs and the client. My suggestion to resolve some of the challenges comes from Hines et al. (2019). The SLPs in that study spent time outside billable hours developing relationships with the client's support system (parents, educators, family members), including negotiating their involvement. This approach should be considered by SLPs who cannot meet their client in person. Participants in the Hines et al. (2019) study cited that this was also helpful because it assisted in identifying the clients' interests and incorporated some of those interests into sessions. Establishing a relationship with the parents enabled the SLPs to understand the dynamics in the home and some of the factors that influence parental acceptance of telepractice.

Conclusion

The COVID-19 pandemic encouraged therapeutic services to be provided remotely. This study was able to identify some of the perceived challenges and opportunities participants experienced when they took part in telepractice during the pandemic. Participants perceived many challenges, including limited therapeutic relationships, excessive parental involvement, technological inaccessibility, and glitches. Nevertheless, they also experienced several opportunities, such as more SLP-parent contact, continuity and consistency of service, cost and time savings. However, perceived challenges and options should be discussed when telepractice is offered to reduce the difference between expectation and realisation, to prevent "buyers' remorse". Participants, especially parents, expressed frustration with what they thought telepractice would be and what they experienced; opportunities and challenges changed as telepractice took place. Parental involvement in speech-language therapy and especially telepractice is integral to its success. Specifications of the therapeutic *goals* may lead to discussing *tasks* needed to reach those goals by all parties, inside and outside the therapy sessions. The therapeutic alliance is vital in every therapy; therefore, extra effort needs to be made by SLPs before or after sessions to ensure that a therapeutic relationship is taking

place. Speech-language pathologists (SLPs) would benefit from taking telepractice courses and seeking mentorship from SLPs with experience and favourable view of telepractice. This can reduce the hesitancies and address some of the challenges experienced by SLPs as they embark on telepractice.

The limited number of participants from Norway in this study, in this author's experience, was because telepractice was not being offered to students as widely as it was in Canada. Therefore, the challenges of telepractice may have been the case. Nevertheless, I cannot confirm that the SLPs in Norway were not offering telepractice to preschool and school-age children because of the challenges of telepractice. However, mentorship, coaching, training courses, and willingness to adapt to changes were expressed as ways to reduce some of those challenges and encourage SLPs to adopt telepractice.

The opportunities for telepractice make it a practical and an attractive choice for countries like Canada and Norway, where large landmass, small population, extreme weather and SLP shortages make accessing speech-language services challenging. Telepractice has its challenges and setbacks; however, there is a need for more telepractice offers in Canada and Norway. Increasing access to smart technologies and acquainted technological population, and the sudden onset of the COVID-19 pandemic have introduced SLPs, parents, and children to use technologies for therapies, schoolwork, and social support. All of these suggest that telepractice can be embraced.

The conclusion drawn from this study cannot be generalised to a larger population due to its small study population. However, the detailed qualitative account of the participants' phenomenological experiences provides a foundation for further study with a larger population.

Suggestions for further research

Further research is required on how social economics impacts telepractice in Canada and Norway and countries that offer telepractice. As a country, the finding in this research shows that children from low-income households in Canada cannot access a resource whose whole aim is to be accessible to everyone. Research should also be conducted on preschool and school-age children using telepractice in Norway. In addition, more research needs to be shown on the impact of the learning disability of the parents on children's access to telepractice. Lastly, it would be interesting to expand on the parental involvement and

therapeutic alliance of telepractice. My contribution is that telepractice enables access, continuity, and consistency of speech-language pathology service when in-person service cannot be accessed consistently. Additionally, I bring to light some of the prejudice against telepractice and the solutions to address some of the challenges.

Declaration of interest

The study was conducted for my master's dissertation in special education at Høgskolen I Innlandet. Unfortunately, there were no financial contributions from the university or external resources. Therefore, the content and writing of this paper are my responsibility alone.

