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Speech Language Pathologists' Experience of Working During a Pandemic

A Survey of COVID-19 and its Impact

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Abstract

The COVID-19 pandemic began to spread among the general population in Sweden in March of 2020 and had a major impact on the healthcare system. Previous studies have examined the impact of the pandemic on healthcare professionals and Speech Language Pathologists (SLP) in other countries, where the increased use of telepractice and personal protective equipment (PPE) have been described. However, no studies have examined the effect of the pandemic on SLP working practices in Sweden. The pandemic also created a new patient group, and studies examining SLP working practices for patients with post COVID are sparce. The first aim of this study was to examine how the COVID-19 pandemic has affected SLPs' working practices, as well as what working practices SLPs have implemented in relation to post COVID care. The second aim was to examine if the SLPs' have been affected outside of their professional practice.

A digital survey, consisting of 40 questions, was formulated and divided into three sections: demographics and effect on private life, effect on working practices, and post COVID care. The survey consisted of both open and multiple-choice questions that were analysed using a descriptive approach, a thematic analysis as well as a statistical analysis. The survey was completed by 371 SLPs who had been actively working in Sweden during the pandemic.

The results showed that SLPs across Sweden had been impacted by the pandemic, both professionally and privately. COVID-19 led to a reduced number of SLP visits. Two patient groups appear to have been particularly affected by the pandemic based on answers given to the open questions: multilingual patients, due to a reduction in the use of in person translators, and patients at high risk of catching COVID-19, due to restrictions designed to protect patients vulnerable to COVID-19. SLP visits were adjusted by using telepractice and PPE. While many SLPs predict that telepractice will continue to be used after the pandemic, PPE is only predicted to be used with some patient groups, for example patients with dysphagia. The results also showed that SLPs that worked with patients with post COVID reported several challenges, such as uncertainties regarding guidelines and SLP services for this patient group. SLPs used for most part already existing working practices in the treatment of patients with post COVID, for example traditional voice therapy treatment and treatment of dysphagia. In some cases, these methods were adjusted for use with patients with post COVID.

Keywords: Speech-language pathology, COVID-19, pandemic, working practices, post COVID, telepractice, PPE

Logopeders upplevelser av att arbeta i en pandemi: En enkätstudie om COVID-19 och dess påverkan.

Sammanfattning

COVID-19 pandemin började spridas hos populationen i Sverige under mars år 2020 och hade en stor påverkan på hälso- och sjukvårdssystemet. Tidigare studier har undersökt pandemins påverkan på vårdpersonal och logopeder i andra länder. I dessa studier har ökning av distansbesök och skyddsutrustning beskrivits. Dock har inga studier undersökt hur pandemin har påverkat logopeders arbetssätt i Sverige. Pandemin har även skapat en ny patientgrupp och studier som undersöker logopeders arbetssätt för patienter med post-covid är få. Det första syftet med denna studie var att undersöka hur covid-19 pandemin har påverkat logopeders arbetssätt samt vilka arbetssätt logopeder har implementerat i relation till post-covidvård. Det andra syftet var att undersöka hur logopeder har påverkats utanför arbetslivet.

En digital enkät, bestående av 40 frågor inom tre områden, utformades. Dessa områden var: demografiska frågor och påverkan på ett privat plan, påverkan på arbetssätt samt post-covidvård. Enkäten bestod av både öppna och slutna frågor. De öppna frågorna analyserades genom tematisk analys och de slutna frågorna analyserades genom statistisk analys och deskriptiv metod. Enkäten besvarades av 371 logopeder som hade varit verksamma i Sverige under pandemin.

Resultatet visade att logopeder i Sverige har påverkats av pandemin både professionellt och privat. COVID-19 ledde till att färre patientbesök hos logopeder kunde genomföras. Utifrån svaren verkar två patientgrupper särskilt ha påverkats av pandemin. Den första gruppen var flerspråkiga personer, på grund av minskade möjligheter att genomföra tolkmedierade besök. Den andra gruppen var personer i riskgrupp, på grund av rekommendationer utformat för att skydda personer som har högre risk att bli svår sjuk i covid-19. Logopeder anpassade sina besök genom att använda distansbesök och skyddsutrustning. Även om många logopeder förutspår att distansbesök kommer att fortsätta användas efter pandemin tror många logopeder att skyddsutrustning endast kommer att användas med några patientgrupper, till exempel patienter med dysfagi. Resultaten visade också att logopeder som arbetat med patienter med post COVID uttryckte flera utmaningar. Exempelvis fanns en osäkerhet kring riktlinjer och insatser för patientgruppen. Vid

behandling av t.ex. röststörning och dysfagi använde logopederna till större delen redan existerande arbetssätt som i vissa fall anpassades för patientgruppen.

Nyckelord: Logopedi, COVID-19, pandemi, arbetssätt, postcovid, digitala vårdbesök, skyddsutrustning

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The authors of this report hereby declare that they have contributed to this work with an equivalent workload.

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1. Introduction

The COVID-19 pandemic started in December of 2019 and is still ongoing. The first case of the SARS-COV-2 virus that causes COVID-19 was discovered in Wuhan, China. Since then, it has spread around the world and become a global pandemic (Folkhälsomyndigheten, 2021a; Coronakommissionen, 2021a). On the 11th of March 2020, SARS-COV-2 was classified as a pandemic by the World Health Organization (World Health Organization [WHO], 2020; Coronakommissionen, 2021a). The first case of COVID-19 in Sweden was discovered in Jönköping, but the domestic spreading of the disease began during March of 2020. Thereafter, it spread rapidly among the general population (Coronakommissionen, 2021a; Folkhälsomyndigheten, 2020a). COVID-19 was classified as a communicable disease in Sweden between the 2nd of February 2020 and the 1st of April 2022 (Krisinformation, 2020; Regeringskansliet, 2022). In Sweden, COVID-19 has been classified as dangerous for public health as well as for society and has been subject to mandatory contact tracing (Folkhälsomyndigheten, n.d.a). During 2020 the spread of infection peaked in April and December of that year in Sweden (Coronakommissionen, 2021a).

Sweden's National Board of Health and Welfare's report gives a general description of the effect that the COVID-19 pandemic has had on the Swedish healthcare system. The focus according to the board's report has been primarily on primary care, acute care, and specialised care, with a high amount of focus placed for example on doctor's visits and operations (Socialstyrelsen, 2021a; Socialstyrelsen, 2021b). It is therefore important to examine the effect of the COVID-19 pandemic on other healthcare services, such as speech and language pathology services.

Most healthcare employees had little to no experience of working during a pandemic when COVID-19 first came to Sweden. The lack of guidelines within the healthcare system for such circumstances may have led to improvised working practices, not only for existing patient groups, but also for patients with COVID-19 (Harris et al., 2020). The gap in knowledge of how SLPs, their practices, and their patients have been affected by the pandemic warrants the present study.

2. Background

2.1 Healthcare and COVID-19 in Sweden

The Swedish government has the responsibility for creating laws and guidelines within the healthcare system. Responsibility for implementing these laws and guidelines is delegated to the individual counties. It is therefore up to every individual county how they prioritise the healthcare services that they provide (Vetenskapsrådet, 2021). Every county has an overall responsibility for healthcare services, but the local councils have responsibility for healthcare services within schools, care of the elderly, and care of persons with neurodevelopmental disorders in a care home setting (Hälso- och sjukvårdslag, 2017). Patients in Sweden needing care for COVID-19 have been hospitalised on regular wards for an average of 7 days. However, persons in need of intensive care have been hospitalised for an average of 20 days (Socialstyrelsen, 2020). Sweden has a relatively low number of hospital beds compared to other countries (OECD, 2021). This combined with the prolonged hospital stays of patients with COVID-19 could be considered as putting an extra strain on the Swedish healthcare system.

Current evidence suggests that COVID-19 is an airborne virus that is mainly spread by inhaling virus droplets. The most common way to become infected is thought to be by being in close proximity to someone who is infected. Virus particles are released from the infected persons nose or mouth when they sneeze, cough, speak, sing or breath. The droplets can then enter a healthy person via their mouth, nose, and eyes. Being in an indoor environment with bad ventilation can increase the risk of catching COVID-19 as its particles are small aerosol droplets that can remain suspended in the air for longer periods of time (WHO, 2021a). To date 2,504,894 people have contracted COVID-19 and 18,897 people have died due to COVID-19 in Sweden. Stockholm is the county that per capita has been most affected (Folkhälsomyndigheten, 2022a).

Sweden's response to the COVID-19 pandemic has differed to other countries. While most countries chose to implement lockdowns, Sweden stayed relatively open, relying on non-binding recommendations with focus on civil duty (Paterlini, 2021; Mishra et al., 2021; Claeson & Hanson, 2021). The main focus of these restrictions has been maintaining social distance and staying at home if you have cold and flu like symptoms (Folkhälsomyndigheten, 2022b). The use of facemasks has been uncommon among the general population in Sweden (Krona, 2021; Claeson & Hanson, 2021). It was not until the 10th of January 2021 that a pandemic law was introduced in Sweden giving the government the power to introduce

restrictions as well as to implement lockdowns if required (Lag om särskilda begränsningar för att förhindra spridning av sjukdomen COVID-19, 2021). No national lockdown has been implemented in Sweden to date. However, the way that the Swedish healthcare system is built has allowed counties to implement local lockdowns and restrictions where they see fit (Folkhälsomyndigheten, 2021b).

The pandemic has affected how primary care at a county level is executed. During 2020 physical visits decreased and the use of telepractice increased within the public healthcare system. In Sweden, telepractice is also associated with apps operated by private companies that are funded by the counties. Via the apps the patient can meet a doctor, nurse, physiotherapist, or a psychologist. The use of these apps has increased steadily between 2016 and 2018 (Socialstyrelsen, 2018). However, their use increased exponentially during the pandemic, with an increase of 100 percent between the year 2019 and 2020, showing the impact of the pandemic on the use of telepractice via apps in Sweden (Coronakommissionen, 2021b). None of these apps offer speech-language pathologist services (Socialstyrelsen, 2018). However, SLPs may have resorted to using other digital communication methods during the pandemic.

2.2 Groups Most Affected by the Virus

The Public Health Agency of Sweden classifies those at high risk of contracting severe COVID-19 and potentially death as those over 70 years of age, those who have had organ transplantations, blood cancer, neurological diseases that affect respiratory functions, obesity (defined as BMI 40 or above), ongoing cancer treatment, chronic pulmonary diseases, stroke, dementia, liver disease, impaired kidney function, cardiovascular disease, downs syndrome, other immunosuppression caused by disease or treatment, and pregnancy after week 20 (Folkhälsomyndigheten, 2021c; Folkhälsomyndigheten, 2022c).

