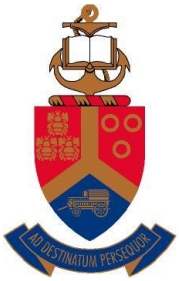


UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Perceptions, knowledge, and perceived competencies of South African speech-language therapists to render transgender voice and communication training

Mr Johan Jacobus Maasz
u15015085

A dissertation in fulfilment of the requirements for the degree MA (Speech-Language Pathology) in the Department of Speech-Language Pathology and Audiology

Faculty of Humanities

University of Pretoria

Supervisor: Prof Jeannie van der Linde

Co-supervisors: Dr Maria du Toit and Dr Carmen Milton

29 September 2023

ACKNOWLEDGEMENTS

I would like to thank the following people for their involvement in, and contribution to, this study:

I am deeply grateful to my research supervisors, Prof Jeannie van der Linde, Dr Maria du Toit, and Dr Carmen Milton, for their invaluable guidance, support, and encouragement throughout the journey of this dissertation. Their dedication, expertise, and mentorship have been instrumental in shaping not only my research, but also my personal and professional growth throughout this journey.

This endeavour would, of course, also not have been possible without the unwavering love, encouragement, and support of my mother, brother, sister-in-law, and our wonderful dogs. Thank you for supporting me throughout my university journey, for always believing in me, and cheering me on. You always celebrate my achievements, no matter how big or small. I feel very fortunate to have a family such as ours - together we always seem to land on our feet.

Lastly, I would like to thank all my amazing, wonderful, friends who kept my spirits up and motivation high throughout this process. You know who you are, and you know that you are dear to me.

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Humanities
Fakulteit Geesteswetenskappe
Lefapha la Bomotho

Department of Speech-Language Pathology and Audiology

DECLARATION REGARDING PLAGIARISM

Full names: Mr Johan Jacobus Maasz

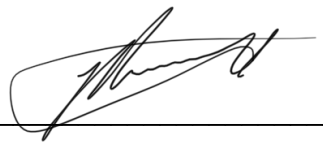
Student number: u15015085

Degree / Qualification: MA (Speech-Language Pathology)

Title of dissertation: Perceptions, knowledge, and perceived competencies of South African speech-language therapists to render transgender voice and communication training

I declare that this dissertation is my work. Where secondary materials were used (either from printed sources, the internet, or any other sources), this has been carefully acknowledged and referenced in accordance with university requirements. I have not allowed, and will not allow anyone, to copy my work with the intention of passing it off as their own.

I understand what plagiarism is and am aware of the University of Pretoria's policy and implications in this regard.



Signature

29 September 2023

Date

ABSTRACT

Background: Speech-language therapists (SLTs) receive extensive education and training on voice and voice disorders in general. Therefore, they are ideally situated to render transgender voice and communication training (TVCT), and it forms part of their scope of practice. Research has, however, identified a lack of confidence in SLTs to render this service due to a perceived lack of education, training, knowledge, and clinical exposure in high income countries. Limited research exists in middle-income countries.

Aim: To determine the perceptions, knowledge, and perceived competencies of South African SLTs to work with transgender clients and provide TVCT.

Methods: A cross-sectional open online survey design using non-probability purposive and convenience sampling was used. Fully qualified and practising South African SLTs were asked to volunteer on social media platforms.

Results: Most participants agreed that TVCT falls within their scope of practice (n=42, 84%), viewing it as their ethical responsibility (n=40, 80%) as well as a medical or educational necessity (n=34, 68%). However, most participants reported feeling inadequately prepared to provide TVCT (n=34, 68%) due to insufficient education and training in this field, with 23 participants (45.1%) reporting that they had not received any education or training on the topic. Most participants also reported knowing how to use pronouns that reflect all genders (n=29, 64.4%). However, most also reported not asking their clients what their preferred pronouns are before engaging in assessment or treatment (n=27, 44.5%) indicating a knowledge-practice gap.

Conclusions: Participants held positive attitudes towards TVCT yet felt unprepared to render the service due to insufficient education, training, and exposure, revealing a crucial professional development need. Participants presented with appropriate cultural competence towards the LGBTQ+ community, however, further research is required to obtain more in-depth knowledge of the possible underlying causes of the knowledge-practice gap noted.

Keywords: transgender voice and communication training (TVCT); transgender voice; transgender health and healthcare; online survey research design; South Africa; transgender voice modification; LGBTQ+; professional healthcare education; speech-language therapist(s)

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

LIST OF ABBREVIATIONS

Abbreviation	Definition
APA	American Psychological Association
ASHA	American Speech-Language-Hearing Association
CVI	Content Validity Index
EBP	Evidence-Based Practice
FtM	Female-to-Male
GAHC	Gender-Affirming Healthcare
HIC	High Income Countries
HPCSA	Health Professions Council of South Africa
HRT	Hormone Replacement Therapy
IJTH	International Journal of Transgender Health
IP	Internet Protocol
LGBTQ+	Lesbian, Gay, Bisexual, Transgender, Queer, and/or Questioning+
LMIC	Low-to-Middle Income Countries
MA	Master of Arts
MtF	Male to Female
n / n_{min}	Sample Size
REC	Research Ethics Committee
SA	South Africa
SASLHA	South African Speech-Language-Hearing Association
SD	Standard Deviation
SLP	Speech-Language Pathologist / Pathology
SLT	Speech-Language Therapist / Therapy
SLTA	Speech-Language Therapist and Audiologist
TVCT	Transgender Voice and Communication Training
UMI	Upper Middle-Income
UP	University of Pretoria

USA	United States of America
WPATH	World Professional Association for Transgender Health

CHAPTER 1: INTRODUCTION

This chapter aims to provide a succinct, structured, and clear introduction to the topic of transgender voice and communication training and how this elective service relates to the practice of speech-language therapists. Furthermore, this chapter will provide an overview of the current body of international literature relating to the perceptions, knowledge, and perceived competencies of speech-language therapists regarding this service. This chapter will conclude with the research question that the current study attempted to answer in this dissertation.

Transgenderism is an umbrella term used to refer to the experiences of people whose gender identity they associate with is different from the gender identity typically associated with their biological sex at birth (Gunjawate et al., 2020; Kuper et al., 2018; Norwood, 2012). Globally, the number of people who self-identify as transgender is on the rise (Nolan et al., 2019). This trend appears to be most pronounced among younger age groups and may be linked to greater global social acceptance of the Lesbian, Gay, Bisexual, Transgender, Queer, and/or Questioning+ (LGBTQ+) community, as well as the adoption of more progressive legislation in Western Countries (Flores, 2019; Nolen et al., 2019; Rider et al., 2018). More specifically, the Constitution of the Republic of South Africa, adopted in 1996, is rooted in social justice and equality and emphasises the rights and protections of the LGBTQ+ community (Bilchitz, 2015; The Republic of South Africa, 1996; van Heerden, 2019). This makes South Africa (SA), at least legislatively, an ideal place for LGBTQ+ people to live authentically (Bilchitz, 2015; van Heerden, 2019).

People who identify as transgender are often diagnosed with gender dysphoria, which occurs when the discrepancies that arise between the person's gender identity and his or her biological sex, lead to feelings of severe or debilitating distress (American Psychiatric Association, 2022). Due to these discrepancies, people who experience gender dysphoria have also been identified to be at increased risk for the development of comorbid psychiatric disorders, including affective disorders such as depression, personality disorders such as schizophrenia, and anxiety disorders such as social anxiety disorder (American Psychiatric Association, 2022; Dhejne et al., 2016; Millet et al., 2017; Peterson et al., 2017). Transitioning, the process through which transgender people undergo the necessary physical, social, and legal changes to align their gender expression with their associated gender identity is a complex process often involving legal, medical, psychological, surgical, and other elective procedures (Crooks & Baur, 2014; Fein et al., 2017). This process can be a crucial and effective manner to alleviate gender dysphoria and is associated with improved quality of life, mood, and self-esteem among transgender people (Coleman et al., 2022; Fein et al., 2017).

In the transgender community, living authentically holds significant importance as it signifies a transgender person's ability to present as their associated gender identity, as opposed to the gender identity assigned to them at birth (Davies & Goldberg, 2006). A discrepancy between gender expression and one's own perceived gender negatively affects confidence during communicative interactions, as well as participation in activities of daily living (Coleman et al., 2022; Davies et al., 2015; Zimman, 2017). The human voice is an essential aspect of human identity and is a principal indicator of a person's gender during communicative interactions (Coleman et al., 2022; Tiwari & Tiwari, 2012). Voice-related quality of life scores are typically lower among transgender people when compared to the general population due to not being perceived as their associated gender identity by others (Chadwick et al., 2022; Davies & Goldberg, 2006; Nobili et al., 2018). Some transgender people whose voice does not align with their associated gender have been found to experience higher levels of common mental disorders, such as anxiety and depression, than the general population and reduced quality of life (Junior & de Medeiros, 2022; Oates & Dacakis, 2015). This highlights the critical role of voice to living authentically among transgender people (Gray & Courey, 2019). To achieve their authentic voices, transgender people generally have two management options available to them: (1) transgender voice and communication training (TVCT); or (2) phonosurgery (Gray & Courey, 2019; Kim, 2020). Research has established that transgender people typically prefer the former as phono-surgery only addresses vocal pitch, and none of the other aspects of gendered communication, such as language content and function, articulation, and paralinguistics resulting in reduced satisfaction among transgender clients (McNeill et al., 2008; Schwarz et al., 2017). Research has also supported TVCT above phonosurgery as TVCT also results in improved voice-related quality of life outcomes among transgender clients (Hancock et al., 2011).

People who transition from female to male (FtM) often partially achieve their desired voice changes in terms of pitch through hormonal replacement therapy (HRT) (Nygren et al., 2016). However, these changes are not always satisfactory and have been found to sometimes result in undesired changes in gender- and function-related aspects of voice production such as pitch, resonance, and pragmatics (Coleman et al., 2022; Ettner et al., 2016). These undesired changes often result in FtM transgender people seeking out the services of a speech-language therapist (SLT) (Coleman et al., 2022). HRT for male-to-female (MtF) transgender people typically do not result in measurable changes in vocal pitch, which can negatively affect the transgender person's self-perception and communicative confidence, as well as their ability to "pass" as a female in their environment (Coleman et al., 2022; Ettner et al., 2016; Sawyer et al., 2015). MtF clients are thus more likely to seek out and access TVCT services from SLTs (Hancock & Garabedian, 2013). When the transgender person achieves congruence between their voice and physical appearance, it reduces

the likelihood of being misgendered by others and minimises potential moments of social distress (Davies & Goldberg, 2006).