5. Thesis reference list

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7. Appendixes

7.1. Appendix 1: Inform Consent

Are you interested in taking part in the research project "Covid-19 and remote speech-language therapy"?

Since March 2020, some children who were receiving on-site speech therapy were switched to remote treatment. This letter is an inquiry about your participation in a research project where the purpose is to investigate the perceive effectiveness of remote speech-language therapy. The research will involve parents, spesialpedagog (special education) educators, and speech-language pathologists (SLP). In this letter, you will be provided information about the purpose of the project and what your participation will involve.

Purpose of the project
The purpose of this project is to complete my master's in spesialpedagogikk (special education) with a focus on reading, writing and speaking difficulties.

The project will ask parents, spesialpedagoger and SLPs about the challenges they faced and the opportunities of receiving and/or conducting speech stimulation/therapy remotely. It will investigate their perceived effectiveness of remote therapy before the onset of Covid-19. The data will only be used for the reasons listed above; however, I will attempt to write an journal article using the data which others may read.

Who is responsible for the research project?
Høgskolen i Innlandet (Inland Norway University of Applied Sciences) is the institution responsible for the project.

Why are you being asked to participate?
You are being asked to participate in this research project because you fit into one of the three population groups that I would like to interview:

1) You are a parent(s) of a child who was receiving on-site speech therapy and then later switched to remote speech therapy;
2) You are a special education teacher (spesialpedagog) who provided on-site speech stimulation to students and later switched to remote; or
3) You are an SLP who provided on-site speech therapy to clients and later switched to remote therapy.

You are being contacted because you fall in the following categories:

1) I know you personally;
2) I read an article that you wrote, or you were featured in an article;
3) I obtained your contact information from your business page website; and/or
4) I received your contact information from another person who knows of my research and believes that you may be interested in participating in this study.

Upon correspondence, you agreed to participate in the study.

What does participation involve for you?
The methods of data collection will be a survey and a personal interview. The interview will be online or in-person, depending on distance, availability, and convenience for you and me. I will collect basic demographic information, your views of your child receiving remote speech therapy, and your opinions of providing remote speech therapy. The information will be written down on a computer.

If you choose to participate in this project, you will be required to complete an online questionnaire. It will take approximately 20 minutes. The questionnaire includes questions about your experience of using telepractice, telepractice implementation, and telepractice efficacy. Your answers will be typed down electronically using a computer.

- Participants will be provided with an online questionnaire to fill out. Upon receipt of the questionnaire, a 10-minute follow-up interview will be conducted based on your response.

Participation is voluntary
Participation in this research project is voluntary. If you choose to participate, you can withdraw your consent at any time without reason. All information you provide will then be made anonymous. There will be no negative consequences if you choose not to participate or later decide to withdraw from this project.

Your privacy – how we will store and use your data
We will only use your data for the purpose(s) specified in this information letter. We will process your data confidentially by following data protection legislation (the General Data Protection Regulation and Personal Data Act).

- I, the researcher, and my supervisor at Høgskolen i Innlandet will have access to your data. The personal data does not include your name, address, email, personal number (social insurance number) or any other personally delegated information.
- I will replace your name and contact details with a code. The list of names, contacts details, and respective codes will be stored separately from the rest of the collected data. The data will be held on HINNs data service research server.

HINNs data processor will be used to store information, Nettskjema with privacy log-in will be used to collect/work with/store data online survey. HINN Office 365 OneDrive (FEIDE-log in) will be used for sharing and storing data.

Participant names will not be recognizable in publications. If they need to be mentioned, it would be written like "one participant" or "a participant." The only personal information that will be published will be age and gender.

What will happen to your data at the end of the research project?
This research project is scheduled to end on January 15th, 2022. The personal data and digital recordings will be deleted at the end of the project.

Your rights

So long as you can be identified in the collected data, you have the right to:

- access the personal information that is being processed about you
- request that your data be deleted
- request that incorrect personal data about you be corrected/rectified
- receive a copy of your data (data portability),
- send a complaint to the Data Protection Officer or The Norwegian Data Protection Authority regarding the processing of your data

What gives us the right to process your data?
We will process your data based on your consent.