Sweden's National Board of Health and Welfare (2021c) highlights that people over 70 years of age, people with chronic diseases and people with low socioeconomic status have been most affected by the virus in comparison to other groups of society. Due to the stress on the healthcare system the care of more acute cases has been prioritised leading to fewer medical visits for some patient groups during 2020 as well as longer waiting times (Socialstyrelsen 2021c; Socialstyrelsen, 2021d; SKR, 2022).

2.3 Post COVID

There is no internationally agreed definition of post COVID, that can sometimes be referred to as long COVID. Sweden's National Board of Health and Welfare (2021e) defines post COVID as the symptoms that remain after a COVID-19 infection has ended or new symptoms that debut after the initial infection. However, Mayo clinic (2021) defines post COVID as symptoms that persist for more than four weeks. WHO (2021b) defines post COVID as "the illness that occurs in people who have a history of probable or confirmed SARS CoV-2 infection; usually within three months from the onset of COVID-19, with symptoms and effects that last for at least two months. The symptoms and effects of post COVID-19 condition cannot be explained by an alternative diagnosis." Patients who have received ICU treatment for COVID-19 can also present with secondary complications as a result of the ICU interventions as well as stress (Parotto, et al., 2021). In this study, the term post COVID will include both persistent COVID symptoms as well as symptoms secondary to the COVID infection.

For many patients, post COVID disappears gradually without the need for medical treatment. However, some patients may have serious or prolonged symptoms that may need medical treatment. Symptoms of post COVID vary greatly, but the most common symptoms include fatigue, difficulty breathing and shortness of breath, cognitive impairment, and pain. Other symptoms that have been reported include headache, fever, changes to taste and smell, stomach problems, muscle weakness, difficulty sleeping, depression, anxiety as well as swallowing and communication deficiencies (Socialstyrelsen, 2021f; Mohapatra & Mohan, 2020; Langton-Frost & Brodsky, 2021; Namasivayam-MacDonald & Richeulme, 2020).

There are currently no national recommendations for how patients with post COVID should be treated. However, the Swedish National Board of Health and Welfare recommends a multidisciplinary approach to patient care, based on the individual patients needs and symptoms. According to the Swedish National Board of Health and Welfare, healthcare occupations that could be included in the rehabilitation of patients with post COVID are nurses, doctors, occupational therapists, physiotherapists, psychologists, speech-language pathologists, and dieticians (Socialstyrelsen, 2021f). Statistics over the number of patients diagnosed with post COVID have only been published in Sweden from October 2020 and onwards. Since then, a total of 7,975 people has been diagnosed as having post COVID (Socialstyrelsen, 2022).

2.4 Speech-Language Pathology in Sweden

Within the Swedish healthcare system, there are 26 licensed SLPs per 100 000 residents, which roughly equates to 2700 SLPs under the age of 65. Ninety-three percent of these are women. How many of the SLPs that are active is not stated (Statistiska Centralbyrån [SCB], 2021a; Socialstyrelsen, 2021g; Logopedförbundet, 2022). The majority of licensed SLPs work within the healthcare system. However, roughly 11 percent work within a school setting (Logopedförbundet, 2022). SLPs work with a wide range of patient groups. In Sweden, common practice is for SLPs to work with one or a few types of patient groups within a specific area, for example speech and language in children, neurology, or voice (Blom Johansson et al., 2011). SLPs who work in a healthcare setting can be employed both within rehabilitation and habilitation teams as well as working independently. SLPs in schools are often employed by local councils. It is however worth noting that there is no law requiring schools to employ SLPs in Sweden (Skollag, 2010). A survey in Sweden showed that 100 of the 223 councils that responded had access to an SLP in their schools (Andersson, 2021). Access to SLPs in a school setting therefore varies greatly.

2.5 The Effect of the Pandemic on Speech-Language Pathology

2.5.1 Telepractice

Due to the pandemic's length as well as the Public Health Agency of Sweden's (Folkhälsomyndigheten) social distancing recommendations, many healthcare providers have had to look for alternative ways of providing their services (Coronakommissionen, 2021a). No studies, that we are aware of, have been done on SLPs' use of telepractice in Sweden. However, studies of telepractice have been carried out in other countries. A survey conducted by the American Speech-Language-Hearing Association (ASHA) in the USA showed that SLPs' use of telepractice on a regular basis increased from 2-10% to 29-85% from March to May of 2020 (The ASHA Leader Live, 2020). A second survey study performed in Canada also showed that SLPs' use of telepractice has increased during the pandemic (Macoir et al., 2021). A third survey study performed in Croatia also described that SLPs use of telepractice was sparce prior to the pandemic, and that it had increased during the pandemic (Kuvac Kraljevic, et al., 2020). The results of the ASHA survey showed that delivering SLP services via telepractice was most challenging during the start of the pandemic. Furthermore, the majority (58%) of the SLPs pointed out that they could not provide necessary services to patients in need (The ASHA Leader Live, 2020). More specifically, Macoir et al. (2021) reported that SLPs thought that telepractice was suitable for the most part, but less feasible in

relation to examination and treatment of conditions such as dysphagia and eating disorders, conditions that affect orofacial function, childhood apraxia of speech, phonological skills, and hearing loss. The solution of telepractice may therefore not be suitable for all patients (Macoir et al., 2021). However, several studies carried out prior to the pandemic show that the use of telepractice in the assessment and treatment of patients with dysphagia has been effective. These interventions did, however, require specific equipment as well as the presence of an educated third party to assist the patient during the assessments (Malandraki, et al., 2011; Malandraki et al., 2012; Burns, et al., 2019). This approach does therefore not eliminate the risk of transmission of COVID-19 as the third party was often unknown to the patient prior to the assessment.

As stated above, the use of telepractice does not seem to come without challenges. A survey study in the USA mapped out SLPs perspectives on the impact of COVID-19 on telepractice (Kollia & Tsiamtsiouris, 2021). Themes touched on inclusiveness, where the patients did not always have access to electronic equipment such as a computer or webcam and internet, as well as knowledge about and reliance on technology. The previous mentioned study also highlighted SLPs limitations in assessments and therapy, where standardised tests and treatment materials were often not provided online. Furthermore, the SLPs described that they had little to no experience of using telepractice, which resulted in a "trial and error" way of work. It is however important to note that the SLPs also reported positive aspects of telepractice, such as not endangering risk group patients to the virus, being able to not use facemasks during speech therapy and being able to provide services to more patients (Kollia & Tsiamtsiouris, 2021).

In relation to patients with aphasia (PwA), telepractice has been described as feasible for SLP use in the deliverance of both assessment and intervention as well as consultation. Therefore Hall et al., (2013) conclude that telepractice can be seen as equivalent to face-to-face sessions. It enables the SLP to provide their services to more PwA, such as those living far away or those with physical mobility limitations. Furthermore, it can reduce travel time as well as scheduling conflicts, making services more available for PwA (Hall et al., 2013). Kong (2021) points out that PwA have received less conventional rehabilitation during the pandemic but there has also been an increased use of telepractice for therapy. Group therapy for PwA is a common practice used in the later stages of therapy (Papathanasiou & Coppens, 2017) and the recommendations and restrictions implemented during the pandemic may therefore be thought to have impacted the ability to offer group therapy. As an alternative, one

study found that group therapy online via Telerehabilitation Group Aphasia Intervention and Networking (TeleGAIN) was an effective alternative to face-to-face sessions (Pitt et al., 2018), suggesting that group therapy can be offered in an online format.

2.5.2 Personal Protective Equipment and Communication

With the pandemic, the use of PPE has increased within the healthcare setting. The use of facemasks can have a negative impact on auditory-visual recognition, especially with those who are hard of hearing (Thibodeau et al., 2021). Furthermore, facemasks pose as a dampener that change the acoustics of speech, making the speech less intelligible (Lan Troung et al., 2021). Since a major part of SLPs' work is in relation to speech, the use of facemasks can be thought to have a significant impact on the efficiency of treatment.

Studies looking at the impact of facemasks from SLPs' point of view is lacking. However, studies of other healthcare providers have shown that the use of non-transparent facemasks leads to communication difficulties between healthcare providers and patients, where difficulties in understanding one another are common. Regular strategies to compensate for communication difficulties have been reported as being reducing background noise, facing the patient, having lighting on self, using an amplifier, speech modification strategies, as well as using gestures, pictures, and a pen and paper. It has also been shown that communication improves with the use of transparent facemasks, compared to traditional facemasks, especially for older patients with hearing difficulties (Deardorff, et al., 2021; Knollman-Porter & Burshnic, 2020; Schneider, et al., 2022). Several studies have expanded upon this theme, showing that the use of transparent facemasks has no impact on a patient's ability to recognise emotions, compared to not using a facemask at all (Ferrari, et al., 2021; Marini et al., 2021). Thoidast et al. (2020) discuss that the use of PPE is not necessarily enough to prevent the spreading of COVID-19, especially in relation to SLPs' services provided to children with communicative difficulties. Furthermore, treatment of children can be seen as particularly sensitive since prevention of treatment of children can inhibit their communicative development. In the long run this may lead to long term consequences that could affect factors such as social life and education. Cancelled visits could also affect the child's parents negatively which in turn can result in a reduction of home training (Thoidast et al., 2020).

2.5.3 SLPs and the Management of COVID-19 and Post COVID

Mohapatra & Mohan (2020) reported that SLPs meet patients with COVID-19 both in a closed and open care setting. In these settings they assess and manage dysphagia, speech, and voice, as well as neurocognitive deficits and tracheostomy. Common medical complications after COVID-19 have been shown to include stroke, seizures, weakness, and numbness as well as other complications due to an affected nervous system (Mao et al., 2020). While patients with COVID-19 are a new patient group, the communication and swallowing symptoms that they present with are well known to SLPs (Mohapatra & Mohan, 2020; Langton-Frost & Brodsky, 2021; Namasivayam-MacDonald & Richeulme, 2020). A study by Gonzalez Lindh et al. (2022) has shown that 71 percent of patients who have been intubated due to COVID-19 develop dysphagia. The longer a patient is treated in the ICU the greater the risk of developing dysphagia is. The main symptoms that patients present with are bolus retention, cough as well as oral and pharyngeal muscle retention (Gonzalez Lindh et al., 2022). ICU patients with COVID-19 assessed by SLPs across Ireland presented predominantly with dysphagia, followed by dysphonia and dysarthria (Regan et al., 2021a). Another study in Ireland found that patients who had been intubated due to COVID-19 required altered oral intake or alternative nutrition and 66 percent of the patients also presented with dysphonia post-extubation. Injury after intubation and pre-existing respiratory disease predicted the patients voice quality post-extubation (Regan et al., 2021b). At time of discharge Gonzalez-Lindh et al. (2022) and Regan et al. (2021a) showed that patients had improved significantly compared to the initial SLP assessment. A study in Spain showed that 25 percent of patients with COVID-19 who were hospitalised in the ICU had dysphonia at least three months after hospital discharge. The study also showed that ICU patients with persistent dysphonia were more likely to present with persistent dysphagia. Furthermore, the most common cause of these persistent voice problems was vocal cord paralysis (Leis-Cofiño et al., 2021). Number of days in the ICU has shown to increase the risk for swallowing dysfunction regardless of patient group (Skoretz et al., 2010; Brodsky et al., 2017). However, Gonzalez-Lindh et al.'s (2022) study suggests that COVID-19 patients tend to improve quicker than expected based on what would normally be anticipated from other patient groups.