Due to SLTs' education and training on voice, voice disorders, and the treatment thereof, they are ideally situated to render TVCT. The provision of TVCT therefore also forms part of the SLT scope of practice (ASHA, 2016; Hancock & Garabedian, 2013; Wylie et al., 2016). TVCT is an elective approach to educate and counsel transgender people regarding appropriate verbal, non-verbal, and voice characteristics to increase the congruence of their self-expression with their associated gender identity (ASHA, 2016; Health Professions Act No. 56 of 1974, 2017). Multiple studies have established the usefulness of TVCT in supporting transgender people to express their associated gender identity through speech and to be perceived as their associated gender by others (Davies et al., 2015). It is recommended that TVCT should address the areas of vocal health, resonance, pitch, intonation, and volume; articulation; language (pragmatics, syntax, and semantics); as well as non-verbal communication (Adler et al., 2019; Coleman et al., 2022). The World Professional Association for Transgender Health's (WPATH) *Standards of Care for the Health of Transgender and Gender Diverse People (Version 8)* sets out the recommended minimum standards and recommendations for voice and communication specialists who work with transgender and gender-diverse people. For SLTs, these standards include: (1) education and training to develop expertise in supporting vocal functioning, communication, and well-being in transgender people; (2) training and competence in the development of communication skills in transgender clients; (3) having a comprehensive understanding of transgender health and sensitivity protocols; and (4) continuing education and training in transgender health, communication development, and assessment of transgender communication skills (Coleman et al., 2022).

Numerous research studies have been conducted in the United States of America (USA), Australia, New Zealand, and Taiwan on the knowledge, training, and attitudes of SLTs on service provision for transgender clients (Hancock & Haskin, 2015; Litosseliti & Geogiadou, 2018; Matthews et al., 2020; Sawyer et al., 2015). These studies found that SLTs are generally aware that TVCT forms part of their scope of practice and that they view transgender service delivery favourably (Hancock & Haskin, 2015; Litosseliti & Geogiadou, 2018; Matthews et al., 2020; Sawyer et al., 2015). However, it was also found that in most cases SLTs feel unprepared and may even feel uncomfortable rendering services to this population due to a lack of education and training (Hancock & Haskin, 2015; Litosseliti & Geogiadou, 2018; Matthews et al., 2020; Sawyer et al., 2015). In contrast, in a study conducted in India, participants reported having limited knowledge about TVCT and a lack of sufficient education and training on the topic, but interestingly they generally reported feeling comfortable working with transgender people (Gunjawate et al., 2020).

Current literature regarding knowledge, perceptions, and self-perceived competencies of SLTs in TVCT has predominantly been produced in high-income countries (HIC) (Hancock & Haskin, 2015; Litosseliti & Georgiadou, 2018; Matthews et al., 2020; Sawyer et al., 2015) with limited research from low-to-middle income countries (LMICs) (Gunjawate et al., 2020).

In SA, research on the interaction between the transgender population and the healthcare system is limited (Luvuno et al., 2019). Considering the complex nature of transgenderism, the increased risk for psychiatric disorders as well as the increased risk associated with gender expression among transgender people, it is clear that the healthcare needs of this population must be addressed in a caring, informed, sensitive, and non-judgemental manner (Reisner et al., 2016). Gender-affirming healthcare (GAHC) has been identified as one such approach (Salas-Humara et al., 2019). GAHC is a holistic approach to the physical, mental, and social dimensions of the healthcare needs of transgender people, with the aim of affirming their gender identity and gender expression to reduce the pathologizing effects typically associated with clinical healthcare (Reisner et al., 2016). Research has established that GAHC is associated with positive psychological outcomes, including lower levels of depression, anxiety, and stress, as well as improved perceptions of quality of life among transgender clients (Meier et al., 2011). The use of GAHC in TVCT has also been found to significantly improve patient-reported outcome measures and can thus also be utilised to holistically support transgender people in aligning their voice quality with their associated gender identity (Chadwick et al., 2022).

The perceived lack of sufficient training on TVCT service delivery among SLTs internationally justifies the importance of determining the knowledge of SLTs in South Africa, an upper middle-income (UMI) country with lower-income settings (Adam & Moodley, 2021; World Bank, n.d.), regarding TVCT. Furthermore, it is important to determine how competent South African SLTs perceive themselves in rendering services to the already marginalized, vulnerable, and underserved transgender population (Kugara et al., 2017; Luvuno et al., 2019; Wylie et al., 2016). Therefore, the following research question was posed: *What are the perceptions, knowledge, and perceived competencies of South African speech-language therapists to render transgender voice and communication training?*

CHAPTER 2: METHODOLOGY

This chapter aims to provide a comprehensive description of the research methodology that was followed in the current study. The research design, ethical considerations, participant selection and sampling, and data management procedures will be discussed. The chapter will also provide a comprehensive description of the development, validation, and use of the open online research survey tool that was used for data collection.

2.1 RESEARCH AIM

To determine the perceptions, knowledge, and self-perceived competencies of South African SLTs to work with transgender people and to provide TVCT.

2.2 RESEARCH STUDY DESIGN

A cross-sectional open, mixed method, online survey research design was used, as it allowed the researcher to answer both descriptive questions, such as “What is your age in years?”, as well as questions about relationships between the variables under study, for example, “what is the effect of age on how comfortable participants feel to provide TVCT” (Creswell & Creswell, 2018). The online survey design was more cost-effective and enabled the researcher to gather larger volumes of data within a shorter time frame (Brink & van Rensburg, 2023). The survey was distributed to participants through email, and posts on various social media platforms. The survey was considered “open” as any person from the sample population could access the survey hyperlink.

2.3 ETHICAL CONSIDERATIONS

The dignified treatment of research participants, and the preservation of their welfare, are one of the primary concerns and responsibilities of researchers (Christensen et al., 2020). Ethical considerations are therefore among the most crucial factors to consider while conducting research in the social and health sciences (Leedy & Ormrod, 2021). Considering this, the researcher acknowledged and adhered to the following standards of ethical conduct throughout the research process:

2.3.1 Plagiarism and scientific integrity

Researchers are responsible for protecting and upholding the integrity of scientific knowledge (Brink & van Rensburg, 2023). The principles of scientific honesty and responsibility in this research were upheld by actively avoiding participation in activities related to plagiarism, manipulation, fabrication, or falsification of data, or irresponsible collaboration. Where the work of others were used, this was carefully

referenced using the 7th edition of the American Psychological Association's referencing style (APA, 2019). All results obtained in this study were reported truthfully and in as much detail as possible to ensure the veracity and trustworthiness of the research.

2.3.2 Informed consent and transparency

After access to the online survey was obtained through a hyperlink, participants were provided with an opportunity to provide voluntary informed consent indicating an understanding of the information provided on the informed consent form (Appendix A). This helped to safeguard the participants' right to self-determination as participants volunteered their participation in this study. As this study's sample population comprised SLTs registered and actively practicing as such in SA at the time of their participation, it was presumed that all participants were of legal age (18 years or above) and possessed the capacity to provide informed consent. The online survey used in this study (Appendix B) was also configured to exclusively admit participants who entered a numerical value of 18 years or above in the designated type box for the question "What is your age in years?"

The consent form used in this study provided an in-depth explanation of the goals of the current study, what was expected of the participants, and what their rights were concerning their participation in this study. The participants were informed of the expected duration of their participation in this study (approximately 10 – 15 minutes). The informed consent form also provided the participants with the contact details of the researcher and research supervisors if they had any questions regarding their participation in this study. Providing the participants with in-depth knowledge regarding the study and giving them access to the researcher and research supervisors helped to promote transparency in this study. Informed consent was obtained in the form of a tick box in the online survey. Participants had to select and submit the "I **consent** to participate in this study" option before they were allowed to start the survey. To promote transparency in the reporting of the research results for this study, the anonymised data was also uploaded to the *UP Figshare Data Repository* (https://doi.org/10.25403/UPresearchdata.23822088) for reviewers to access.

2.3.3 Self-determination and justice

The principles of self-determination and justice were upheld by allowing the participants to freely decide whether to participate in this study without any coercion from the researcher. Additionally, the participants were informed of their right to autonomy and self-determination in the informed consent form. The participants were able to exercise this right as they were able to participate in, and withdraw from, this study without fear of prejudice or reverberation.

2.3.4 Anonymity and privacy

To preserve anonymity, participants were contacted on behalf of the researcher by third-party social media platform group administrators and the South African Speech-Language-Hearing Association (SASLHA). Furthermore, no names were recorded during data collection, and no names were used in reporting this study's results. Finally, the software used to host the survey was pre-set to not collect information regarding the participants' devices' internet protocol (IP) addresses. The participants' right to privacy was inherently guaranteed in this study, as a naturalistic research setting was used. The participants were thus unidentifiable to the researcher during the data collection period, and the researcher would not be able to identify the participants after the current study's conclusion. The data collected in this study was kept strictly confidential, and was only shared with the researcher, the research supervisors, and a pre-approved statistician affiliated with the University of Pretoria (UP).

2.3.5 Risk-to-benefit ratio

To guarantee that the principle of beneficence and non-maleficence was maintained, all reasonable measures were taken to prevent or minimize any risk of harm (whether legal, emotional, social, or psychological) which may have been associated with this study, such as psychological discomfort or emotional distress from self-disclosure or violation of confidentiality. No explicit risks to participants were identified to be associated with this study. One potential benefit of this study is that it could start a discussion regarding the role of the SLT in TVCT in SA. Furthermore, the current research could influence future policy development and decision-making regarding the education and training of SLTs in SA. This research also expands on the growing body of knowledge regarding transgender healthcare and health needs in SA. Finally, this study had the potential to enhance the participants' awareness

regarding their role in TVCT and initiate critical self-reflection among participants concerning this role.

2.3.6 External approvals and permissions

The researcher obtained permission from the SASLHA (Appendix C) as well as social media platform group administrators hosted on Facebook™ (Appendix C) to distribute the survey hyperlink to their members on behalf of the researcher using a pre-approved infographic accompanied by the hyperlink for the survey (Appendix D). On the infographic as well as on the survey, the researcher and research supervisors' names and contact information were displayed with a prompt inviting potential participants to contact any of them should they have any questions regarding their participation in this study or should they have wished to request the results of this study upon its conclusion.

2.3.7 Institutional ethical approval

To ensure that this study complied with all ethical requirements, the researcher submitted a research proposal to the Research Ethics Committee (REC) of the Faculty of Humanities at the University of Pretoria for review and approval (HUM013/1022). This study was only carried out after approval from the REC was obtained (Appendix C).

2.3.8 Data storage and security

The data collected in this study will be stored for a minimum period of 10 years, thus until the year 2033, on UP's – Data Repository (*Figshare*) to ensure that this study complies with UP's *Research and Data Management Policy No. S 4417/17* (University of Pretoria, 2017) and the *Protection of Personal Information Act No. 4 of 2013*. Access to research data was restricted to the researcher and the research supervisors, as well as the statistician that was used to process the data. Participants were also allowed to access the research results upon request. The participants provided informed consent for the data collected in the current study to be used in future research on the same or related topics, in a dissertation, academic publications, and in conference proceedings. Future researchers will, however, have to comply with UP's rules and regulations in this regard, as well as obtain pre-approval from the researcher or the research supervisors.

2.4 STUDY SETTING

This study made use of a naturalistic research setting, as no changes or adjustments were made to the environments of the participants during data collection (Brink & van Rensburg, 2023). This study was conducted using an online survey hosted on the platform *Qualtrics* and was distributed using hyperlinks placed on social media posts and emails sent by the SASLHA on behalf of the researcher. Participants then completed the survey on any capable computing device including cell phones, computers, and tablets. The study setting thus varied according to the physical location of the individual participating in this study at the time of completing the survey.