Based on an agreement with Høgskolen i Innlandet (Inland Norway University of Applied Sciences), NSD – The Norwegian Centre for Research Data AS has assessed that the processing of personal data in this project is in accordance with data protection legislation.

Where can I find out more?
If you have questions about the project or want to exercise your rights, contact:

- Høgskolen i Innlandet (Inland Norway University of Applied Sciences) via Cecilia Sjoholm Contact information for the supervisor responsible for this research project is cecilia.sjoholm@inn.no +47 62 43 03 16.
- Student research osei.rita@gmail.com +47 41 22 95 51
- Our Data Protection Office: personvernombud@inn.no.
- NSD – The Norwegian Centre for Research Data AS, by email: (personverntjenester@nsd.no) or telephone: +47 55 58 21 17.

Yours sincerely,

Cecilia Sjoholm
(Researcher/supervisor)

Rita Osei
(Student Researcher)

Consent form

I have received and understood information about the project "Research on Covid-19 and remote speech-language therapy" and have been allowed to ask questions. I give consent:

☐ to participate in an interview

☐ to participate in an online survey

I give consent for my data to be processed until the end date of the project, approx. January 15th, 2022.

(Signed by participant, date)

7.2. Appendix 2: Research questionnaire:

Parents & guardian

Section A: Demographic

1. Please state the following information about your child.

Childs age:_____

Childs grade level: _____

Section B. Telepractice Implementation.

2. How many telepractice session(s) did your child receive during the pandemic?
   __ 1 to 5 session(s) __ 6 to 10 sessions __ more than 10 sessions

3. Please estimate the frequency of the telepractice your child received.
   __ weekly __ biweekly
   __ monthly __ less than monthly

4. Did the frequency of telepractice sessions changed from before the pandemic and during the pandemic?

__No (please explain) _____
__Yes (please explain) _____
__Other (please explain) _____

Section C: Attitude towards telepractice methods

5. Attitude towards telepractice methods

Please rate your level of satisfaction towards telepractice methods on a scale of 1 – 5 based on the rating scale below by checking off the column that best demonstrates how you feel. 1 = very unsatisfied 2 = Unsatisfied 3 = Neutral 4 = Satisfied 5 = Very satisfied					
	1 = very unsatisfied	2 = unsatisfied	3 = neutral	4 = satisfied	5 = very satisfied
a. I was comfortable with my child using the telepractice system					
b. I was comfortable setting up the telepractice device for my child					
c. I was satisfied with the interaction between my child and the therapist during telepractice					
d. I felt that my child's privacy was respected					
e. The telepractice therapy met my expectations					
f. I was satisfied with the quality of the therapy					

g. I would recommend telepractice to others					

Section D: Use of telepractice experience

6. What was some of the positive (opportunities) attributes about remote therapy?
7. What was some of the challenges of remote therapy?
8. Were you recommended some therapeutic exercises by the therapist to do at home with the child?
   Yes____ No___
9. Are you applying any therapeutic exercises recommended by the therapist at home?
   Yes____ No___
10. ***Overall, would you prefer on-site or remote therapy for you child? Why? ***

Section E. Telepractice Efficacy

11. Please rate the statements below, on a scale of 1 to 5 that best describes the efficacy of Telepractice.

Rating Scale: 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly agree

a. I think that my child enjoyed telepractice.
b. I understood the telepractice training aims.
c. I think that the training aims met the needs of my child.
d. I believe that telepractice is an effective approach in enhancing the speech and language abilities of my child.
e. I understood the treatment progress during telepractice.
f. I found that the telepractice treatment frequency to be appropriate.
g. I found that the telepractice treatment duration to be appropriate

12. ***Is there anything that you would like to say that is not mentioned or asked in this questionnaire?***

Questions with asterisk (***) will be followed up in a personal interview

7.3. Appendix 3: Research questionnaire

Speech-Language Pathologist and Special Educator

Section A: Use of telepractice experience

1. ***What was some of the positive attributes (opportunities) of providing remote therapy?***
2. ***What was some of the challenges (negative) of providing remote therapy? ***
3. Did you recommend any therapeutic exercises for the parents or guardian to do at home? Yes_____ No____

Section B: Attitude towards telepractice methods

4.