There are to date few studies investigating the prevalence of voice symptoms among non-hospitalised COVID-19 patients. However, a study by Cantarella et al. (2021) has shown that even non-hospitalised COVID-19 patients can present with dysphonia. How long the

patients have dysphonia as well as the severity of the dysphonia can be related to if the patient also had a cough and rhinitis (Cantarella et al., 2021).

2.6 The Effect of the Pandemic Outside of the Profession

Working from home has become common practice in this digital age and the boundaries between working and private life are more diffuse. Factors that could affect people's private lives as a result of the pandemic include if they live alone, if social interactions have reduced as well as if they have less time for hobbies and activities outside of work (Tusé et al., 2021). Working with patients who have COVID-19 as well as the fear of the negative effect on one's own health may have a negative effect on healthcare professional's mental well-being (De Brier et al., 2020). In relation, a study in Ireland showed that SLPs who worked with dysphagia during the pandemic had an impact on their psychological health, with an increased risk of conditions such as depression, stress, and anxiety (Rouse & Regan, 2021). Therefore, it is of value to examine how SLPs has been affected by the pandemic in their private lives (personally) and why.

2.7 Aim and Research Questions

The first aim of this cross-sectional study is to examine how the COVID-19 pandemic has affected SLPs' working practices, as well as what working practices SLPs have implemented in relation to post COVID care. The second aim is to examine if the SLPs' have been affected outside of their professional practice.

To answer the aims of this study we formulated the following four research questions:

1. How have SLPs adjusted their working practices as a result of the pandemic?
2. How have SLPs been affected during the pandemic in relation to which sector they work within as well as their geographical location?
3. What challenges have SLPs encountered, and what new practices have been implemented, in relation to post COVID care?
4. How have SLPs been affected personally during the pandemic?

3. Method

This study was a survey study, in which a digital survey method was chosen. A digital survey is easily distributed and allows for a high spreading of the survey. This was especially important for this study as we wanted to reach as many SLPs as possible across the whole of Sweden in a short time span, for an as broad perspective as possible. A digital survey study was therefore the preferred choice of method over an interview study. The answers are registered automatically, saving time compared to a survey sent out by regular post (Trost, 2012). Furthermore, the pandemic has made it difficult to meet in person to distribute the survey ourselves. The disadvantages of a digital survey are that participants often have expectations that it should not take too long to complete. There is a risk that the email ends up in junk mail, especially with larger organisations, that often have tougher restrictions for what they allow through their security systems. As a participant, it is easy to forget an email and there is therefore a risk that the number of participants could be lower due to this (Trost, 2012).

3.1 Survey Design

The digital survey was created with the help of Microsoft forms. Inspiration for the choice of answers to the area of expertise question was taken from Blom Johansson et al.´s (2011) survey. Areas of expertise in this study refers to which area/areas the SLPs mainly work within. Inspiration for the choice of answers to the question regarding professional title was taken from SRATs' (Statstjänstemännens Riksförbunds Allmänna Tjänstemannaförbund) 2021 salary survey. Further inspiration for the formulation of sections and questions was taken from the survey form of a parallel study that is being completed in Ireland that is not yet published. Two SLP students reviewed the survey, and the questions and answer choices were adjusted based on their feedback. In the survey the term "patient", was defined as being both patients in a healthcare setting as well as students in a school setting that have SLP contact.

The final survey (see Appendix 1) consisted of 40 questions that were divided into three sections. The first section consisted of questions regarding aspects that affect SLPs outside of their profession, such as demographic information and how the pandemic had affected the SLPs in their private life. An example of the questions asked during the first section is *"Has the COVID-19 pandemic affected you in your private life?".* The second section consisted of questions regarding how the pandemic had affected them professionally. An example of the questions asked during the second section is *"If you have experienced that*

the COVID-19 pandemic has affected your working practices, in what way have you been affected? Describe". The third and final section consisted of questions regarding post COVID care. An example of questions asked during the final section is *"What symptoms, that are relevant for speech-language pathologists, have your patients with post COVID presented with?".* The survey was comprised of open and multiple-choice questions. Only the question regarding if the SLPs had actively been working in Sweden during the pandemic was compulsory to answer as this was an inclusion criterion. How many participants that answered specific questions therefore varies.

3.2 Data Collection

The survey was available for 4 weeks during February and March of 2022 on various forums, such as on Facebook, SLP forums, via direct contact with different healthcare providers and schools as well as via direct contact with personal acquaintances. Search words "speech-language pathologist" were entered into an internet search engine together with the names of the different counties to generate a list of SLPs that work within the various counties. The names generated were then emailed with a presentation of ourselves and our work, together with a link to the survey. Another search was conducted to generate a list of counties with SLPs working within their schools. Councils that stated on their webpage that they had SLPs working within their schools were emailed and asked to distribute the email to their SLPs. The aim was to create a snowballing effect to allow for the greatest spreading of the survey. The survey was monitored during the collection period to keep track of how it spread within the different counties as well as across the different areas of expertise. This allowed us to target specific counties or areas of expertise that were not represented enough (none or a few answers) to ensure that an as wide range of participants as possible were included in this study. This was achieved by repeating our internet searches for those specific counties as well as sending out reminder emails to those SLPs that had already been emailed.

3.3 Participants

A total of 373 SLPs responded to the survey. However, only licenced SLPs that had been actively working in Sweden during the pandemic were included in this study. As a result, 2 participants were excluded, leaving a total of 371 participants.

The sample consisted of 347 women (93.5%), 22 men (5.9%) and one other (0.3%). The most common age group among the participants was 31-40 years of age followed by

those who were 22-30 years old. For the frequency and percentage of each age group see *table 1*.

Table 1: Distribution of age groups

	Frequency	Percent
22-30	96	25.9
31-40	134	36.2
41-50	64	17.3
51-60	64	17.3
61-65	8	2.2
65+	4	1.1
Total	370	100

3.4 Data Analysis

The Social Package for the Social Sciences (SPSS) programme was used to analyse the data. Answers to multiple-choice questions with an "other" option were analysed and categorised into new categories except those that had no commonalities to other answers. These answers were remained under "other" to protect the participants anonymity.

To answer our first research question, some variables, such as geographical location were converted from 21 to three values, which referred to the three geographical areas that Sweden can be divided into: Norrland, Svealand and Götaland. See *table 2* for distribution of counties per geographical area.

Table 2: distribution of counties per geographical area

Geographical Area	Counties Included
Norrland	Gävleborg, Västernorrland, Jämtland Härjedalen, Västerbotten, Norrbotten
Svealand	Dalarna, Kalmar, Stockholm, Södermanland, Uppsala, Värmland, Västmanland, Örebro
Götaland	Blekinge, Gotland, Halland, Jönköping, Kronoberg, Skåne, Västra Götaland, Östergötland

All open questions were analysed and summarised based on a thematic analysis approach. Inspiration for the thematic analysis was taken from Braun et al. (2019) and involved the following process: First, we familiarised ourselves with the responses of each individual question per section. We then identified key features of each answer for

commonalities and divided them into categories. These categories were then compiled into initial themes, which were reviewed against the dataset to ensure that they are a fair representation of the answers. A thematic analysis was done for each section of the survey; one each for the sections regarding working practices, private life and post COVID. The initial themes from the questions were then compared to each other to create final themes for each subsection of the survey to represent the entire data set. See *table 3* for an example of the process.

Table 3: Example of thematic analysis

Quote	*Categories*	*Themes*
"have worked with a facemask/visor, have had more digital visits"	Facemasks, visors, digital visits	PPE, hygiene and social distancing; telepractice and working from home
"New working practices for example, more digital visits, adjusted visits due to only having an interpreter via phone, more late cancellations and no-shows..."	Digital visits, interpreter via phone, more cancellations	PPE, hygiene and social distancing; telepractice and working from home

3.5 Ethical Considerations

The following study is carried out in accordance with research ethics such as informed consent and anonymity (Comstock, 2013). There was a risk that a participant may have wanted to withdraw their answers once the survey had been completed. Since all completed surveys were sent in anonymously, we were unable to withdraw specific answers once the surveys had been submitted. There was also a small risk that participants may have been identifiable from their answers to the free-text questions, for example, the number of specialists in Sweden is few and they are relatively well known among the SLPs in Sweden. Because all surveys were submitted anonymously in combination with the fact that free-text answers were not to be included in their entirety, due to the thematic analysis, we judged this risk to be low.

4. Results

The results will be presented as following. First, demographical information about the participants work setting, such as which sector and county they work in, and area of expertise will be presented. After that results regarding impact on working practices will be presented with relevant descriptive and statistical analysis. Lastly, a thematic analysis of working practices, post COVID care, and private life will be presented together with relevant descriptive and statistical analysis.

4.1 Presentation of the Participants

The majority of the participants reported that they work at a county level (73.3%) followed by being employed by a local council (15.6%). For the frequency and percentage of participants per sector see *table 4.*

Table 4: Distribution of participants per sector

	Frequency	Percent
County	272	73.3
Council	58	15.6
Private	26	7.0
Private contract with county	4	1.1
Several sectors	6	1.6
Other	5	1.3
Total	371	100

The survey was completed by SLPs in all three geographical locations, where Götaland generated most responses (47.9%), followed by Svealand (40.1%). See *table 5* for information for participants per geographical location regardless of sector of employment.

The survey was completed by SLPs from all the Swedish counties. Of those who specified they were employed at a county level as well those with a private contract with a county, the most responses were received by Stockholm county (19.8%), followed by Östergötland county (13.6%). For more details about the distribution of participants employed or having a contract with a county see *table 6*.