2.5 STUDY POPULATION AND SAMPLING

2.5.1 Study population

This study targeted fully qualified and practicing South African SLTs who were registered with their relevant registration authority. There were approximately 1 095 SLTs, and 1 548 dual registered SLTs and audiologists (SLTAs) registered with the Health Professions Council of South Africa (HPCSA) as of 2018 (Pillay et al., 2020). This group was targeted as registration with the HPCSA as a SLT is a prerequisite for ethically and legally providing TVCT in SA.

2.5.2 Sampling method

This study was conducted using non-probability purposive and convenience sampling. Non-probability sampling was selected as the researcher was not able to locate each member of the study population or ensure that each member of the population participated in this study (Brink & van Rensburg, 2023; Creswell & Creswell, 2018). Non-probability sampling was also more cost-effective as fewer resources needed to be devoted to locating and contacting members of the study population (Brink & van Rensburg, 2023).

Using purposive sampling, the specific study population was located and selected based on a specific set of characteristics that they possess, as well as their knowledge about the topic under study – in this study this population was South African SLTs registered with the HPCSA and actively practicing in SA (Brink & van Rensburg, 2023; Christensen et al., 2020; Leedy & Ormrod, 2021). These characteristics are usually judged by the researcher as necessary for the study to yield the maximum amount of information on the topic under study (Brink & van Rensburg, 2023; Leedy & Ormrod, 2021). It is important to take note of the fact that

purposive sampling lends itself to sampling bias due to reduced generalisability to samples in different contexts (Brink & van Rensburg, 2023). For this reason, the sampled population used in this study may not represent the entirety of the population under study, and the results obtained should be interpreted and applied with caution.

Convenience sampling involved the sampling of readily available participants who fit the inclusion criteria because they were in the right place at the right time – in this case, registered South African SLTs on social media platform groups made for SLTs or allied health professionals, as well as members of SASLHA (Brink & van Rensburg, 2023; Hanson et al., 2019). This type of sampling method reduced the ability to control for opportunity bias thus reducing the generalisability of the study results (Brink & van Rensburg, 2023). It should therefore also be taken into consideration when interpreting the research results (Leedy & Ormrod, 2021).

2.5.3 Sample size

Using G*Power software, the minimum required sample size (n_{min}) for a small (0.1), medium (0.3), and large (0.5) effect size for correlation was determined to be 782, 84, and 29, respectively to achieve a statistical power of at least 0.8 (Faul et al., 2007; Téllez et al., 2015). Researchers have, however, suggested that it is unnecessary to obtain the minimum sample size required to detect small effect sizes, as finding a statistically significant result for a small effect may have statistical significance ($p<0.05$), but not real-world or practical significance (Baicus & Caraiola, 2009; Peeters, 2016). Thus, ignoring a small effect size, a n_{min} of 84 and 29 were required for medium and large effect sizes, respectively, thus this study aimed to obtain a minimum of 84 participants.

A total of 64 SLTs volunteered to participate in this study and initiated the online survey. One survey set was excluded from the analysis due to non-compliance with the participation requirements for this study. Additionally, 11 incomplete date sets were discarded for being insufficiently completed. Thus only 52 survey sets were considered for analysis and interpretation in this study. Recall that the minimum required sample size to detect a medium effect size was 84, and for the current study, thus with only 52 responses identified as usable an achieved statistical power of 0.590 was achieved, which is less than the ideal statistical power of 0.8. This issue is further discussed in recommendation for future research.

2.6 PARTICIPANT SELECTION CRITERIA

To be considered eligible for participation in this study, participants had to be registered with their relevant registration authority, the HPCSA as an SLT, as well as be actively practicing as a SLT in South Africa at the time of participation.

2.7 DATA COLLECTION

2.7.1 Measurement tool for data collection

Data for this study was collected using an open online survey, hosted on UP's Qualtrics database. An online survey was used as opposed to a paper-based survey as it was more efficient to administer, less time-consuming, more cost-effective, and provided the participants with a higher sense of anonymity which could have resulted in increased honest reporting (Brink & van Rensburg, 2023). The survey was developed by incorporating and adapting questions from existing surveys used in related studies, and by the American Speech-Language-Hearing Association (ASHA), as well as questions designed based on related research (Table 2.1). New questions were also designed to suit the current population under study, and the South African context specifically.

Table 2.1 Sources used in the development of the online survey

Source	Year	Title	Rationale
ASHA	2021	Self-Reflection: Gender Inclusivity	This questionnaire was developed to provide considerations on how to increase inclusivity in clinical practice. Selected questions from this survey were adapted into a 5-point Likert scale for use in the current survey. These include questions 2, 3, 4, 6, 7, 8, 9, 10, 11, and 15.
ASHA	2021	Cultural Competence Check-in: Self-reflection	This questionnaire was developed to heighten awareness of how clinicians view cultural and linguistic factors in the patients they work with. Selected questions from this survey were adapted into a 5-point Likert scale for use in the current survey. These include questions 2, 5, 6, 7, and 14.
Elder LGBT Interprofessional	2022	LGBT Cultural Competency Self-	This survey was developed for professionals working with people

Collaborative Care Program		Reflection Questionnaire	who identify as part of the LGBTQ+ community to consider how their cultural competency might contribute to their best practice. Selected questions from this survey were adapted into a 5-point Likert scale for use in the current survey. These include questions 1, 4, 5, 6, 7, 8, 12, and 28.
Hancock & Haskin	2015	Speech-Language Pathologists' Knowledge and Attitudes Regarding Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ+) Populations	This study aimed to determine what knowledge and attitudes SLTs in the USA, Australia, and New Zealand have toward the LGBTQ+ community. The study found that SLTs in these contexts view the transgender population, as well as transgender voice services in a positive light. However, they also found that these SLTs do not perceive themselves as being well prepared to render these services due to a lack of sufficient education and training. Selected questions from this survey were adapted into a categorical scale for use in the current survey. These include questions 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 19, 21. Selected questions were also incorporated into 5-point Likert scales, including questions 23, 24, 25, and 27. Finally, question 26 was added to the current study's survey as an open-ended question.
Kelly & Robinson	2011	Disclosure of membership in the lesbian, gay, bisexual, and transgender community by	This study found that people who identify as LGBTQ+ feel that their healthcare outcomes in speech therapy are often affected by their sexual orientation. In the current survey, questions were designed

		individuals with communication impairments: a preliminary web-based survey	based on the results of the study by Kelly & Robinson (2011). For example, the study found that people who identify as part of the LGBTQ+ community perceive their status as part of the community as important to their healthcare needs. This result was then included as a question in the current study's survey.
Matthews et al.	2020	Knowledge, Training, and Attitudes of Students and Speech-Language Pathologists About Providing Communication Services to Individuals Who Are Transgender	The purpose of the study was to understand how student SLTs and registered SLTs feel about and view transgender voice and communication therapy. The study found that most students and registered SLTs viewed transgender voice services as appropriately falling within the scope of their profession. More than half of the participants reported feeling comfortable treating transgender clients. Most respondents in the survey indicated that even though they knew professional guidelines, and felt knowledgeable in-service provision to this population, most participants have not received training on the transgender population. Selected questions from this survey were adapted into a categorical scale for use in the current survey. These include questions 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, and 12.
Sawyer et al.	2015	A Survey of the Awareness of Speech Services Among Transgender and Transsexual	This study aimed to determine how aware people who identify as part of the transgender community, as well as SLTs, are of transgender voice therapy services. The study also attempted to evaluate the education,

		Individuals and Speech-Language Pathologists	experience, and confidence among SLTs in providing services to transgender people. The study found that a majority of SLTs view transgender voice services as part of their scope of practice but felt improperly prepared to render the service. Selected questions from the survey were adapted into categorical scales, as well as integrated into a 5-point Likert scale for use in this survey. These include questions 3, 4, 5, 6, 8.1, 8.2, 8.3, 9.1, 9.2, and 9.3.

Using a survey enabled the researcher to draw inferences and conclusions that can be applied to a larger population from a relatively small survey sample (Brink & van Rensburg, 2023). The survey was divided into three subsections: (A) *Demographic Information* – this subsection aimed to obtain information regarding the demographic profile of the participants who completed the survey; (B) *Knowledge* – this subsection contained factual questions related to the rendering of TVCT as well as gender-affirming healthcare (GAHC); and (C) *Perceptions and Self-Perceived Competencies* – this subsection focused on obtaining information regarding the perceptions and self-perceived competencies of the sample population towards the LGBTQ+ population, and transgender population specifically.

The survey included 30 closed-ended and five open-ended questions. Closed-ended questions were used to obtain objective, measurable data about the topic, whereas open-ended questions were used to obtain thoughts and opinions about the topic. Closed-ended questions made up most of the survey as they were more efficient to complete and obtain objective, measurable data as participants are more likely to answer them as opposed to open-ended questions (Brink & van Rensburg, 2023; Christensen et al., 2020). The closed-ended questions in the survey were made up of 5-point Likert scales, for example, “strongly agree” to “strongly disagree” and categorical scales, for example, “yes” and “no” (Creswell & Creswell, 2018). The open-ended questions were used to obtain rich, in-depth information and elicited perspectives of participants.

Randomisation and adaptivity were not incorporated into the survey design. Once a participant had submitted a response, they were able to review or modify their response(s) by utilizing a "back" button. No incentives – either monetary or non-monetary, were offered to participants for survey completion. The survey was designed to be completed within an estimated time of 10 to 15 minutes.

2.7.2 Procedure for data collection

The SASLHA as well as various social media platforms group administrators, such as those on Facebook™, were approached for permission to use their email list and platforms, respectively, to obtain access to the sample population. Letters of approval were sent to the *SASLHA Research and Education Committee* and social media platform group administrators stating the researcher's intent and asking for this permission. The study population was then approached through the SASLHA email list and social media groups (posted and sent on behalf of the researcher) to inform them of this study, explain to them the importance of this study, and why the researcher would like for them to participate in it, accompanied by an infographic. The email and social media posts also contained the survey link for them to access. Weekly follow-up social media posts were published to the participants for three weeks with permission from the associated group administrators to remind the participants of the survey and the purpose of this study, as well as to provide them with the link to the survey in case they have not yet completed it. This might have helped to encourage improved response rates in the survey. Participants were given a three week period (21 days) to complete the survey.

2.7.3 Validity and reliability

The survey used in this study was developed by incorporating and adapting questions from existing surveys used in related studies by Hancock and Haskin (2015), Sawyer et al. (2015), and Matthews et al. (2020). Sections of the American Speech-Language-Hearing Association's (ASHA) *Cultural Self-Reflection: Gender Inclusivity* (2021) and *Cultural Competence Check-in: Self-Reflection* (2021) were also adapted and incorporated for use in the survey. Finally, new questions were generated based on the current study and context. The use of existing surveys helped to enhance the reliability of the survey.

The content validity of the survey was established through a pilot study during which an acceptable *Content Validity Index (CVI)* as set out in Yusoff (2019). Prior to

distribution to participants, the survey was sent for review to a panel of three South African experts (P) in the field of SLT (Table 2.2). During their review of the survey, the experts made suggestions on the grammar and syntax of the questions asked. The experts also made suggestions on how to change questions to more accurately assess a desired construct, as well as questions that should be added to gain better insight into a construct being investigated. After incorporating minor suggestions from these experts into the first draft of the survey, the final version was sent to them for review and the CVI for the final version was found to be equal to 1. According to Yusoff (2019) this is an acceptable value when three experts were consulted.