Please rate your level of satisfaction towards telepractice methods on a scale of 1 – 5 based on the rating scale below by checking off the column that best demonstrates how you feel. 1 = very unsatisfied 2 = Unsatisfied 3 = Neutral 4 = Satisfied 5 = Very satisfied					
	1 = very unsatisfied	2 = unsatisfied	3 = neutral	4 = satisfied	5 = very satisfied
a. I was comfortable using the telepractice system as part of my practice					
b. I am satisfied with the interaction between me and the clients during the telepractice					
c. I felt that I was able to uphold the therapist-client privacy during telepractice					
d. I felt like telepractice affected the quality of the therapy					
e. The telepractice therapy met my expectations					
f. I would recommend telepractice to others speech therapist					

5. **Are there any communication disorder or special needs children that you would not recommend the use telepractice to treat? Please explain. ***

6. **What do you think would prevent other SLP from providing telehealth services? **

Section C. Telepractice Implementation.

7. Did the frequency of sessions you give to clients changed from before the pandemic and during the pandemic?

__No (please explain) _____
__Yes (please explain) _____
__Other (please explain) _____

Section D. Telepractice Efficacy.

8. Please rate the statements below, on a scale of 1 to 5 that best describes the efficacy of Telepractice.

Rating Scale. (1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly agree)

a. __ I felt that the parents understood the telepractice training (practices and exercises) aim.
b. __ I felt that the children understood the therapy training aims.
c. __ I felt that the training aims met the needs of the children.
d. __ I felt that the telepractice was effective in enhancing the speech and language abilities of the children.
e. __ I felt like the telepractice treatment frequency given to the children was appropriate.
f. __ I felt like the telepractice treatment duration was appropriate

9. *Overall, would you prefer on-site or remote therapy for your practice? Please explain. ***

Questions with asterisk (***) will be followed up in a personal interview

7.4. Appendix 4: NSD Ethical approval

NSD NORSK SENTER FOR FORSKNINGSDATA

Vurdering

Referansenummer

629575

Prosjekttittel

Research on Covid-19 and remote speech language therapy

Behandlingsansvarlig institusjon

Høgskolen i Innlandet / Fakultet for lærerutdanning og pedagogikk / Institutt for pedagogikk - Lillehammer

Prosjektansvarlig (vitenskapelig ansatt/veileder eller stipendiat)

Cecilia Sjöholm, cecilia.sjoholm@inn.no, tlf: 62430316

Type prosjekt

Studentprosjekt, masterstudium

Kontaktinformasjon, student

rita osei, osei.rita@gmail.com, tlf: 41229551

Prosjektperiode

14.09.2021 - 29.01.2022

Vurdering (1)

28.10.2021 - Vurdert

Our assessment is that the processing of personal data in this project will comply with data protection legislation, so long as it is carried out in accordance with what is documented in the Notification Form and attachments, dated 28.10.2021, as well as in correspondence with NSD. Everything is in place for the processing to begin.

TYPE OF DATA AND DURATION
The project will process general categories of personal data and special categories of personal data about health until 29.01.2022.

LEGAL BASIS
The project will gain consent from data subjects to process their personal data. We find that consent will meet the necessary requirements under art. 4 (11) and 7, in that it will be a freely given, specific, informed and unambiguous statement or action, which will be documented and can be withdrawn.

The legal basis for processing general categories of personal data is therefore consent given by the data subject, cf. the General Data Protection Regulation art. 6.1 a).