Table 5: Distribution of participants per geographical location

	Frequency	Percent
Norrland	42	12
Svealand	140	40.1
Götaland	167	47.9
Total	349	100

Table 6: Distribution of participants per county

	Frequency	Percent
Blekinge	5	1.8
Dalarna	7	2.6
Gotland	3	1.1
Gävleborg	10	3.7
Halland	10	3.7
Jämtland Härjedalen	3	1.1
Jönköping	20	7.3
Kalmar	6	2.2
Kronoberg	6	2.2
Norrbotten	3	1.1
Skåne	22	8.1
Stockholm	54	19.8
Sörmland	5	1.8
Uppsala	19	7.0
Värmland	6	2.2
Västerbotten	10	3.7
Västernorrland	7	2.6
Västmanland	5	1.8
Västra Götaland	30	11.0
Örebro	5	1.8
Östergötland	37	13.6
Total	273	100

A total of 311 participants gave information regarding the size of the local council that they work within. The most common council size was between 50,000 and 199,000 citizens. See *table 7* for frequency and percentage of participants per council size.

Table 7: Distribution of participants per council size

	Frequency	Percent
200,000 citizens or more	49	15.8
50,000-199,000 citizens	154	49.5
15,000-49,000 citizens	106	34.1
Under 15,000 citizens	2	0.6
Total	311	100

Of all participants, 56.9% reported that they work within an open care setting. A further 23.7% of participants reported that they work both within an open and a closed care setting. For the frequency and percentage of participants per care setting see *table 8*.

Table 8: Distribution of participants per care setting

	Frequency	Percent
Open care	211	68.1
Closed care	11	3.5
Both	88	28.4
Total	310	100

In relation to area of expertise, working with children in a clinical setting was reported as the most common area to work within, followed by neuro rehabilitation and habilitation respectively. Several participants also responded that they worked within several areas of expertise. See *table 9* for the full list of area of expertise.

Table 9: Distribution of participants per area of expertise

	Frequency
General speech-language pathology	41
Child speech-language pathology (clinic)	119
Council (school)	67
Council (care home)	4
Habilitation	72
Neuro rehabilitation	76
Voice and speech	50
Hearing speech-language pathology	5
AAC/aids	27
Cleft palate	2
Dyslexia and dyscalculia	13
Dysphagia (adults and children)	12
Other	28

4.2 Degree of Impact on Working Practices and Private Life

To the question regarding to what degree the pandemic had impacted SLP working practices, 49.1% out of 370 participants responded that the pandemic had a moderate impact on their working practices and 34.2% responded that the pandemic had a major impact. See *figure 1* for the distribution of degree of the pandemics impact on the SLPs working practices.

Out of the 370 participants, 91.6% responded that they had been affected in their private life by the pandemic. Of the 370 participants that answered the question regarding to what degree the pandemic had impacted them in their private life, 45.6% responded that the pandemic had a moderate impact on their private lives and 25.6% responded that the pandemic had had a major impact. See *figure 2* for the distribution of degree of the pandemics impact on the SLPs private life. For a more detailed analysis of how participants answered

regarding impact on working practices as well as impact on private life, see section 4.3 respective 4.5 below.

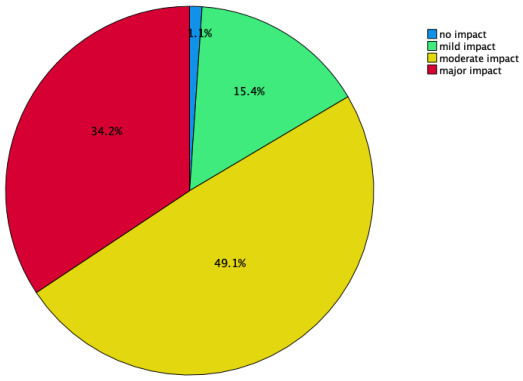

Figure 1: COVID-19's impact on working practices.

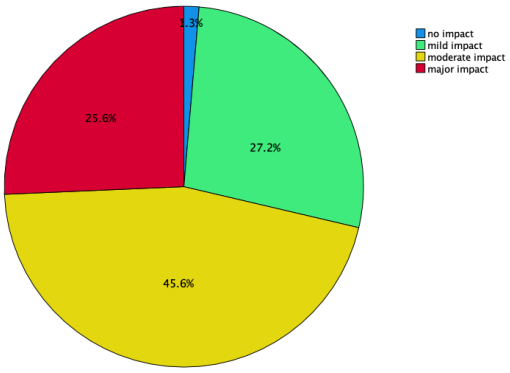

Figure 2: COVID-19's impact on private life

A Spearman correlation analysis was performed to investigate the association between the impact of the pandemic on the participants' private lives and working practices. The analysis showed a moderately positive correlation between how COVID-19 has impacted the participants' private lives and working practices, $r = 0.386$, $p < 0.001$.

A Kruskal Wallis test was performed to examine the differences between geographical location and degree of impact on working practices. For a comparison of geographical location and degree of impact on working practices a significant difference could be found, Chi-2 = 7.59, $p = 0.022$. When comparing each group with each other using a Mann-Whitney test, there was a significant difference where participants working in Norrland reported a lesser degree of impact than both Svealand, $U = 2199$, $z = -2.69$, $p = 0.007$, and Götaland, $U = 2853$, $z = -1.99$, $p < 0.05$. There was no significant difference between Svealand and Götaland, $U = 10737$, $z = -1.257$, $p > 0.05$.

A Kruskal Wallis was performed to examine the degree of impact on working practices that SLPs experienced and which sector they worked within. No significant differences between sectors and degree of impact on working practices could be found, Chi-2 = 5.85, $p = 0.32$. To examine if working in different care settings (open, closed or both) could affect the degree of impact on working practices a Kruskal Wallis test was performed. No significant differences between type of care setting and impact on working practises could be found, Chi-2 = 2.43, $p = 0.29$.

4.3 Impact on Working Practices

Thematic analysis of the open-ended questions regarding working practices generated six themes: (1) PPE, hygiene and social distancing; (2) telepractice and working from home; (3) workload; (4) redeployment and work tasks; (5) mental health; (6) effect on patients. For examples of categories for each theme, see *appendix 2*.

4.3.1 PPE, Hygiene and Social Distancing

During the pandemic SLPs have used PPE. Of 361 participants, 289 reported using facemasks, 291 reported using visors and 107 reported using more PPE in their interactions with patients (see *figure 3*). While the use of PPE was commonly reported among the participants, only 11 of the 67 SLPs employed in a school setting reported using PPE and some described having been forbidden from using PPE as it "could potentially scare the students". The use of PPE had been straining and resulted in SLPs having to, for example, decrease the time they wore PPE by decreasing the amount of time patient visits took. Even time taken to disinfect affected the length of time patient visits took.

PPE was associated with limitations in working practises, both in assessment and treatment. For example, not being able to use evidence-based practices in the treatment of patients with orofacial function and phonological difficulties, such as being a speech model, was experienced as a barrier. A few participants reported avoiding using certain materials in both the assessment and treatment of patients if they were unable to disinfect the material.

The use of PPE also restricted communication and interaction with patients negatively. For example, the relationship between SLPs and their patients was described to be negatively affected as it was harder to build trust with the patients due to the use of PPE, especially in children and patients with cognitive impairment or patients with aphasia. Furthermore, several of the participants also noted that people who are hard of hearing or have cognitive impairments were affected by the use of PPE.

Social distancing restrictions made SLPs choose different treatment methods. Groups were most affected, by either being cancelled or participant numbers being limited, leading to fewer parental education groups or shifting to individual treatment. SLPs also described how they were not able to use evidence-based methods that required them to be in close proximity to their patients. A limitation on how many people could be present in the room during visits resulted in patients only being allowed to bring one family member, and that interpreters in some cases were not allowed at all. The consequences of the restrictions made it difficult to

involve both parents in the management of their child. Furthermore, the ban on visits to hospitalised patients affected the assessment of the patient as well as the contact with family members of the patient.

Of all participants, 62% thought that the working practices of SLPs in Sweden will be permanently affected by COVID-19 while 13% thought that it would not be affected. The remaining 25% responded that they did not know if the working practices would be permanently affected. Some SLPs believed that increased hygiene regulations as well as the use of PPE will continue to be used in the care of some patient groups, for example during the assessment of patients with dysphagia.

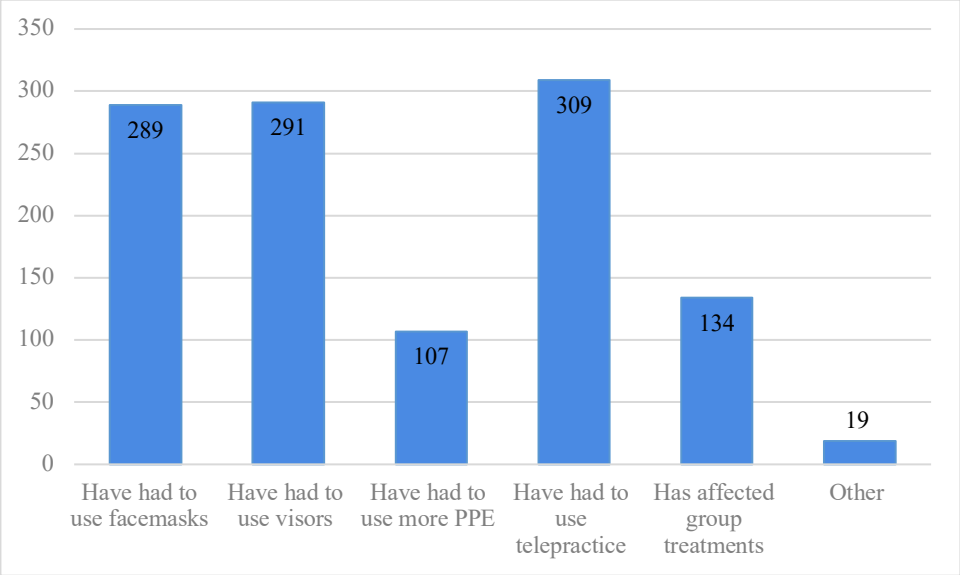

Figure 3: How the pandemic has affected the execution of SLP visits.

4.3.2 Telepractice and Working from Home

Of the 361 participants, 309 reported using telepractice during the pandemic (see *figure 3*). Thirty-one SLPs reported that they had used telepractice as the only form of adjustment to the pandemic. Out of the 31 SLPs who reported only using telepractice, 30 worked in a school setting. However, some SLPs who worked within a school setting were not able to use telepractice for individual services as their school did not have access to a secure platform. Some participants described that there were difficulties in using telepractice during the beginning of the pandemic due to technical problems and unclear routines, however most participants thought that these difficulties became better with time.