Table 2.2 Qualifications and combined experience of expert panel members

Expert	Qualification	Experience
P1	DPhil Communication Pathology (UP)	24 Years
P2	DPhil Speech-Language Pathology (UP)	19 Years
P3	MA Speech-Language Pathology (UP)	17 Years
	Total combined years of experience:	**60 Years**

All data collected through the survey was described in as much detail as possible to ensure its credibility (Creswell & Creswell, 2018). Furthermore, the questions in the survey were constructed to suit the education level of the target population. Finally, any data sets that did not comply with the current study's participation requirements, or that were not completed beyond the demographics section of the survey (34%) were discarded. This further reduced the risk of using skewed data sets for interpretation.

2.8 DATA MANAGEMENT AND ANALYSIS

Data management and analysis occurred in four phases as suggested by Creswell & Creswell (2018). The first stage emphasised determining the number of participants who took part in this study and analysing the demographic data of these participants. The second stage focused on determining and eliminating non-response bias through the exclusion of incomplete and non-compliant data sets (Creswell & Creswell, 2018). Stage three encompassed the analysis of the raw data through descriptive and inferential statistics to convert the data into information. In the fourth stage, the information was presented in an easily digestible and user-friendly format so it could be interpreted in a meaningful way.

Statistical analysis was used to summarize, organise, evaluate, and interpret the collected quantitative research data (Leedy & Ormrod, 2021). Descriptive statistics were used to make sense of the data, identify key characteristics, and summarize it into visual representations to discern meaning (Christensen et al., 2020; Shayib, 2018). Methods such as frequency distribution, variability, measures of central tendency, correlation, and measures of relationships were used. Statistical data were also processed and represented in graphs and tables to represent the research data visually. Inferential statistics were used to draw comparisons within and across data regarding the study population's perceptions, knowledge, and perceived competencies, by comparing their answers to expected answers in previous studies on this topic (Leedy & Ormrod, 2021). Data analysis was conducted using the *Statistical Package for the Social Sciences (SPSS) version 28* with a 5% level of significance. Non-parametric *Spearman Correlations (rs)* were used to test for significant correlations between variables. For missing values, pairwise deletion was used as it leads to larger sample sizes and higher statistical power as opposed to using listwise deletion (Raaijmakers, 1999).

All qualitative data obtained from open-ended questions were analysed using qualitative content analysis to identify, analyse, and report different themes observed in the collected data (Vaismoradi et al., 2013). For this study, a theme was defined as a recurring pattern of regularity or thought that emerged from the data, in relation to the research question (Braun & Clarke, 2013; Polit & Beck, 2017). Themes were identified by segmenting the text data into sentences and sorting it into various themes labelled according to the actual language used by the participants (Vaismoradi et al., 2013).

CHAPTER 3: RESEARCH ARTICLE – *"PERCEPTIONS, KNOWLEDGE, AND PERCEIVED COMPETENCIES OF SOUTH AFRICAN SPEECH-LANGUAGE PATHOLOGISTS TO RENDER TRANSGENDER VOICE AND COMMUNICATION TRAINING"*

This chapter presents the research article generated based on this dissertation. This article was submitted to the *International Journal of Transgender Health (IJTH)* for peer review and consideration for publication (Appendix E). The format of this article is based on the guidelines as specified by the journal's *Instructions for Authors* (2023) and may therefore differ from the rest of this dissertation.

Name of journal: International Journal of Transgender Health

Impact factor of journal: 4.6 (2022)

Date submitted: 8 September 2023

Status of article: Revision required

Perceptions, knowledge, and perceived competencies of South African speech-language pathologists to render transgender voice and communication training

Johan Jacobus Maasz[a], BA; Jeannie van der Linde[a], DPhil; Carmen Milton[a], DPH; Marien Alet Graham[b], PhD; Maria Neethling du Toit[a], PhD

[a] *Department of Speech-Language Pathology and Audiology, University of Pretoria, Pretoria, Republic of South Africa*

[b] *Department of Science, Mathematics, and Technology Education, University of Pretoria, Republic of South Africa*

Conflict of interest: The authors declare that they have no conflict of interest.

Abstract

Background: Speech-language pathologists (SLPs) receive extensive education and training on voice and voice disorders. Therefore, they are integral in rendering transgender voice and communication training (TVCT), as part of their scope of practice. Research has, however, identified a lack of confidence in SLPs to render this service due to a perceived lack of education, knowledge, and clinical exposure.

Aim: To determine the perceptions, knowledge, and perceived competencies of South African SLPs regarding TVCT.

Methods: A cross-sectional open online survey design using non-probability purposive and convenience sampling was used. Fully qualified, practicing South African SLPs were asked to volunteer to participate on social media platforms. Fifty-two valid data sets were recorded.

Results: Most participants agreed that TVCT falls within their scope of practice (n=42, 84%), viewing it as their ethical responsibility (n=40, 80%) as well as a necessity (n=34, 68%). However, most participants reported feeling inadequately prepared to provide TVCT (n=34, 68%) due to insufficient education and training in this field, with 23 participants (45.1%) reporting that they had not received any education or training on the topic.

Conclusions: Participants generally held positive attitudes towards TVCT yet felt unprepared to render the service due to insufficient education, training, and exposure, revealing a crucial professional development need.

Keywords: transgender voice modification; transgender healthcare; survey research design; South Africa; speech-language pathologist(s); LGBTQ+

Introduction

People who identify as transgender are often diagnosed with gender dysphoria (American Psychiatric Association, 2022). Successful transitioning can be a crucial and effective manner of alleviating feelings of gender dysphoria and is associated with improved quality of life, mood, and self-esteem as the transgender person perceives themselves as living authentically (Coleman et al., 2022; Davies & Goldberg, 2006).

Living authentically is important in transgender communities as it means that they "pass" as their associated gender identity rather than the gender identity assigned to them at birth (Davies & Goldberg, 2006). The human voice is an essential part of human identity and a principal indicator of gender in communicative interactions (Coleman et al., 2022; Davies et al., 2015; Zimman, 2017). Voice-related quality of life is typically lower among transgender people compared to the general population due to not being perceived as their associated gender identity by others (Chadwick et al., 2022; Davies & Goldberg, 2006; Nobili et al., 2018). This thus highlights the critical role of voice to live authentically among transgender people (Gray & Courey, 2019).

To achieve their authentic voices, transgender people have two different management options: (1) transgender voice and communication training (TVCT); and (2) phonosurgery (Gray & Courey, 2019; Kim, 2020). Research has established that transgender people typically prefer the former, as phonosurgery only addresses vocal pitch and no other aspects of gendered communication, resulting in reduced satisfaction among transgender clients (McNeill et al., 2008; Schwarz et al., 2017). Research has also supported TVCT above phonosurgery, as TVCT improves voice-related quality of life outcomes in transgender clients (Hancock et al., 2011).

TVCT is an elective approach to educate and counsel transgender people regarding appropriate verbal, non-verbal, and voice characteristics to increase the congruence of their self-expression with their associated gender identity (ASHA, 2016; Health Professions Act No. 56 of

1974, 2017). Multiple studies have established that TVCT is useful in supporting transgender people in expressing their gender identity through speech and to be perceived as their associated gender by others (Davies et al., 2015). It is recommended that TVCT should address the areas of vocal health, resonance, pitch, intonation, and volume; articulation; and language (pragmatics, syntax, and semantics) as well as non-verbal communication (Adler, 2019; Coleman et al., 2022). Due to speech-language pathologists' (SLPs) education and training on voice, voice disorders, and the treatment thereof, they are ideally situated to render TVCT, and it thus forms part of their scope of practice (ASHA, 2016; Hancock & Garabedian, 2013; Wylie et al., 2016).

Numerous research studies were conducted in the United States of America (USA), Australia, New Zealand, and Taiwan on the knowledge, training, and attitudes of SLPs on service provision for transgender clients (Hancock & Haskin, 2015; Litosseliti & Geogiadou, 2018; Matthews et al., 2020; Sawyer et al., 2015). These studies found that SLPs are generally aware that TVCT forms part of their scope of practice and that they view transgender service delivery favorably (Hancock & Haskin, 2015; Litosseliti & Geogiadou, 2018; Matthews et al., 2020; Sawyer et al., 2015). However, it was also found that in most cases SLPs feel unprepared and may even feel uncomfortable rendering services to this population due to a lack of education and training (Hancock & Haskin, 2015; Litosseliti & Geogiadou, 2018; Matthews et al., 2020; Sawyer et al., 2015). In contrast, in a study conducted in India, participants reported having limited knowledge about TVCT and a lack of sufficient education and training on the topic, but interestingly they generally reported feeling comfortable working with transgender people (Gunjawate et al., 2020).

Current literature regarding knowledge, perceptions, and self-perceived competencies of SLPs in TVCT has predominantly been produced in high-income countries (HIC) (Hancock & Haskin, 2015; Litosseliti & Georgiadou, 2018; Matthews et al., 2020; Sawyer et al., 2015) with limited research from low-to-middle income countries (LMICs) (Gunjawate et al., 2020). The

perceived lack of sufficient training on TVCT service delivery among SLPs internationally justifies the importance of determining the knowledge of SLPs in South Africa, an upper-middle-income (UMI) country with lower-income settings (Adam & Moodley, 2021; World Bank, n.d.), regarding TVCT. Furthermore, it is important to determine how competent South African SLPs perceive themselves in rendering services to the already marginalized, vulnerable, and underserved transgender population (Kugara et al., 2017; Luvuno et al., 2019; Wylie et al., 2016). Therefore, the following research question was posed: *What are the perceptions, knowledge, and perceived competencies of South African speech-language pathologists to render transgender voice and communication training?*

Methodology

A cross-sectional online survey design using non-probability purposive and convenience sampling was used. Fully qualified, practicing South African SLPs were asked to volunteer to complete the survey shared on various social media platforms. IRB clearance (HUM013/1022) was obtained before data collection commenced.

Study population and sampling

To be considered eligible for participation in this study, participants had to be registered with their relevant registration authority, in effect, the Health Professions Council of South Africa (HPCSA), as an SLP as well as be actively practicing as an SLP in South Africa at the time of participation.

Using G*Power software analysis, the minimum required sample size (n_{min}) for medium (0.3) and large (0.5) effect size for correlation was determined to be 84 and 29, respectively, to achieve a statistical power of 0.8 (Faul et al., 2007; Téllez et al., 2015).

A total of 64 participants started the online survey. However, one survey set was excluded from the analysis due to non-compliance with the participation requirement for this study.

Additionally, 11 incomplete data sets were discarded. Consequently, only 52 survey sets were considered for interpretation and analysis in this study (Table 3.1).