The legal basis for processing special categories of personal data about third persons(children) is explicit

consent given by the parents of the data subject, cf. art. 9.2 a), cf. the Personal Data Act § 10, cf. § 9 (2).

PRINCIPLES RELATING TO PROCESSING PERSONAL DATA
NSD finds that the planned processing of personal data will be in accordance with the principles under the General Data Protection Regulation regarding:
• lawfulness, fairness and transparency (art. 5.1 a), in that data subjects will receive sufficient information about the processing and will give their consent
• purpose limitation (art. 5.1 b), in that personal data will be collected for specified, explicit and legitimate purposes, and will not be processed for new, incompatible purposes
• data minimisation (art. 5.1 c), in that only personal data which are adequate, relevant and necessary for the purpose of the project will be processed
• storage limitation (art. 5.1 e), in that personal data will not be stored for longer than is necessary to fulfil the project's purpose

THE RIGHTS OF DATA SUBJECTS
NSD finds that the information that will be given to data subjects about the processing of their personal data will meet the legal requirements for form and content, cf. art. 12.1 and art. 13.

Data subjects will have the following rights in this project: access (art. 15), rectification (art. 16), erasure (art. 17), restriction of processing (art. 18), notification (art. 19) and data portability (art. 20). These rights apply so long as the data subject can be identified in the collected data.

We remind you that if a data subject contacts you about their rights, the data controller has a duty to reply within a month.

FOLLOW YOUR INSTITUTION'S GUIDELINES
NSD presupposes that the project will meet the requirements of accuracy (art. 5.1 d), integrity and confidentiality (art. 5.1 f) and security (art. 32) when processing personal data.

OneDrive and Zoom are data processors for the project. NSD presupposes that the processing of personal data by a data processor meets the requirements under the General Data Protection Regulation arts. 28 and 29.

To ensure that these requirements are met you must follow your institution's internal guidelines and/or consult with your institution (i.e. the institution responsible for the project).

NOTIFY CHANGES
If you intend to make changes to the processing of personal data in this project it may be necessary to notify NSD. This is done by updating the information registered in the Notification Form. On our website we explain which changes must be notified. Wait until you receive an answer from us before you carry out the changes.

FOLLOW-UP OF THE PROJECT
NSD will follow up the progress of the at the planned end date in order to determine whether the processing of personal data has been concluded.

Good luck with the project!
Contact person at NSD: Markus Celiussen

7.5. Appendix 5: CAREB-ACCER Ethical approval

Gmail

Rita Osei <osei.rita@gmail.com>

Research on Covid-19 and remote speech language therapy

reb / cer (HC/SC) <reb-cer@hc-sc.gc.ca> Wed, Aug 18, 2021 at 7:19 PM
To: Akua Osei <osei.rita@gmail.com>

Dear Rita,

As you may be aware, the standards for human research ethics in Canada are set out in the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2). The accompanying interpretations regarding the scope of TCPS state:

3. When conducting research in Canada, should researchers from abroad be required to obtain REB approval in Canada?

TCPS 2 does not require research conducted by researchers from abroad to undergo REB review in Canada unless at least one of the following is true:

- the research is conducted under the auspices of a Canadian institution eligible to receive and administer research funds from one of the three federal research Agencies (the Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council of Canada, and the Social Sciences and Humanities Research Council of Canada) (see TCPS 2 Interpretations, Scope # 1).
- the source of funding comes from a Canadian institution or is administered through a Canadian institution.
- at least one of the research collaborators is affiliated with a Canadian institution.

However, even in the absence of these conditions, access to research sites and research participants should be determined on a case-by-case basis. Some institutions have voluntarily adopted TCPS 2 or require ethics review by a private research ethics board. It is responsibility of researchers to determine whether access to the research site or its members is subject to research ethics approval from any such body. Even if not subject to TCPS 2, researchers conducting research in Canada would be subject to the applicable laws, regulations and policies in effect, including, but not limited to those concerning the protection of privacy of participants, confidentiality, and the capacity of participants to consent.