The shift to telepractice had both positive and negative aspects. Telepractice made it possible for some to work remotely from home, which for most of the participants was

positive. Some participants reported that the use of telepractice made SLP visits more accessible as patients did not have to spend time on traveling to the appointments. For example, parent groups were commonly performed via telepractice, making it more accessible for parents to participate in treatment. However, the SLPs noted that the parents were less engaged in the discussions via telepractice, which could have affected the quality of the treatment. It was also described by a few participants that easier access to appointments had led to some patients not taking their appointments as seriously as they would a physical healthcare visit. It was described that the relationship between the SLP and patient, was affected by the use of telepractice as it was more difficult to assess if the patient/family member had understood the information given by the SLP digitally. Furthermore, using an interpreter via video or phone made assessments of the patient's language difficult and in some cases SLPs found it impossible to use an interpreter via telepractice.

Regarding if working practices will be affected permanently by the COVID-19 pandemic, most of the participants believed that telepractice will become a part of standard working practice and the possibility of working from home will increase.

4.3.3 Workload

The reported effect on the SLPs workload is varied. Many SLPs described that their workload had decreased during the pandemic both due to the amount of patient cancelations they have received as well as having to cancel visits themselves for various reasons. Three hundred and twenty-seven SLPs reported that the number of patient cancellations they have received has been affected during the pandemic. Most reported that they did not know how many of the visits had been cancelled by patients (38.2%). Reasons that patients cancelled their visits were reported to be due to the patient being sick as well as a fear of catching COVID-19.

Two hundred and forty SLPs reported that they have had to cancel physical visits due to clinical guidelines. Most reported that they did not know how many of their visits had been cancelled (46.8%). The reasons leading to cancelled physical visits were that the patient was classed as belonging to a risk group, the SLPs themselves were absent due to sickness, due to a lack of PPE, due to small treatment rooms as well as being due to other directives from management to reduce transmission. See *figure 4* for distribution of answers regarding reasons to cancelled physical visits. It was most commonly reported that physical visits were cancelled during the beginning of the pandemic, as well as when the spreading of COVID-19 was high.

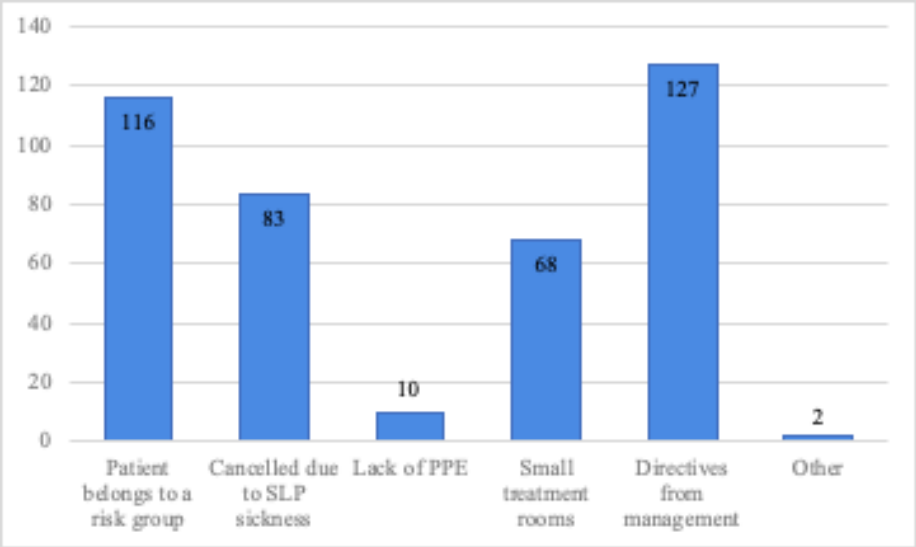

Figure 4: Reasons for cancelled visits

Some SLPs described a higher workload in a closed care setting and a lower workload in an open care setting, especially during the beginning of the pandemic, and some described a higher workload due to colleague absence. School SLPs described little change to their workload during the pandemic, mainly because their student numbers did not change. It was however described by a few school SLPs that their workload had decreased if the schools had implemented remote learning as well as not being able to visit all schools to reduce the risk of transmission between the schools. School SLPs also reported having fewer individual treatments with students and instead focusing on mentoring teachers.

Forty four percent of the participants reported that there was no change in demand for their services, 14.87% reported a higher demand for their services, and 11.89% reported a reduction in demand for their services. Demand also varied based on patient group. SLPs described that the consequences of little change in demand for SLP services in combination with an increase in cancelations has resulted in longer waiting times.

To see if there was a difference between participants from different geographical locations in having to cancel physical visits due to clinical guidelines a Kruskal Wallis analysis was used. There were no significant differences between geographical locations regarding SLPs having to cancel visits due to clinical guidelines, Chi-2 = 0.331, p = 0.848, or number of patient cancellations, Chi-2 = 0.267, p = 0.875.

A Kruskal Wallis analysis was performed to examine the difference between if physical visits had been cancelled by the SLPs during the pandemic and which sector they worked within. A significant difference could be seen, Chi-2 = 12.96, p = 0.024. When

comparing each group with each other using a Mann-Whitney U test, a significant difference could only be seen between SLPs employed by a county and SLPs employed by a council ($U = 6689$, $z = -2.006$, $p = 0.045$) as well as between SLPs by a county and SLPs employed privately ($U = 2562$, $z = -2.859$, $p = 0.004$. A Kruskal Wallis analysis was also performed to examine if the number of patient cancellations SLPs had received was affected by what sector they work within. No significant differences could be seen, Chi-2 = 8.73, $p = 0.12$.

In order to examine how healthcare settings differ regarding patient cancellations during the pandemic a Kruskal Wallis test was used. The results showed a significant difference between the different healthcare settings, Chi-2 = 55.593, $p < 0.001$, and therefore a Mann Whitney U analysis was performed. The comparisons between each healthcare setting showed that SLPs who worked in a closed care setting to a smaller degree reported an impact on patient cancellations compared to both SLPs working in an open care setting ($U = 362$, $z = -7.593$, $p < 0.001$) and SLPs working in both care settings ($U = 164$, $z = -5.219$, $p < 0.001$). However, there was no significant difference between SLPs working in an open care setting in comparison to SLPs working in both care settings ($U = 8646$, $z = -1.112$, $p = 0.266$).

4.3.4 Redeployment and Work Tasks

Thirty SLPs reported that they were redeployed during the pandemic and 88 SLPs reported that they had been given other assignments during the pandemic. It was usually management's decision to redeploy or delegate other assignments, often due to staff shortages. Redeployment included working with COVID-19 patients, both as an SLP but also as nurse's assistants, working on non-COVID wards as nurse's assistants, performing COVID-19 testing, performing more administrative tasks as well as working from home. Some SLPs described working from home due to pregnancy. School SLPs described working as substitute teachers when there were teacher shortages due to absence. Redeployments were sometimes based on the SLPs previous work experience and education such as working as a nurse's assistant. However, some SLPs described working with completely new tasks that they had no experience of previously.

4.3.5 Mental Health

Several of the participants described how their mental health or emotional state at work was impacted during the pandemic. Some SLPs described feeling stressed or anxious. Reasons effecting the SLPs mental health were reported to be anxiety over becoming sick themselves,

worry of being a source transmission for both patients as well as their own family members. Participants also described changes to their working environment, such as reduced social gatherings with co-workers, as impacting their mental health negatively. Other factors that impacted the SLPs mental health negatively were reported to be caused by quickly changing restrictions and routines due to the pandemic. The information SLPs received from management was described as inadequate or contradictive which led to extra stress and confusion.

4.3.6 Effect on Patients

Regarding if the quality of their services had been affected by the pandemic, 67% percent responded that the quality of their services had been affected negatively, and 33% thought that the quality had not been affected. It was described by several participants that some patients refrained from seeking SLP care due to a fear of COVID-19. The reduced availability of translators also affected the care that multilingual patients received and often resulted in an inadequate assessment. Participants described that group treatments were affected by the pandemic. The continuity of patient's treatment was affected negatively, both due to the patient being sick, as well as themselves having to cancel due to sickness. Many SLPs felt that this affected the quality of the treatment that they could offer their patients often leading to a less evidence-based approach. School SLPs reported that the quality of treatment that their students received was affected by student absence and the availability to provide treatment via telepractice.

4.4 Post COVID Care

A total of 75 SLPs reported working with patients with post COVID. Forty-five percent of the SLPs described that they had implemented new working practices for the treatment of post COVID patients that had worked well. Of all SLPs working with post COVID care, 34.7% reported that they felt that they had enough knowledge to be able to effectively treat patients with post COVID, while 61.3% reported that they did not feel like they had enough knowledge to be able to effectively treat patients with post COVID. A thematic analysis of questions regarding post COVID generated three themes: (1) post COVID symptoms; (2) SLP services in post COVID care; (3) challenges in post COVID care. For examples of categories for each theme, see *appendix 2*.

4.4.1 Post COVID Symptoms

SLPs described various post COVID symptoms of SLP relevance. Seventy-seven percent reported voice disorders as a symptom of post COVID, 64% reported dysphagia as being present, and 30% reported problems with breathing. Communication difficulties regarding both language and speech were also present among patients with post COVID. Aphasia could be present among patients with post COVID, and common voice difficulties were hoarseness and dysphonia. Fatigue among patients with post COVID was also present.

4.4.2 SLP Services in Post COVID Care

SLP services that were described in relation to post COVID care were assessment and treatment of voice, speech, and language disorders as well as dysphagia. Regarding voice disorders, the most common approach was traditional assessment and treatment of voice disorders with focus on relaxation, breathing, and phonation exercises as well as general voice ergonomic advice. For some patients the use of a voice enhancer was warranted. Assessment of dysphagia post COVID included practice common for non-post COVID patients, such as clinical/bedside evaluation of swallowing as well as fibre endoscopic evaluation of swallowing (FEES). One participant also noted that they had used a dysphagia screening test developed for patients with COVID. Treatment of dysphagia included altered consistency of bolus, rehabilitation exercises as well as general advice on eating and swallowing. One participant described that some patients experienced change in taste and that some also needed the help of a nutritionist. Another participant noted that they had prescribed a mouthguard for exercises. Regarding speech and language, patients have been offered individual or group rehabilitation for communication, speech therapy and augmentative and alternative communication (AAC) devices. One participant described having used expiratory muscle strength training (EMST). Another participant also described treatment of reading and writing.