Table 3.1 Demographic characteristics (n=52)

Demographic characteristics		**Participants**	
		n	**%**
Gender			
	Male	4	7.7
	Female	45	86.5
	Non-binary/third gender	2	3.9
	Prefer not to say	1	1.9
Identification as part of LGBTQ+ community			
	Yes	5	9.6
	No	44	84.6
	Prefer not to say	3	5.8
Personally knows someone in LGBTQ+ community			
	Yes	48	92.3
	No	3	5.8
	Unsure	1	1.9
Highest level of education completed			
	Bachelor's degree	17	32.7
	Honors degree	21	40.4
	Master's degree	13	25
	Doctoral degree	1	1.9
Resided primarily in a			
	Suburban setting (e.g., a city)	39	75
	Rural setting (e.g., a small town)	6	11.5
	Both for an equal amount of time	7	13.5
Worked primarily in a			
	Suburban setting (e.g., a city)	34	65.4
	Rural setting (e.g., a small town)	7	13.5
	Both for an equal amount of time	11	21.2
*Have been approached by transgender client seeking TVCT**			
	Yes	12	24
	No	38	76
TVCT Caseload			
	Currently on caseload	4	8
	Previously on caseload	7	14
	Never had on caseload	39	78
*Employment setting***			
	Private practice	29	55.8
	Public hospital	14	26.9
	Private hospital	12	23.1
	Public school	5	9.6
	Private school	5	9.6

	Other	3	5.8
	Primary healthcare clinic	2	3.8
	University	2	3.8

Note. ** Percentages add up to <100 as two participants (3.8%) did not answer the question.*
*** Percentages add up to >100% as the participants could select more than one option.*

The participants' ages ranged from a minimum of 22 years to a maximum of 66 years (mean: 33.7, SD: 11.96). The participants' experience working as SLPs ranged between one and 40 years (mean: 10.0, SD: 11.67). All participants (n=52, 100%) were registered with their regulatory authority and actively practicing in South Africa at the time of participation.

Material and Data Collection

Data was collected using an open online survey hosted on the University of Pretoria's Qualtrics database. The survey was developed by incorporating and adapting questions from existing surveys used in related studies by Hancock and Haskins (2015), Sawyer et al. (2015), and Matthews et al. (2020). Sections of the American Speech-Language-Hearing Association's (ASHA) *Cultural Self-Reflection: Gender Inclusivity* (2021) and *Cultural Competence Check-in: Self-Reflection* (2021) were also adapted and incorporated for use in the survey. The survey included 30 closed-ended Likert and categorical scaled questions. The survey also included five open-ended questions to obtain rich, in-depth information and elicited perspectives of participants. The survey was designed to be completed within an estimated time of 10 to 15 minutes.

Content validity was established using the *Content Validity Index (CVI)* as set out in Yusoff (2019) using a panel of three experts in the fields, two of which held PhD qualifications in Speech-Language Pathology, and one a Master of Arts, and with a combined experience of 60 years, prior to the survey's distribution. The CVI for the final version was found to be equal to 1, which is an acceptable value (Yusoff, 2019).

Links to the online survey were posted on the Facebook™ pages of profession-specific and allied healthcare groups, on other identified social media platforms, as well as distributed by the South African Speech-Language-Hearing Association (SASLHA). Upon clicking the link, the informed consent letter was presented, requiring consent before entering the survey. The participants had 21 days to complete the survey.

Data analysis

Raw data was analyzed through descriptive and inferential statistics. Inferential statistics were used to draw comparisons within and across data using the *Statistical Package for the Social Sciences (SPSS) version 28* with a 5% level of significance. *Non-parametric Spearman correlations (rs)* were used to test for significant correlations between variables. For missing values, pairwise deletion was used as it leads to larger sample sizes and higher statistical power as opposed to using listwise deletion (Raaijmakers, 1999).

All qualitative data were analysed using qualitative content analysis. Themes were identified by segmenting the text data into sentences and sorting them into various themes labeled according to the actual language used by the participants.

Results

Education and training. A minority of participants (n=4, 8%) reported feeling adequately prepared by their university education to offer TVCT. Furthermore, most participants (n=34; 65.4%) reported feeling that their university education did not adequately equip them to deliver TVCT (Figure 3.1). Older participants were found to have received significantly less education and training in TVCT during their qualifying degree curriculum compared to younger participants ($p<0.001$, $rs=-0.626$).

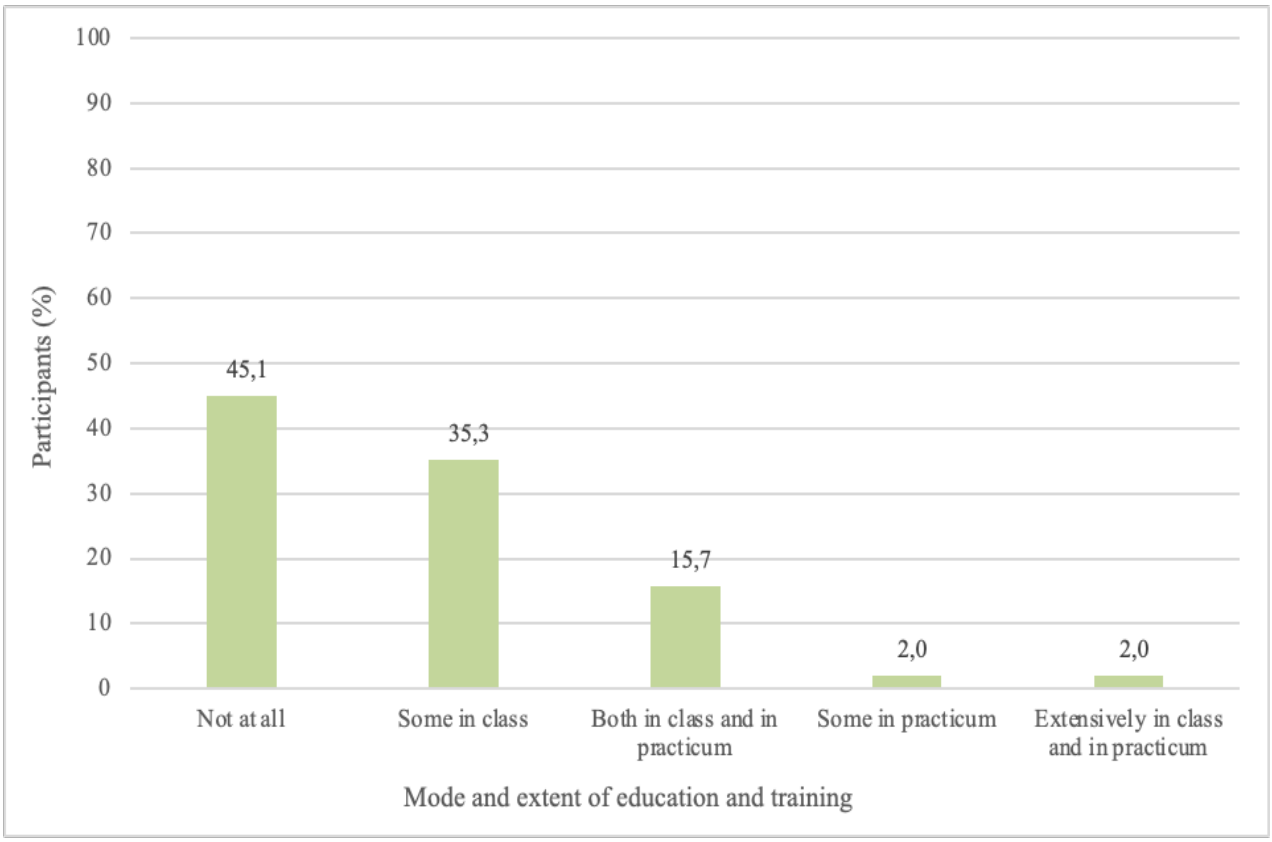


Figure 3.1 Mode and extent of TVCT education and training in qualifying degree curriculum (n=51)

The participants were asked to assign priority scores to different topics that they believed should be incorporated into SLP education and training in providing LGBTQ+ client care (Figure 3.2).

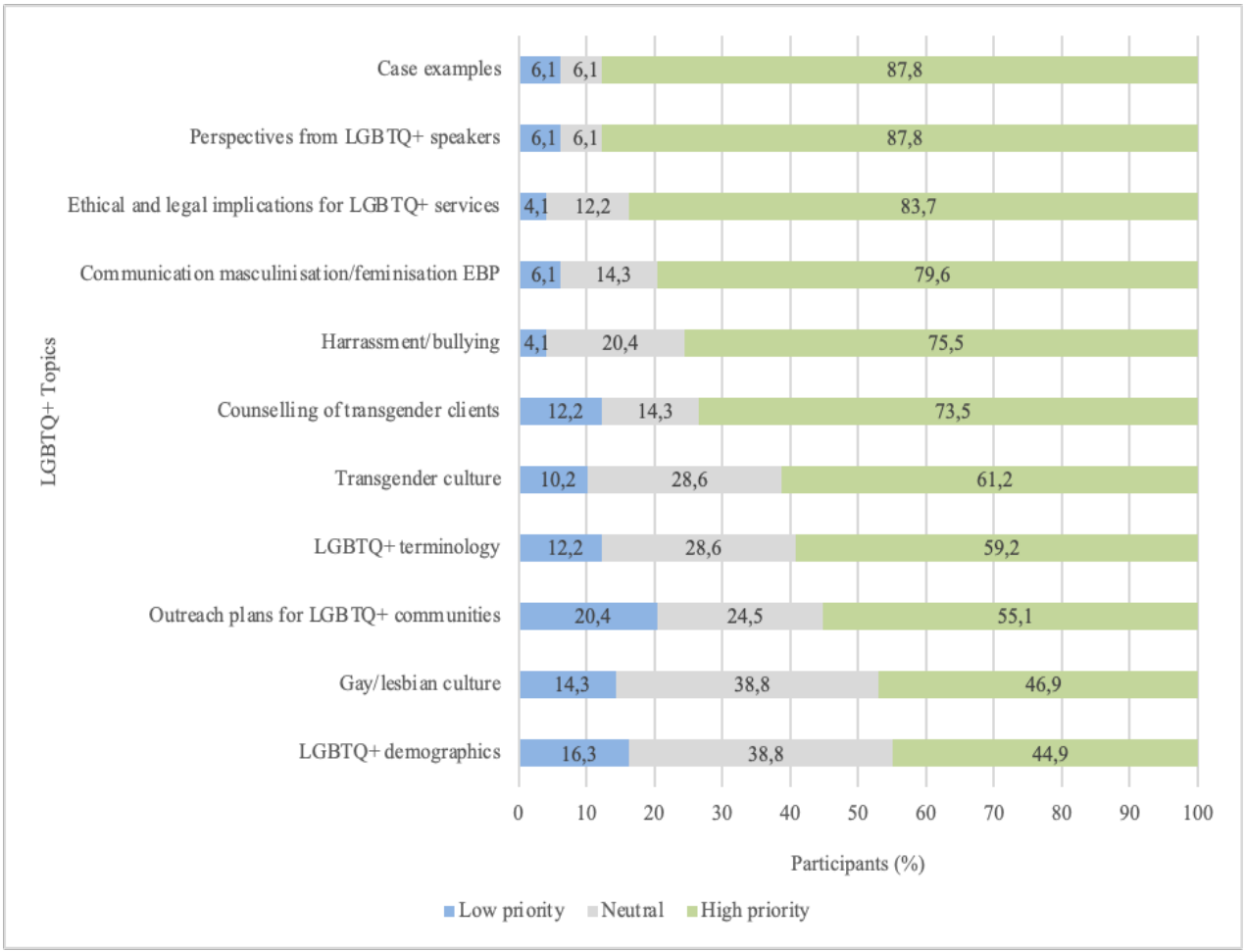


Figure 3.2 Priority scores for LGBTQ+ topics to be addressed in training (n=49)

Perceptions. The participants generally reported holding favorable views of their role in transgender healthcare (Table 3.2). As age among participants increased, their self-perceived role in transgender healthcare significantly decreased (p=0.008, rs=-0.374). Similarly, as the participants' years of experience increased, their self-perceived role in transgender healthcare decreased (p=0.016, rs=-0.339).