Thus, if none of these conditions applies to you, there is no need for an ethics review in Canada. You indicate that you intend to interview speech language pathologists; thus, as per the sentence I highlighted above, you should consult with their professional organization in the relevant province(s) to see if they require a Canadian research ethics review.

Note that the Health Canada-PHAC REB only reviews research done by Health Canada and PHAC researchers; thus, we would not be able to review your study if you require an ethics review. If you have no affiliation with a Canadian university or are not collaborating with a Canadian academic researcher, your options for ethics reviews are limited. One possibility is the Community Research Ethics Office in Waterloo, Ontario which provides ethics reviews for community-based researchers on a fee-for-service basis.

I presume you're getting an ethics review at Høgskolen i Innlandet, as it's important that a study such as this have ethical oversight, even if it's not from a Canadian REB.

All the best,

Greg

Gregory Huyer, PhD

(he | il)

Manager, Health Canada-PHAC Research Ethics Board Secretariat

Strategic Policy Branch / Health Canada / Government of Canada

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Gestionnaire, Secrétariat du Comité d'éthique de la recherche de Santé Canada et de l'ASPC

Direction générale de la politique stratégique / Santé Canada / Gouvernement du Canada

gregory.huyer@hc-sc.gc.ca / Tél : 613-407-8945 (cellulaire)

[Quoted text hidden]

7.6. Appendix 6: Journal article guidelines

Guidelines : International Journal of Speech-Language Pathology

Instructions for authors

Thank you for choosing to submit your paper to us. These instructions will ensure we have everything required so your paper can move through peer review, production and publication smoothly. Please take the time to read and follow them as closely as possible, as doing so will ensure your paper matches the journal's requirements.

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References to an entire book

Bernthal, J. E., Bankson, N. W., & Flipsen Jr., P. (Eds.) (2009). *Articulation and phonological disorders: Speech sound disorders in children*. (6th ed.). Boston, MA: Pearson Education.

References to a chapter in a book

Ingram, D. (2008). Cross-linguistic phonological acquisition. In M. J. Ball, M. R. Perkins, N. Müller & S. Howard (Eds.), *The handbook of clinical linguistics* (pp. 626-640). Malden, MA: Blackwell Publishing.

Reference to an article in a journal

Tomblin, J. B., O'Brien, M., Shriberg, L. D., Williams, C., Murray, J., Patil, S., et al. (2009). Language features in a mother and daughter of a chromosome 7;13 translocation involving FOXP2. *Journal of Speech, Language, and Hearing Research*, 52(5), 1157-1174.

Proceedings, technical reports and unpublished literature

Langevin, M. (1997). Peer teasing project. In E. Healey and H. F. M. Peters (Eds.) 2nd World Congress on Fluency Disorders: Proceedings (pp. 169-171). The Netherlands: Nijmegen University Press.

Report from the National Technical Information Service (NTIS)

Osgood, D.W., & Wilson, J. K., (1990). Covariation of adolescent health problems. Lincoln: University of Nebraska. (NTIS No. PB 91-154 377/AS)

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New drug appears to sharply cut risk of death from heart failure. (1993, July 15). The Washington Post, p. 12.

Kandel, E. R., & Squire, L. R. (2000, November 10). Neuroscience: Breaking down scientific barriers to the study of brain and mind. Science, 290, 1113–1120.

Reference to an Internet source

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Chambers, J. G., Kidron, Y., & Spain, A. K., (May, 2004). Report 8: Characteristics of high-expenditure students with disabilities, 1999-2000. United States Department of Education

Office of Special Education Programs, American Institutes for Research. http://www.csef-air.org/publications/seep/national/Rpt8.pdf accessed 16th August, 2005.

Reference to a personal communication

T. K. Lutes (personal communication, April 18, 2006)

Reference to a case in law

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US Congress, Senate Committee on Foreign Relations, 1956 The Mutual Security Act of 1956, 84th Congress, second session, report 2273.

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