4.4.3 Challenges in Post COVID Care

Many SLPs described challenges in both the assessment and treatment of patients with post COVID. The most common challenges reported were a lack of evidence which made both the assessment and treatment of patients with post COVID more challenging. Difficulties described by SLPs were regarding what symptoms are common for patients with post COVID as well as difficulties regarding prognosis. Patient fatigue made both assessment and

treatment more difficult as the meetings often had to be split up over several visits. Some patients had complex medical histories and could be suffering from depression by the time they met a SLP, making it difficult for SLPs to know when they could push the patients or not. SLPs also described that restrictions due to COVID-19 had limited what assessment and treatment methods that were available to them. For example, there had been restrictions on the use of FEES as well as limiting voice treatments that could cause a transmission risk. Some SLPs described difficulties in being able to differentiate between post COVID symptoms and pre-existing problems. SLPs also described a higher workload and difficulties prioritising between patient groups.

4.5 Impact on Private Life

As can be seen in section 4.2, almost all participants experienced an effect on their private lives. This section presents the themes derived from open-ended questions on the impact on the SLPs' private life. The thematic analysis of the question regarding how the participants had been affected in their private life, generated five themes: (1) social life; (2) absence from work; (3) mental health; (4) family members; (5) other circumstances. For examples of categories for each theme, see *appendix 2*. Regarding *social life* most of the participants responded that they socially distanced which resulted in avoiding or being unable to meet friends and family, not participating in hobbies or leisure activities as well as not being able to travel. Some also described a feeling of restricted freedom. Many participants reported that their *absence from work* increased due to sick leave, both that they themselves were absent due to sickness, as well as needing to take time off due to sick children. Many participants described that their economy in turn had been affected negatively. Some participants described that their *mental health* was affected negatively by the pandemic due to a feeling of isolation and described feeling stressed and worried about their own health as well as worrying about family members that were classed as belonging to a risk group. Participants also described being affected by *family members* that were sick with COVID-19, had mental health problems as a result of the pandemic, or died due to COVID-19. Some of the participants described *other circumstances.* Examples given were having to work from home, children having to study remotely as well as maternity and paternity leave being affected by COVID-19 restrictions.

5. Discussion

The current study aimed to examine how the COVID-19 pandemic had affected SLPs' working practices, as well as what working practices SLPs had implemented in relation to post COVID care. The second aim was to examine if the SLPs' had been affected outside of their professional practice. The results will be discussed and the four research questions will be answered, followed by a discussion of the method. Finally, the conclusions and future areas of research will be presented.

5.1 Results Discussion

5.1.1 The Impact of Telepractice and PPE

SLPs have adjusted their working practices in many ways. One of the most common adjustments was regarding the use of telepractice. These results are in accordance with previous survey studies that show an increase in the use of telepractice and a desire to continue using it even after the pandemic. The similarities in the use of telepractice with the survey studies from USA, Canada and Croatia (Macoir et al., 2021; Kollia & Tsiamtsiouris, 2021; Kuvac Kraljevic, et al., 2020; The ASHA Leader Live, 2020) were not expected as these countries took different approaches to the pandemic compared to Sweden, such as implementing lockdowns. This may have led to more SLPs having to work remotely in countries where national lockdowns have been implemented. However, employers across Sweden have been encouraged to allow their employees to work from home when possible (Folkhälsomyndigheten, 2020b), which could explain why SLPs working remotely in Sweden does not differ from SLPs working remotely in other countries. SCBs statistics regarding how many people that have worked from home during 2020 and 2021 (SCB, 2021b) can indicate that people working in different counties and sectors have had different opportunities to work from home. It seems therefore that telepractice has been used successfully by a range of countries, regardless of lockdowns and how the countries have handled the pandemic. This could be due to the fact that reducing the rate of COVID-19 transmission could be seen as an important goal for all healthcare providers around the world. Furthermore, telepractice could provide patients who were afraid of the virus the opportunity to receive SLP services that they are in need of.

The experiences of telepractice reported in this study were both positive and negative. Kollia & Tsiamtsiouris (2021) reported that SLPs' experiences of telepractice in the USA varied and could be both beneficial and detrimental for both patients and SLPs. Both Kollia &

Tsiamtsiouris (2021) and the current study found that telepractice was a new concept for most SLPs, that was time saving and made SLP services more accessible for patients. Other commonalities were that patients belonging to risk groups were not exposed to a risk of transmission. However, access to online materials were limited. SLPs used telepractice for all patient groups, however evidence for how effective it is for several patient groups is lacking. There are studies that show that telepractice can be used for patients with aphasia and dysphagia (Burns, et al., 2019; Hall et al., 2013; Kong, 2021; Malandraki, et al., 2011; Malandraki et al., 2012; Pitt et al., 2018) but studies of other patient groups are lacking. Participants in our study reported difficulties regarding the effectiveness of telepractice for patients with cognitive impairments as well as when using interpreters. The number of people that are multilingual is increasing in Sweden (SCB, 2022) and the number of patients needing an interpreter is therefore expected to increase. A study by Aburto Maldonado and Eklind (2021) concluded that interpreters themselves found SLP meetings via telepractice to be challenging, where difficulties in interpreting body language and non-verbal cues as well as difficulties with being able to hear the patient or SLP made the meeting difficult. SLPs in this study noted a lack of in person interpreters and issues with using interpreters via telepractice. Issues with using interpreters during the pandemic could therefore have had a substantial impact on this patient group. Another common adjustment that SLPs made was using PPE. Almost all SLPs working within a healthcare setting reported using some form of PPE. However, SLPs in the school setting tended to use PPE less often in comparison. There have often been rules from management regarding the use of PPE in a healthcare setting and it was reported that it was used with all patient groups. We expected that the PPE would negatively affect SLP services as facemasks could pose as a dampener (Lan Troung et al., 2021) as well as having a negative impact on auditory-visual recognition (Thibodeau et al., 2021), making the speech less intelligible. Many SLPs confirmed that PPE created a hinder in the assessment and treatment of patients, especially those with phonological deficits, impaired orofacial function, patients with aphasia as well as patients with cognitive impairments. However, from a transmission risk point of view, PPE was regarded as positive and some SLPs working with dysphagia would like to continue using it even after the pandemic.

5.1.2 Cancellations and the Effect on Patients in Need of SLP Services

The results of the current study touched upon the problem of patient cancellations, where the pandemic had affected the number of patient visits. The patient group that has mostly

restrained from attending SLP visits are patients that are classed as being at a higher risk of catching COVID-19, which according to The Public Health Agency of Sweden includes for example patients over 70, patients that have had stroke, patients with dementia as well as patients with neurological disorders that affect breathing. (Folkhälsomyndigheten, 2021c; Folkhälsomyndigheten, 2022c). Patients that are classed as being at a higher risk of catching COVID-19 could therefore have been particularly affected by the pandemic by not receiving the necessary SLP services. Both the high-risk patient groups as well as multilingual patients have, in particular, seemed to have received little or inadequate SLP contact under a long period of time, which could have serious impact on the speech, language, and swallowing skills of these patient groups as well as their quality of life.

SLPs should use an evidence-based approach according to both law and SLP work ethics (Logopedförbundet, n.d.; Patientlag, 2014). However, many factors have affected the SLPs ability to provide evidence-based care during the pandemic. SLPs described that telepractice, PPE and patient cancellations had affected their ability to use evidence-based approaches. SLPs avoided methods where materials could not be disinfected. From an ethical point of view the pandemic could therefore have impacted the quality and effectiveness of patient care.

5.1.3 Geographical Location

We expected to see a difference between SLPs working in different geographical locations on how their working practices had been affected. It is possible that how SLPs have worked with different patient groups could have varied during the pandemic based on recommendations and restrictions from the Public Health Agency, as well as differences in recommendations from the local counties throughout the pandemic. COVID-19 came to Sweden's southern cities first and there was a delayed arrival in northern Sweden (Folkhälsomyndigheten, n.d.b). Based on these factors it is therefore reasonable that how working practices have been affected during the pandemic may have varied based on geographical location. The results showed that there was a significant difference between the different geographical locations on degree of impact on working practises, where participants in Norrland experienced less impact in comparison to participants in Svealand and Götaland, supporting the initial hypothesis. However, when looking at factors such as if the pandemic had affected patient cancellations and having to cancel physical visits during the pandemic there was no differences between geographical location. Why SLPs in Norrland estimated a lower degree

of impact compared to Svealand and Götaland is difficult to ascertain. However, one reason for this could be due that the SLPs in this study estimated how they had been affected throughout the entire pandemic, and that if there was a difference it may have been at the start of the pandemic when the transmission rate differed across the counties. We have looked at the effect of the pandemic on large geographical areas and the effect on individual counties could therefore differ and it could therefore be difficult to draw conclusions based on geographical area.

5.1.4 Healthcare Setting and School Setting

We expected that there would be a difference between SLPs employed within different sectors on impact on working practices. The results showed that there was no significant difference between SLPs working within different sectors and degree of impact on working practices and if the pandemic had affected patient cancellations and. There was however a significant difference between sectors regarding SLPs having to cancel physical visits during the pandemic. It was also thought that SLPs working in a school setting would be less affected since schools were not as affected by the recommendations and restrictions compared to the healthcare system. In comparison to other countries, the schools in Sweden have for the most part been open during the pandemic (European Centre for the Development of Vocational Training, 2020), and remote teaching has only been implemented when the risk of COVID-19 transmission has been high. An adjustment to the school law allowed schools to implement remote teaching, but it has been up to every council to decide when and if it is appropriate to do so (Förordning om utbildning på skolområdet och annan pedagogisk verksamhet vid spridning av viss smitta, 2020). The implementation of remote teaching has therefore varied greatly. This seems to have been confirmed by our results with SLPs employed at a county level reporting having to cancel more physical visits in comparison to SLPs employed at a council level as well as SLPs employed privately. When looking at how the pandemic had affected the execution of SLP visits in a school setting, they differed in such that they to a greater extent used telepractice as the only form of adjustment. This is in stark contrast to SLPs who work within a healthcare setting, where almost all reported using PPE.

5.1.5 Redeployment

SLPs from several sectors reported receiving working tasks that were not directly SLP related and there were no significant differences between SLPs working in a healthcare setting and SLPs working in a school setting. Regardless of whether people work within a healthcare setting or a school setting there will always be employee absences that need to be filled. It is therefore not surprising that some SLPs across sectors have received different working tasks. A study that investigated how redeployment had been implemented during COVID-19 found that seven out of eight hospitals in different countries had redeployed healthcare workers regardless of occupation and previous experience. The healthcare workers received training before being redeployed (Panda et al., 2021). The results of our study are therefore not surprising. Some SLPs in our study reported having a nurse's assistant background and it is therefore expected that they could be redeployed to cover those tasks. However, it is surprising that some participants reported having no prior experience as well as receiving no formal training before being redeployed.