Table 3.2 Participants' self-perceived role in transgender healthcare with inferential statistics (n=50)

Perception	Disagree		Neutral		Agree		Age		Experience	
	n	%	n	%	n	%	*p*	*rs*	*p*	*rs*
Scope of practice to treat	6	12	2	4	42	84	0.002	-0.432	0.002	-0.433
Ethical responsibility to treat	5	10	5	10	40	80	0.03	-0.307	0.024	-0.318

Medical and/or educational necessity	8	16	8	16	34	68	0.080	-0.250	0.071	-0.258

Participants were asked whether there were any moral beliefs or scenarios which could prevent them from providing quality services to LGBTQ+ clients. Only five participants (12.5%) acknowledge holding such beliefs, while most reported not holding such beliefs (n=31, 77.5%). Common themes identified from these beliefs include: (1) concerns about potentially violating ethical guidelines (p1: *"If the transgender individual was under the age of 18 and had parents that are transphobic, and they don't give consent… I feel in that situation it would be hard because I'd want to advocate for the patient… So, I may cross a line in advocacy."*); (2) concerns relating to practitioner autonomy to choose which population they serve (p2: *"… it should be my choice to provide services to whichever population I choose… I do not feel that a practitioner can be forced to deliver services he/she is not trained for, as it will not benefit the client.")*, and (3) concerns relating to competence (p14: *"… a practitioner can(not) be forced to deliver services he/she is not trained for, as it will not benefit the client.."*). One participant (2.5%) expressed the view that it is *"… unethical to mistreat a psychological issue and to support gender appropriation."* (p3).

Participants were then asked to provide a brief description of their views on TVCT in therapy. Qualitative content analysis revealed six categories (Table 3.3).

Table 3.3 Qualitative content analysis of participants' views of TVCT in therapy (n=38)

Categories	Sampled participant quotes
Participants recognized the importance of TVCT in gender affirmation.	P7: *"… I don't think enough transgender individuals know about (it), nor does it receive enough attention in research and practice."* P21: *"… (it) can help transgender individuals feel more comfortable with their voice, improve their ability to communicate… and reduce gender dysphoria."*

Participants expressed challenges in finding resources related to TVCT.	P16: *"… It can also be difficult finding resources or CPD courses related to it. I have found networking with therapists who offer this service is incredibly helpful in finding more information…*
Participants emphasized the importance of understanding each transgender client's unique goals and aspirations.	P23: *"It involves… ascertaining what the patient's goals are. Not all transgender people want the same outcomes and it's important to understand what the patient wants... it also involves trying to minimize vocally abusive behaviors…"*
Participants highlighted the importance of treating all patients with respect and providing necessary healthcare services.	P27: *… [a] therapist who deals with this MUST have specialized training… and learn a lot about this community and culture and be prepared to be part of a team on an ongoing long-term basis…"* p31: *"…. I feel very strongly that anyone whose speech, voice or communication causes them distress, should have the right to access the appropriate treatment."*
Participants highlighted encountering barriers to providing TVCT such as limited exposure, and possessiveness of referral sources by other therapists.	P16: *"… it is not covered in enough depth during one's university experience. It can also be difficult finding resources or CPD courses related to it."* P34: *"… therapists working with this community are very "possessive" of their referral sources…"*
Participants expressed curiosity and interest in exploring the topic of TVCT, despite lack of experience.	P8: *"… I feel very unprepared to accommodate the treatment into my practice. I hope it is being integrated into the undergraduate programmes. I feel I would prefer to be mentored through the process if I were to take on a transgender patient."* P37: *"It is something relatively new in speech therapy… Thus, I think several speech therapists have missed out on this sort of training at a tertiary education level."* P38: *"I am really intimidated by this, but I find it a fascinating area to explore."*

Knowledge and self-perceived competence. More than half of participants expressed feeling knowledgeable (n=28; 53.8%) and competent (n=27; 51.9%) in voice therapy, and comfortable with the assessment of voice-related issues in general (n=29; 55.8%). However, most participants reported feeling uncomfortable when it came to providing assessment (n=28; 56%) and treatment (n=31; 62%) specifically for transgender clients. A statistically significant positive

correlation was observed between self-perceived knowledge and competence in general voice assessment and therapy, and knowledge and competence in transgender client care ($p<0.001$, $rs=0.519$). Less than half of the participants reported that they were likely to pursue further education and training for treating transgender clients (n=22; 44%).

Participants with more exposure to TVCT during their qualifying degree program reported significantly higher levels of comfort in providing care to transgender clients ($p=0.016$, $rs=0.340$). For participants who reported that their university education had prepared them well for treating transgender clients, a statistically significant relationship was observed between their reported level of comfort providing assessment ($p=0.002$, $rs=0.426$) and treatment ($p<0.001$, $rs=0.586$) to transgender clients. Participants were asked to rate their level of agreement regarding the reasons they believe transgender people might seek voice modification services (Figure 3.3).

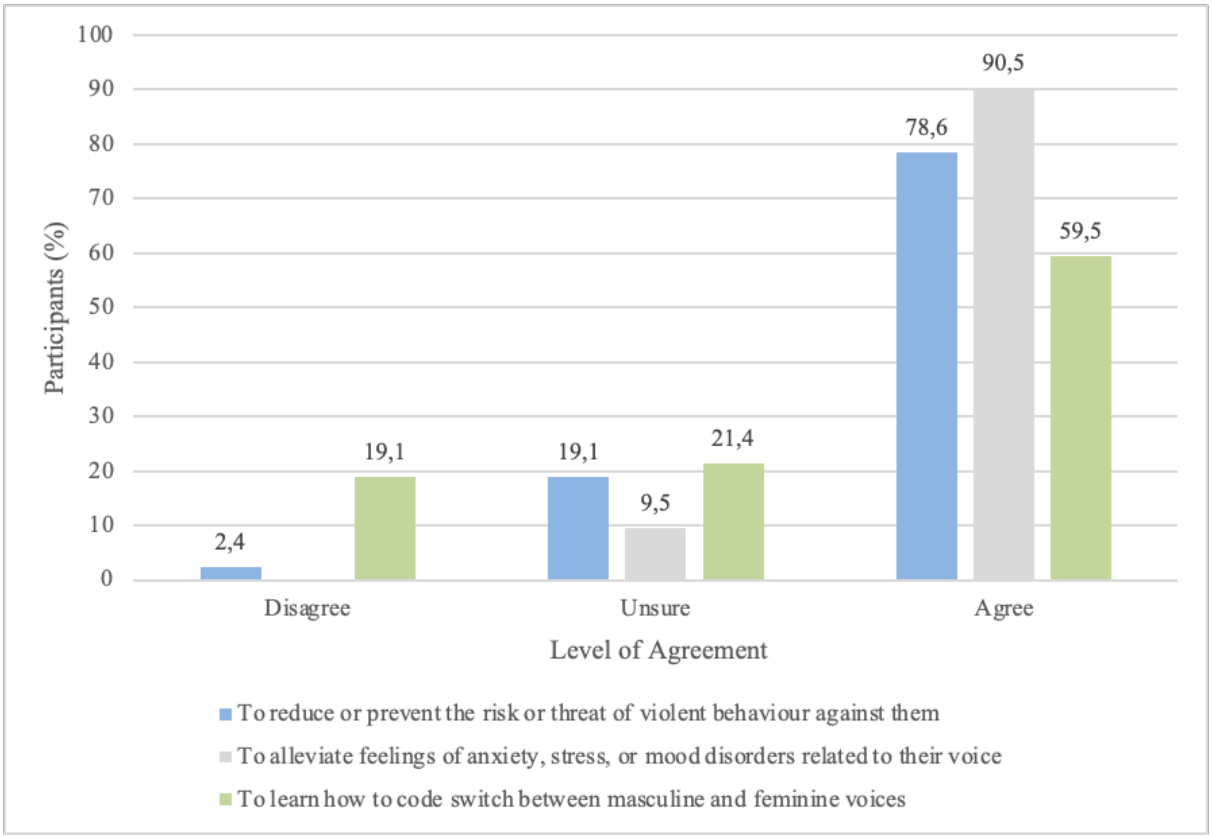


Figure 3.3 Perceptions of why transgender people might pursue voice therapy services (n=42)

The participants were asked to match gender-related terms with corresponding descriptions, which were obtained from Hancock & Haskin (2015) [Figure 3.4]. Participants displayed fair knowledge of the LGBTQ+ terminology provided to them

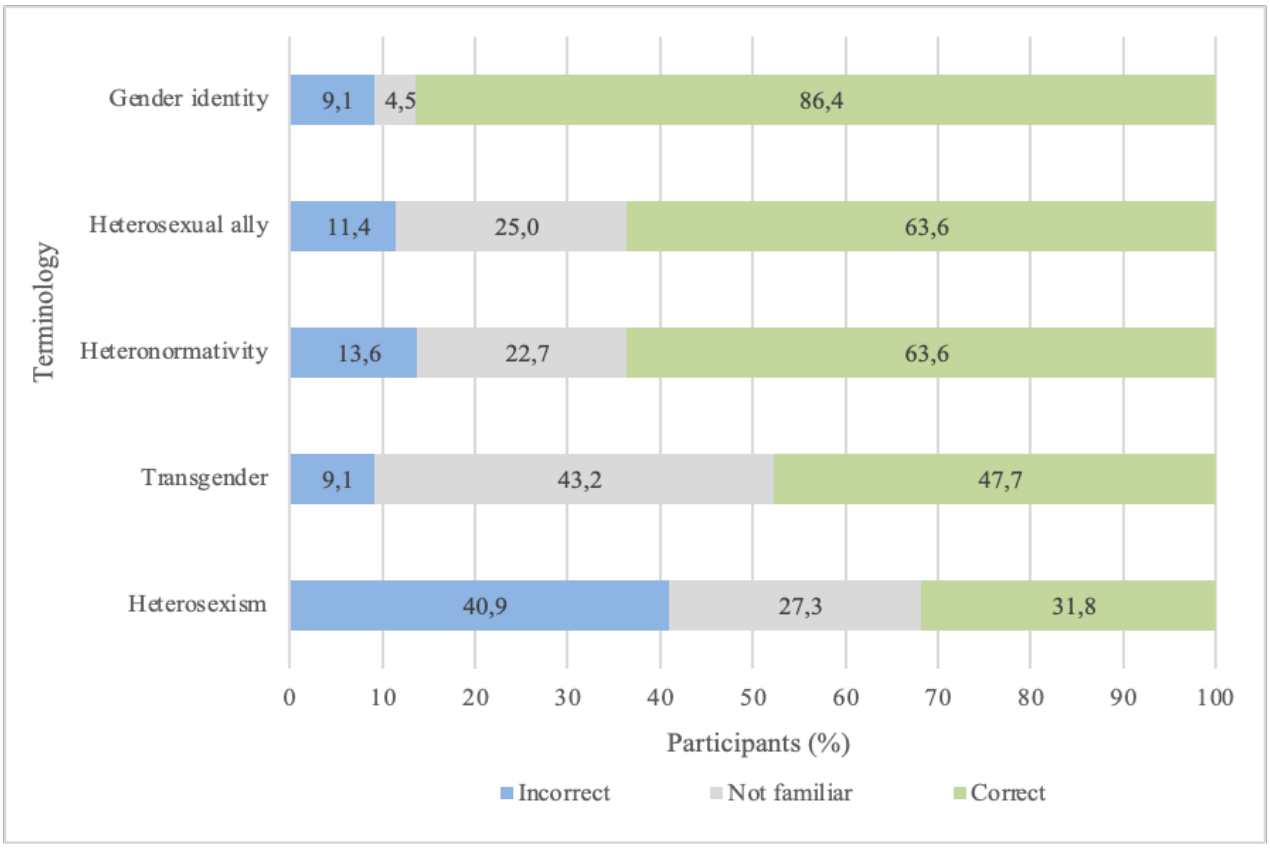


Figure 3.4 Knowledge of LGBTQ+ associated terminology (n=44)