5.1.6 Open and Closed Care Setting

We expected that SLPs' working practices during the pandemic could have been affected by whether SLPs in a healthcare setting worked within outpatient care or inpatient care. SLPs working in a closed care setting reported to a lesser extent that the pandemic had impacted patient cancellations in comparison to SLPs working in an open care setting or both. This was expected since patients in a closed care setting are admitted to a facility and the chance of the patients having to cancel the visits due to sickness is reduced. Furthermore, it is thought that it may be more practical to meet the patients physically since they probably are more acutely ill and that they are already on site. The differences between care settings may indicate that patients in a closed care setting received similar SLP services as prior to the pandemic, while patients in an open care setting did not. This would also seem to be in accordance with how the regions have prioritised different patient groups during the pandemic, with non-elective healthcare being prioritised over elective healthcare (Socialstyrelsen, 2021a). This suggest that patients in an open care setting generally have been particularly affected by the pandemic.

5.1.7 Post COVID Care

SLPs in the current study reported many challenges regarding post COVID care. The biggest issue SLPs described was the fact that COVID is a new sickness and information regarding best assessment and treatment practices, symptoms and prognosis are lacking. Another challenge SLPs encountered was the impact of the patient's condition on assessment and treatment, where fatigue and depression were commonly reported. But even other factors such as the patients having a complex medical background as well as difficulties in distinguishing between new and pre-existing symptoms were reported. These findings are unsurprising given that COVID-19 is a new sickness, that those at most risk of catching COVID are often older or have certain medical conditions (Folkhälsomyndigheten, 2021c; Folkhälsomyndigheten, 2022c) and that fatigue and depression are commonly reported side effects of post COVID (Socialstyrelsen, 2021f).

Since there are no guidelines for post COVID care, in relation to best working practice for SLPs, we expected working practices to vary. Based on the answers given, it was sometimes hard to distinguish between if the SLPs reported information regarding assessment and treatment of post COVID patients or patients with secondary complications as a result of a COVID-19 infection. The majority reported using treatment that is standard practice for other patient groups in relation to both voice, speech, language and dysphagia. Only a few reported implementing new practices. It was expected that there would be many who used standard practices since there are no clinical guidelines for the treatment of post COVID (Socialstyrelsen, 2021f). However, as the pandemic started more than two years ago some implementation of adjustments within SLP practises for patients with post COVID was expected.

5.1.8 Personal Impact

SLPs described several personal aspects that had been affected by the pandemic. Since personal life can be affected by professional life and vice versa (Tusé et al., 2021; De Brier et al., 2020; Rouse & Regan, 2021) we expected that the reported degree of impact on both could be affected negatively and that there could be a relationship between the two. The significant correlation between personal impact and impact on working practices indicates that there might be a relationship between the two. It is however difficult to ascertain the precis relationship between them, and we cannot exclude the impact of other variables. Analyses of the open-ended questions showed that there were commonalities between how

the SLPs had been affected privately as well as professionally. For example, a negative effect on mental health was described, as well as a decrease in social contacts, and an increase in absence from work. Since the SLPs reported that these factors affected them both privately as well as professionally, it could indicate that the participants of this study found it difficult to separate the two areas. The seemingly diffuse boundaries between work and private life is in accordance with Tusé et al.'s (2021) study.

We also expected that SLPs had been more affected professionally in comparison with how they have been affected personally, which was also confirmed by the results. This was expected as SLPs can work with patients that are risk group and many SLP services can be classed as high transmission risk. How SLPs have been affected by the pandemic professionally has not varied regardless of employer or sector of employment. However, it could be thought that how the pandemic has affected every individual privately could vary greatly based on factors such as the individuals' hobbies and interests.

5.2 Method Discussion

5.2.1 Survey Design

Regarding the design of the survey, several aspects of consideration for future studies were identified. These were regarding the formulation of both open and multiple-choice questions as well as answer choices. Open questions in a survey can allow for participant freedom and give the possibility of long answers (Kylén, 2004). We see both advantages and disadvantages with this. Open questions allowed for a high degree of information; however, it can take a long time to analyse. As the number of participants was rather high in our study, it would have been preferable to reformulate and reduce the number of open questions.

We saw that the participants answers did not always interpret the questions in a way that we expected, especially regarding open questions. For example, question 21 "If you answered yes to the above question, when and for how long did you not have physical visits?" highlighted this tendency, where many SLPs answered why they had had to cancel physical visits instead of when and for how long. A reason for this could be that the pandemic has been ongoing for two years and it could be hard for the SLPs to remember and estimate exactly how many weeks and months they had had to cancel physical visits as well as when during the pandemic this was. It could also be hard for the SLPs to answer if they have had to cancel physical visits several times during the pandemic. Furthermore, questions 23 and 25 required participants to estimate a percentage of how many visits had been cancelled during the

pandemic. It could have been difficult for the SLPs to estimate a percentage if they did not have access to the cancellation statistics or if they had not had time to reflect upon this previously.

During the formulation of our survey, inspiration was taken from Blom Johansson et al.'s (2011) survey regarding answer alternatives for question 11 "Which area of expertise describes your assignments the best" and added some areas of expertise that we thought were lacking. However, this seemed to be insufficient as a large majority of the participants answered "other" and wrote more specific descriptions of their area of expertise such as stuttering, dysphagia and dyslexia. As the participants were able to choose more than one option, it was hard to draw any conclusions from the results and it shows that it is in fact not as clear cut to define SLP areas of expertise as we first thought.

5.2.2 Distribution of Survey

Choosing a survey that was spread via digital platforms and email allowed for the greatest spreading of our survey. No regions and only a few local councils in Sweden publish SLP contact information online. We relied on the information available and by only conducting a digital search of SLPs there is a risk that we have missed SLPs who are not as active online. Trost (2012) highlights several aspects that are important to keep in mind. For example, all email addresses must be spelt correctly for them to be received. This was particularly problematic for us when the names generated in our search resulted in double names. Many larger companies have a higher level of security, and our emails could therefore have been sent to some SLPs junk mail (Trost, 2012). Only a few participants responded to our emails, and we cannot confirm how many received our emails. However, we could see an effect in response rate indicating that many emails were in fact received.

5.2.3 Participants

The total sample of 371 SLPs in Sweden equates to 13.74% of the target population. The sample consisted of 94.1% women and 5.9% men, which is roughly the same distribution by gender in comparison to whole population (SCB, 2021a; Socialstyrelsen, 2021g; Logopedförbundet, 2022). Using a digital sample size calculator, the preferable sample size was 337 SLPs. Since we had more participants than the calculator recommended, we judge the sample size to be a good representation of SLPs in Sweden. However, it could be possible that the participants that completed our survey felt more affected by the pandemic and were

therefore more likely to complete the survey compared to colleagues that were less affected by the pandemic.

The response rate of SLPs per county varied greatly with roughly 12% to 44.89% across counties. The counties with the lowest response rate were Skåne, Örebro and Västra Götaland and the counties with the highest response rate were Östergötland, Jönköping and Gotland. It was no surprise that Östergötland had the highest response rate of all counties since most of our personal contacts were stationed in Östergötland.

5.3 Conclusion

The results of our study show that SLPs in Sweden seem to have been affected by the pandemic regardless of geographical location and which sector they work within. Many SLP visits have been cancelled or postponed and adjusted in various ways as a result of the pandemic. Visits have been shortened, the number of people allowed to be present has been reduced, and some materials and methods have been avoided to reduce the risk of transmission, resulting, at times, in a less evidence-based approach. Two patient groups have been identified as being particularly affected by the pandemic: patients in need of an interpreter as well as high risk patient groups. Generally, patients in an open care setting have been more affected than those in a closed care setting.

Many SLPs have changed their working practises by using telepractice and PPE. The implementation of telepractice was seen by SLPs as making healthcare more flexible and accessible and many predict that telepractice will continue to be used in the future. Telepractice was reportedly used in the assessment and treatment of all patient groups. However, its use was seen to be more appropriate with some patient groups and less so for others. PPE gave reassurance and protection for both SLPs and their patients during the pandemic. However, PPE created a hinder in the assessment and treatment of certain patient groups. PPE was not used by SLPs within all sectors equally and only SLPs who work with dysphagia stated that they will continue to use PPE after the pandemic.

SLPs' workload has changed during the pandemic, with many seeing an increase in number of cancellations. However, SLPs from several sectors, regardless of previous work experience, have received other working tasks by their employers. Despite SLPs receiving more cancellations, the demand for their services remains for the most part unchanged and many are now seeing longer waiting times for their services. The pandemic has had an impact on SLPs private lives, which correlate with the pandemic's impact on them professionally.

SLPs working with post COVID used standard SLP practices for the assessment and treatment of voice speech, language disorders and dysphagia; however, a few reported using adjusted assessment and treatment methods. SLPs described several challenges in relation to the care of patients with post COVID. Examples of such challenges were a lack of guidelines and evidence-based practices for the patient group.

5.4 Future Research

The pandemic has been ongoing for more than two years and several countries have now declared it as no longer dangerous for public health (Krisinformation, 2020; Regeringskansliet, 2022; UK Health Security Agency, 2021). COVID-19 seems to have now entered a new phase. It is therefore perhaps less relevant to further investigate the COVID-19's impact on SLP working practices in Sweden. However, this new phase will still include the assessment and treatment of patients with post COVID. It is therefore relevant to further study post COVID care in relation to SLP working practices. To attain a deeper understanding of SLP working practices in relation to post COVID care focus group discussions, interviews and observations could be more beneficial than a survey study.

A key finding of this study was the use of telepractice among SLPs. Since the implementation of telepractice was abrupt and many SLPs predict that it will continue to be used even after the pandemic, it is of value to track the development of telepractice in relation to SLP services. To date the use of telepractice has only been examined in relation to a few specific patient groups, PwA and patients with dysphagia (Burns, et al., 2019; Hall et al., 2013; Kong, 2021; Malandraki, et al., 2011; Malandraki et al., 2012; Pitt et al., 2018) and this study did not aim to examine the effectiveness of telepractice among different patient groups. It is therefore important to investigate the effectiveness of telepractice in relation to all SLP patient groups.

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Appendix 1

Enkät uppsats

Hej,
Vi heter Samantha Bevan och Jennifer Ludvigsson och går på Logopedprogrammet vid Linköpings Universitet. Under vårterminen 2022 påbörjar vi vårt examensarbete med en enkät som riktar sig till verksamma logopeder i hela Sverige. Studiens namn är "Logopeders upplevelser av att arbeta i en pandemi: En enkätstudie om COVID-19 och dess påverkan."