Participants were presented with a series of true-false (T/F) questions pertaining to transgender voice and transitioning to observe their adherence to stereotypes (Table 3.4). Participants displayed poor knowledge of the effects of hormone treatment on vocal pitch.

Table 3.4 Performance on T/F questions regarding LGBTQ+ statements (n=44)

T/F Questions	Authoritative source	n_{min}	Incorrect		I don't Know		Correct	
			n	%	n	%	n	%
Most LGBTQ+ people feel that their identities should not affect the care they receive from healthcare providers. *(Answer: True)*	Hancock & Haskin (2015)	44	-	-	4	9.1	40	90.9

People who identify as part of the LGBTQ+ community perceive their status as part of the community as important to their healthcare needs. *(Answer: True)*	Hancock & Haskin (2015)	44	-	-	10	22.7	34	77.3
Many LGBTQ+ clients report negative interactions with healthcare providers. *(Answer: True)*	Kelly & Robinson (2011)	44	1	2.3	18	40.9	25	56.8
Phonosurgery leads to increased satisfaction among transgender clients. *(Answer: True)*	Ettner et al. (2016)	42	5	11.9	20	47.6	17	40.5
Hormone therapy in male-to-female clients does not affect vocal pitch. *(Answer: True)*	Ettner et al. (2016)	42	6	14.3	20	47.6	16	38.1
Hormone therapy leads to improved vocal pitch in both male-to-female and female-to-male clients. *(Answer: False)*	Ettner et al. (2016)	42	9	21.5	19	45.2	14	33.3
All people who identify as transgender are diagnosed with gender dysphoria. *(Answer: False)*	Coleman et al. (2022)	42	8	19.1	14	33.3	20	47.6

Less than half of participants (n=19, 39.6%) reported having encountered the term gender-affirming healthcare (GAHC). When asked to explain what they understand regarding this term, participants expressed a prevailing consensus regarding GAHC, characterizing it as an "integrated" or "affirming" methodology in voice modification therapy.

P28: *"..., affirming their experiences and supporting the individual… to reduce gender dysphoria or other distress that they may be experiencing."*

P43: *"an umbrella term for the holistic approach to support and affirm someone's gender… it is not only medical support, but also psychological, behavioral, social, etc."*

Only four participants (8.3%) described GAHC in terms of social dimensions as well as physical and mental dimensions. The same participant (n=1; 2.1%) who viewed TVCT as "unethical", also

reported negative views of GAHC, describing it as “a dangerous healthcare practice” that is ineffective in the alleviation of depression among transgender clients.

The participants were instructed to assign a priority score for different domains of intervention that they deemed necessary to be addressed during TVCT (Figure 3.5). Participants prioritized vocal pitch (n=39, 92.9%) and vocal health and education (n=39, 92.9%) the most, and articulation the least (n=16, 38.1%).

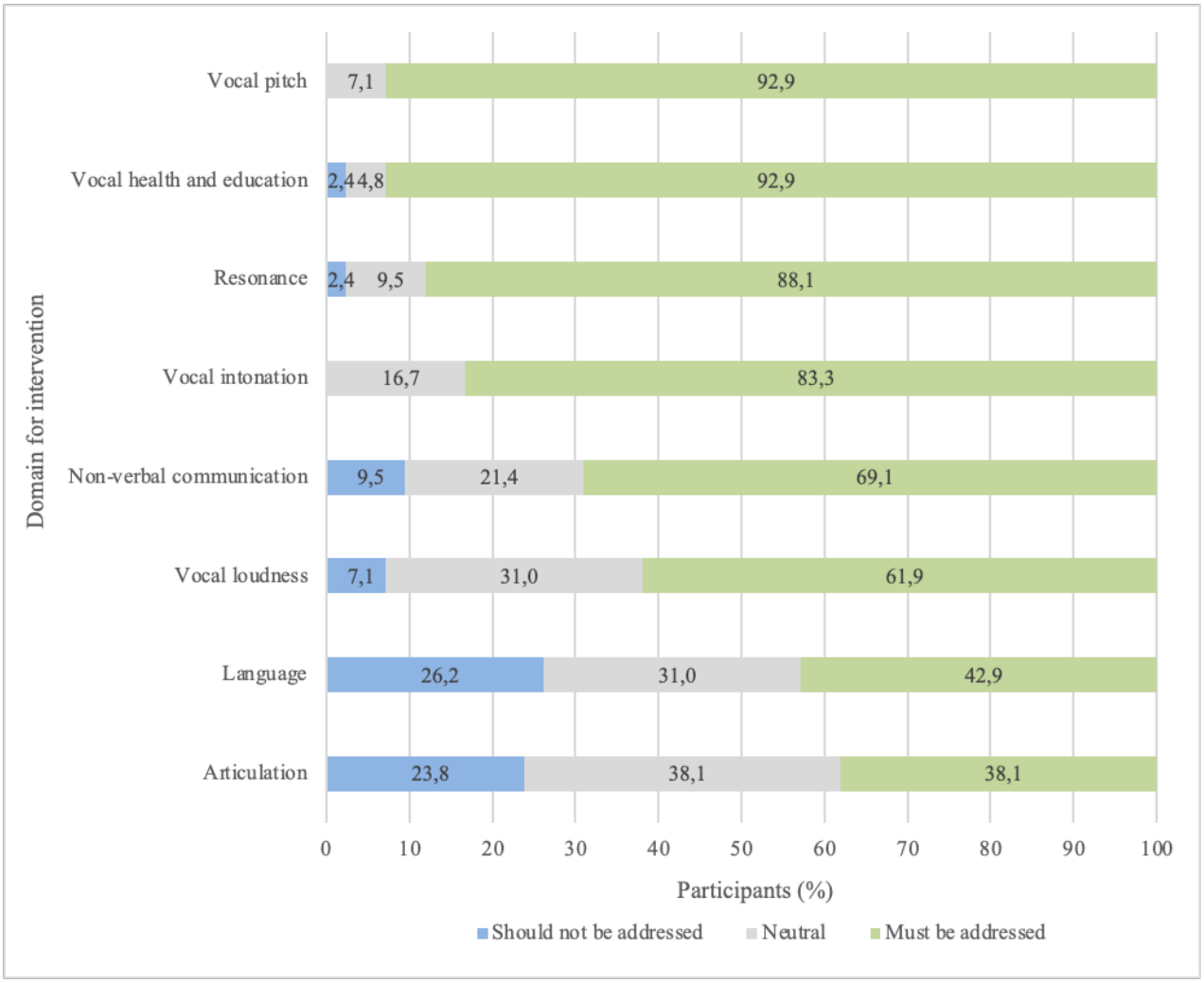


Figure 3.5 Priority score for TVCT domains of intervention (n=42)

The participants were asked to assign a priority score to healthcare professionals that they believed should be included in the healthcare team for transgender people undergoing transitioning (Figure 3.6). As the participants’ perceptions of healthcare professionals’

involvement in the transitioning team increased, their assigned priority scores for relevant domains for intervention in TVCT also increased (p=0.042, rs=0.319).

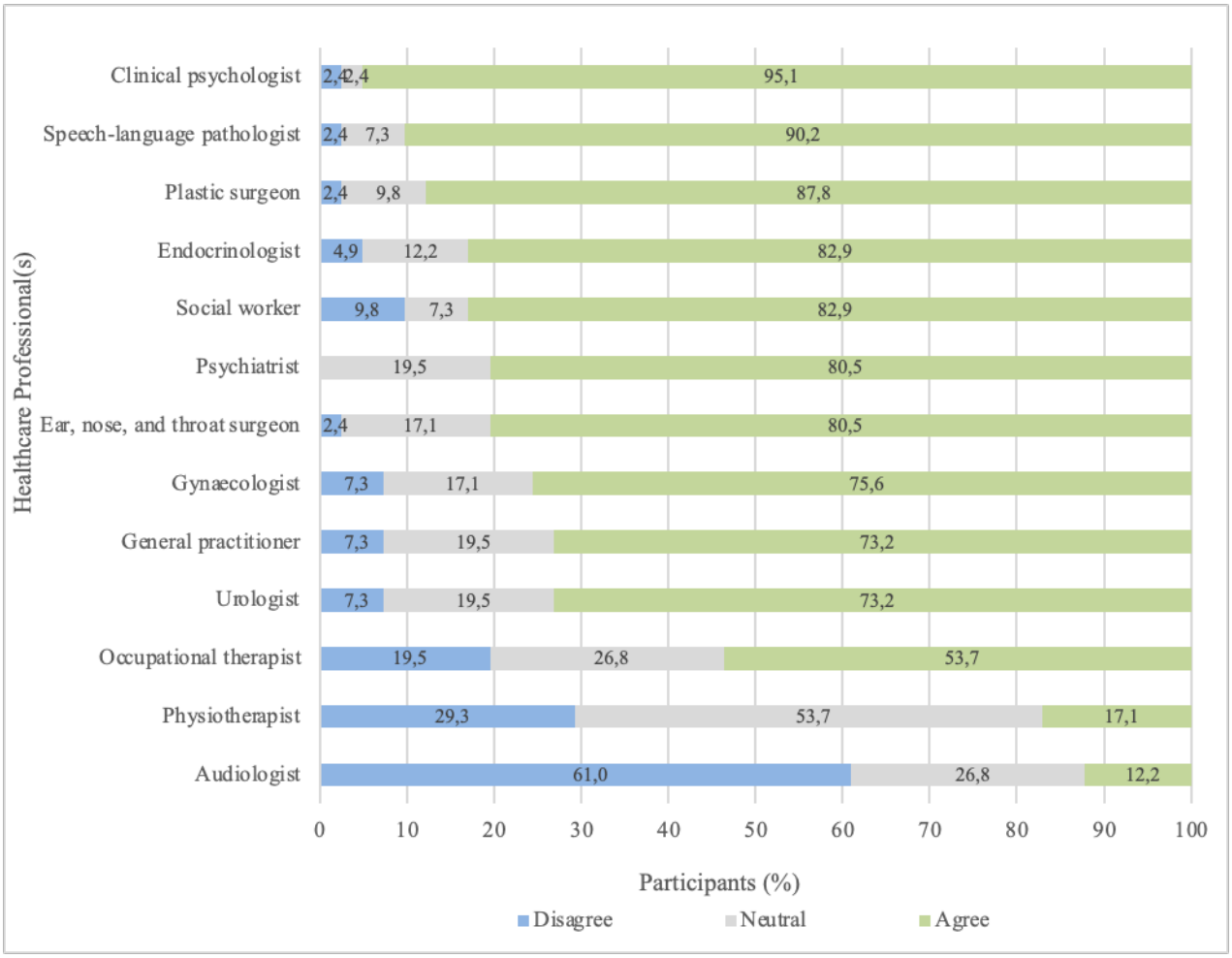


Figure 3.6 Priority scores for healthcare professional that form part of transitioning team (n=41)

Additionally, participants suggested that, apart from SLP's, pharmacists (n=2, 4.9%), nurse practitioners (n=3, 7.3%), sexologists (n=1, 2.4%), electrolysis practitioners (n=1, 2.4%), community healthcare workers (n=1, 2.4%), dieticians (n=1, 2.4%), dermatologists (n=1, 2.4%), dentists/orthodontists (n=1, 2.4%), counselors (n=1, 2.4%), and families (n=1, 2.4%) should also be included in the transitioning team.