Det är frivilligt att delta i denna studie. Du kan ändra dig och avsluta enkäten när som helst fram till att enkäten skickas in. Enkäten är anonym och vi sparar ingen information kopplad till IP-, mailadress eller liknande. Eftersom enkäten är anonym går det inte att ångra sig efter att enkäten har skickats in. Datan kommer att sparas i 5 år på avdelningen för sinnesorgan och kommunikation vid Linköpings Universitet. Enbart berörda personer kommer att ha tillgång till enkätsvaren och datan kommer inte att spridas kommersiellt eller i något annat syfte än vetenskapliga. Studien kommer att diskuteras vid ett seminarium på Linköpings Universitet, samt publiceras på Digitala Vetenskapliga Arkivet (DiVA). Resultaten kan komma att användas i framtida forskning. När du skickar in enkäten samtycker du till deltagande i studien.

Enkäten består av flervalsfrågor samt öppna frågor. Frågorna handlar om hur du som verksam logoped har påverkats privat och i din yrkesroll av COVID-19-pandemin. Undersökningen tar ungefär 9 minuter men tiden kan variera beroende på hur mycket information man vill ange i svaren. Har du frågor om studien kan du kontakta Samantha Bevan på sambe870@student.liu.se (mailto:sambe870@student.liu.se) eller Jennifer Ludvigsson på jenlu136@student.liu.se (mailto:jenlu136@student.liu.se).

* Required

Aspekter utanför yrkesprofessionen

I den här delen av enkäten kommer frågorna fokusera på demografiska uppgifter om dig och hur du har påverkats av pandemin utanför din yrkesprofession (på ett privat plan).

1. Kön

- Kvinna
- Man
- Annan

2. Ålderspann

- 22-30
- 31-40
- 41-50
- 51-60
- 61-65
- 65+

3. Har COVID-19-pandemin påverkat dig på ett privat plan?

- Ja
- Nej

4. Om ja på ovanstående fråga, på vilket sätt har du påverkats? Beskriv.

5. Hur skulle du uppskatta COVID-19-pandemins påverkan på dig på ett privat plan?

	Ingen påverkan	Lätt påverkan	Måttlig påverkan	Stor påverkan
Grad av påverkan	○	○	○	○

Pandemins påverkan på ditt yrkesutövande

I denna del av enkäten kommer frågorna fokusera på hur pandemin har påverkat dig i ditt yrkesutövande.

6. Är du verksam logoped i Sverige och har arbetat under COVID-19-pandemin? *

- ○ Ja
- ○ Nej

7. Inom vilken sektor arbetar du?

- ○ Region
- ○ Kommun
- ○ Privat
- ○ Other

8. Region - Inom vilken region arbetar du?

- ○ Blekinge
- ○ Dalarna
- ○ Gotland
- ○ Gävleborg
- ○ Halland
- ○ Jämtland Härjedalen

- Jönköping
- Kalmar
- Kronoberg
- Norrbotten
- Skåne
- Stockholm
- Sörmland
- Uppsala
- Värmland
- Västerbotten
- Västernorrland
- Västmanland
- Västra Götaland
- Örebro
- Östergötland

9. Kommun - Hur stor är kommunen du huvudsakligen arbetar i?

- ○ Stor kommun (minst 200.000 invånare)
- ○ Mellanstor kommun (minst 50.000 invånare)
- ○ Mindre kommun (minst 15.000 invånare)
- ○ Other

10. Vilken av följande titlar beskriver bäst din tjänst? (du kan välja flera alternativ)

- ☐ Legitimerad logoped
- ☐ Specialist
- ☐ Enhetschef
- ☐ Annan chef
- ☐ Handläggare
- ☐ Projektledare
- ☐ Logopedassistent
- ☐ Other

11. Vilken logopedisk inrikting skulle bäst beskriva dina arbetsuppgifter? (du kan välja flera alternativ)

- [ ] Allmän logopedi
- [ ] Barnlogopedi (mottagning)
- [ ] Kommunal (skola)
- [ ] Kommunal (äldreomsorg och LSS)
- [ ] Habilitering
- [ ] Neurorehabilitering
- [ ] Röst och tal
- [ ] Hörsellogopedi
- [ ] AKK/hjälpmedel
- [ ] Other

12. Har du under pandemin arbetat inom öppenvård och/eller slutenvård (du kan välja flera alternativ)

- [ ] Öppenvård
- [ ] Slutenvård

13. Om du upplever att COVID-19-pandemin har påverkat dig i din yrkesutövning, på vilket sätt har du påverkats? Beskriv.

14. Hur skulle du uppskatta COVID-19-pandemins påverkan på din yrkesutövning som logoped?

	Ingen påverkan	Lätt påverkan	Måttlig påverkan	Stor påverkan
Grad av påverkan	○	○	○	○

15. Har du vid något tillfälle blivit tilldelad andra arbetsuppgifter pga pandemin?

- ○ Ja
- ○ Nej

16. Om du svarat ja på ovanstående fråga, av vilken anledning och på vems initiativ? Beskriv.

17. Har du vid något tillfälle blivit omplacerad pga pandemin?

- ○ Ja
- ○ Nej

18. Om du har svarat ja på ovanstående fråga, av vilken anledning och på vems initiativ? Beskriv.

19. Hur har COVID-19-pandemin påverkat efterfrågan av dina tjänster? (exv. inflödet av remisser)

- ○ Efterfrågan är högre
- ○ Efterfrågan är mindre
- ○ Ingen förändring
- ○ Jag är osäker
- ○ Other

20. Har du vid något tillfälle under pandemin behövt ställa in fysiska besök med patienter pga kliniska riktlinjer?

- ○ Ja
- ○ Nej

21. Om du svarat ja på ovanstående fråga, när och under hur lång tid har du inte haft fysiska besök?

22. Om du svarat ja på fråga 20, varför har du behövt ställa in fysiska besök? (du kan välja flera alternativ)

- [ ] Patient tillhör riskgrupp
- [ ] Sjukfrånvaro bland personal
- [ ] Brist på skyddsutrustning
- [ ] Små lokaler (avstånd till patient)
- [ ] Other

23. Om du svarat ja på fråga 20, ungefär hur många av besöken har du behövt ställa in generellt under pandemin?

- ○ Mer än hälften av besöken
- ○ Vartannat besök (ca 50%)
- ○ Vart tredje besök (ca 33%)
- ○ Vart fjärde besök (ca 25%)
- ○ Vet inte
- ○ Other

24. Har COVID-19-pandemin påverkat antalet återbud du fått generellt under pandemin?

- ○ Ja
- ○ Nej

25. Om du svarat ja på ovanstående fråga, ungefär hur många av besöken har ställts in pga återbud generellt under pandemin?

- Mer än hälften av besöken
- Vartannat besök (ca 50%)
- Vart tredje besök (ca 33%)
- Vart fjärde besök (ca 25%)
- Vet inte
- Other

26. Har COVID-19-pandemin påverkat kvaliteten på dina logopediska insatser?

- Ja
- Nej

27. Om du har svarat ja på ovanstående fråga, hur har kvaliteten påverkats? Beskriv.

28. Hur har COVID-19-pandemin påverkat utförandet av dina vårdbesök? (du kan välja flera alternativ)

- [ ] Har behövt använda munskydd
- [ ] Har behövt använda visir
- [ ] Har behövt använda mer skyddsutrustning
- [ ] Digitala möten istället för fysiska
- [ ] Färre deltagare i gruppbehandlingar
- [ ] Other

29. Hur tror du COVID-19-pandemin har påverkat dina patienter ur ett vårdperspektiv?

30. Tror du att det logopediska yrkesutövandet i Sverige kommer att påverkas permanent av COVID-19-pandemin?

- ( ) Ja
- ( ) Nej
- ( ) Jag vet inte

31. Om du har svarat ja på ovanstående fråga, beskriv hur.

32. Har du fler upplevelser relaterade till COVID-19-pandemin som inte berörts tidigare, skriv gärna här.

Arbete med vård vid postcovid

Denna del riktar sig till dig som arbetar med eller har arbetat med postcovid vård.
Om du inte har arbetat med vård vid postcovid kan du skrolla ned till slutet av enkäten och trycka på "skicka".

33. Vilka logopediskt relevanta besvär uppvisar dina patienter med postcovid?

34. Beskriv vilka logopediska insatser som är aktuella för patientgruppen.

35. Vilka utmaningar har du stött på gällande bedömning?

36. Vilka utmaningar har du stött på gällande behandling?

37. Har du implementerat nya arbetssätt som har fungerat väl?

- ○ Ja
- ○ Nej

38. Om du svarat ja på ovanstående fråga, beskriv vilka.

39. Känner du att du har tillräcklig kunskap för att behandla patienterna med postcovid på bästa sätt?

- ○ Ja
- ○ Nej

40. Om du svarat nej på ovanstående fråga, vad saknas? T.ex. egen kunskap eller oklart forskningsläge. Beskriv.

Appendix 2

Themes for impact on working practices	***Examples of categories***
PPE, hygiene and social distancing	Facemasks, PPE, hand disinfection, disinfection, number of participants in room, in person interpreter, parents in room, general workplace restrictions
Telepractice and working from home	Digital meetings, zoom, advantages of digital meetings, disadvantages of digital meetings, working from home, opportunity to work from home, group treatment, digital interpreter
Workload	Cancellations, sickness, sickness among personnel, new patient group, directives, regarding at risk patients, waiting times,
Redeployment and work tasks	Clinic closed for a period, personnel redeployed, working as substitute teacher, working with COVID testing, working with COVID vaccination, working as a nurse's assistant
Mental health	Stress, depression, anxiety, concern that they may transmit COVID-19 to their patients, economic impact of sickness
Effect on patients	Continuity of visits, evidence-based approaches avoided, group treatments
Themes for post COVID care	***Examples of categories***
Post COVID symptoms	Voice (hoarseness, dysphonia) dysphagia, breathing, dysarthria, aphasia, fatigue
SLP services in post COVID care	Relaxation exercises, breathing exercises, phonation exercises, EMST, voice ergonomic advice, AAC, individual language treatment, group language treatment, FEES, bedside evaluation, dysphagia screening for COVID, altered consistency, rehabilitation exercises, eating and swallowing advice, nutritionist, mouthguard exercises
Challenges in post COVID care	Lack of evidence assessment, lack of evidence treatment, unclear prognosis, fatigue, patient depression, patients have

	complex medical histories, COVID restrictions
Themes for impact on private life	***Examples of categories***
Social life	Social distancing, being unable to meet family and friends, not participating in hobbies or leisure activities, unable to travel
Absence from work	Increase in sick leave, sick children, affected economy
Mental health	Feeling of isolation, stress, worry regarding own health, worry about family members who belong to a risk group
Family members	Sickness or death among family members, family members with mental health problems, worry among family members
Other circumstances	Working from home, children studying from home, maternity and paternity leave not as expected due to restrictions