Participants were asked to rate their level of comfort and self-perceived knowledge on various LGBTQ+ topics (Table 3.5). Individuals who reported higher levels of knowledge on LGBTQ+ topics also reported significantly higher levels of comfort with LGBTQ+ topics

($p<0.001$, $rs=0.764$). Generally, participants self-reported having higher levels of comfort with LGBTQ+ topics than knowledge of LGBTQ+ topics.

Table 3.5 Self-reported knowledge and comfort with LGBTQ+ topics (n=41)

Topics	*M*	*SD*	*Mdn*	*IQR*	Skewness
Knowledge					
Process of coming out for LGBTQ+ people	3.1	1.25	3	2	0.096
LGBTQ+ culture	3.2	1.16	3	2	-0.47
LGBTQ+ health issues	3	1.20	3	2	0.181
Role of SLP in LGBTQ+ healthcare	3	1.21	3	2	-0.137
Voice feminization/masculinization	2.6	1.27	2	3	0.206
Comfort					
Process of coming out for LGBTQ+ people	3.8	1.26	4	2	-1.071
LGBTQ+ culture	3.9	1.14	4	2	-0.802
LGBTQ+ health issues	3.8	1.20	4	2	-1.016
Role of SLP in LGBTQ+ healthcare	3.8	1.32	4	2	-0.762
Voice feminization/masculinization	3.3	1.43	3	3	-0.207

Note. Scale is 1 – 5; a higher number indicates more knowledge/comfort.

Among participants who had prior experience in providing TVCT, seven participants (17.5%) identified various resources as particularly valuable in the planning and implementation of intervention. These resources encompass online resources and courses such as The Informed SLP LLC© (n=1, 2.5%), Facebook™ groups (n=1, 2.5%), and training programs (n=2, 5%). Additionally, published literature and research such as the works of Boone et al. (2020) (n=1, 2.5%), Mills and Stoneham (2017, 2021) (n=1, 2.5%), and clinical journals and research articles (n=2, 5%) were also highlighted as valuable resources for staying up-to-date and informed on TVCT practice. The participants also highlighted the value of learning from transgender content creators and clients (n=2, 5%) to gain insight and perspectives directly from the transgender community. One participant (2.5%) highlighted the limited availability of education and training

courses for professional development, along with a perceived high barrier of entry into the field of TVCT practice as illustrated in the following example:

> p40: *"... Gaining information at this time is limited to reading up research articles and referring to literature. Those experienced in the field were not open to sharing advice. If this is taught at a graduate level it allows more therapists to gain skills and serve a bigger community."*

Discussion

The majority of participants in this study reported that they had not received sufficient education and training in TVCT during their qualifying degree curriculum and felt inadequately prepared to provide the service to transgender clients. This is consistent with research findings in higher-income countries (Litosseliti & Georgiadou, 2018; Matthews et al., 2020; Sawyer et al., 2015), as well as in available literature in LMICs (Gunjawate et al., 2020). Being able to render competent and ethically based services to a specific population is contingent on possessing the necessary education and training, cultural competence, and knowledge of a population's needs (Kelly & Robinson, 2011, Sue, 2001). These results indicate that currently practicing South African SLPs who participated in this study may not be able to serve the broadest range of individuals possible (Hancock & Haskin, 2015).

Over time, SLP training programs have gradually increased education and training on TVCT (Jakomin et al., 2020), which could explain why older participants in the current study reported receiving significantly less education and training on TVCT compared to younger participants ($p<0.001$, $r_s=-0.626$). As societal awareness of the unique healthcare needs of transgender people increases, the significance of culturally competent care for this population is recognized more (Matthew et al., 2020). Consequently, international SLP training programs have adapted to these developments by incorporating more extensive education and training on TVCT

(Jakomin et al., 2020), potentially followed by South African training programs. Despite this positive development, most participants who reported having received education and training indicated that it was provided primarily in the classroom, similar to the participants in Sawyer et al. (2015). This suggests that the training received was primarily theoretical in nature, with little exposure to practical experience.

Similar to previous research (Litosseliti & Georgiadou, 2018; Sawyer et al., 2015), most participants (84%) acknowledged that TVCT falls within their scope of practice and held positive views toward it. However, only 44% expressed an intent to pursue additional training for transgender client treatment, 14% were neutral, and 42% indicated no intention to seek further training. This is similar to findings by Matthews et al. (2020) who found that most of their participants were unlikely to pursue further training in transgender care. While the current study did not investigate why participants were unlikely to pursue further education and training opportunities in TVCT, a possible explanation could include that SLPs who are already established in one area of practice are less likely to shift their professional focus to a new or unfamiliar field (Matthews et al., 2020). This idea is elaborated upon by the World Professional Organization for Transgender Health (WPATH), which emphasizes that a historical neglect of cultural and clinical education and training in transgender healthcare stems from factors such as lack of faculty knowledge, faculty experience, and comfort with the relevant subject matter, as well as biases and limited space within existing healthcare curricula (Coleman et al., 2022). A concern raised among participants in the current study, who were interested in TVCT, included difficulty finding appropriate resources and further education and training courses. TVCT related further education and training activities could be scarce due to a shortage of suitably qualified and experienced educators to develop and present such activities, as hypothesized by Matthews et al. (2020). To address this concern, universities as well as regulatory and professional organizations in South Africa, could take proactive measures to create these educational resources.

Participants generally viewed their own competence to provide assessment and treatment for transgender people negatively, which supports the findings in similar research (Litosseliti & Georgiadou, 2018; Sawyer et al., 2015). Participants highlighted encountering barriers to providing TVCT, such as limited education and training and practical exposure. As a result, participants might see themselves as lacking the required knowledge or skills to appropriately serve this population, consistent with Matthews et al.'s (2020) findings.

The participants in the current study displayed fair knowledge of LGBTQ+ related terminology. Participants did, however, experience increased difficulty matching the terms "transgender" and "heterosexism" with their corresponding descriptions. This supports similar research findings which found SLPs to be fairly unfamiliar with LGBTQ+ related terminology (Litosseliti & Georgiadou, 2018; Sawyer et al., 2015). The importance of terminology is highlighted in research, as correct terminology used by healthcare professionals is highly valued among transgender people (Pitts et al., 2009). This was further stressed by Sawyer et al. (2015) who advocated that SLPs should be able to address their clients appropriately and use terminology appropriately to facilitate a safe and secure atmosphere. Interestingly, no age effect was noted with regard to knowledge of LGBTQ+ associated terminology, contradicting previous findings (Hancock & Haskin 2015; Litosseliti & Georgiadou 2018), that younger participants or student clinicians were more likely to have knowledge of LGBTQ+ terminology in comparison to older participants. A possible explanation for this finding might include increased exposure to LGBTQ+ terminology among all age groups due to the increased visibility and acceptance of LGBTQ+ people in popular media (Gonta et al., 2017). Furthermore, most of the participants mentioned that they personally know someone who identifies as part of the LGBTQ+ community (n=48, 92.3%), possibly increasing the chances that they have encountered the terms in social settings as well.

The results of the current study suggest that the term GAHC might not be widely known or used among South African SLPs. Promisingly, despite this, participants overwhelmingly

associated the term with a comprehensive and supportive approach to transgender healthcare, which is used to alleviate emotional and psychological distress. However, their understanding of GAHC appears to be more focused on individual aspects of transgender healthcare rather than the broader social context that can influence the experiences of transgender people. Similarly previous studies found that most participants indicated that all the domains for intervention presented to them were important for TVCT (Matthews et al., 2020; Sawyer et al., 2015). This is also consistent with the recommended standards of care outlined by WPATH (Coleman et al., 2022). Participants in the current study appeared to have prioritized the domains of vocal pitch, vocal health, education for intervention, and vocal intonation above all other domains, supporting similar findings in literature (Hancock & Haskin, 2015). The domain participants favored the least in the current study was articulation. Only 38.1% of participants expressed that it must be addressed, 38.1% were neutral, and 23.8% reported it should not be addressed. The finding indicates insufficient knowledge among participants regarding the effect of articulation exercises on how cisgender listeners perceive a speaker's gender by subtly changing certain formant frequencies (Leyns et al., 2021). Additionally, Azul et al. (2020) also emphasizes that articulation is one of the key cerebral activities involved in voice production, underscoring its significance in the context of TVCT.

Regarding which healthcare professionals should be included in the transitioning team, participants appeared to favor the inclusion of clinical psychologists, SLPs, and plastic surgeons, similar to findings by Gunjawate et al. (2020). Audiologists, physiotherapists, and occupational therapists received the lowest priority scores. This indicates insufficient knowledge among participants as occupational therapists provide valuable support to transgender individuals after transitioning, as it could negatively impact occupational performance (Daly & Hynes, 2020). Furthermore, physiotherapists play an important role in the treatment of the pelvic floor, mobilization, and scar management in transgender people undergoing gender-affirming

vaginoplasty or phalloplasty (Cardinali & Manzer, 2021; Jiang et al., 2019). This lack of knowledge could possibly be improved through targeted further education and training programs in this regard.

Issues of morality generally did not appear to present a significant barrier to the provision of quality services for LGBTQ+ clients among participants, similar to research by Hancock & Haskin (2015) and Gunjawate et al. (2020), both of which found that the majority of their participants did not hold moral beliefs preventing quality service delivery to LGBTQ+ clients. Among participants who expressed concerns about serving LGBTQ+ clients in the current study, themes that emerged highlighted the root cause as being inadequate education and training and concerns regarding competence in TVCT, rather than stemming from personal issues with this population. Research by Hancock and Haskin (2015) found similar results as the worries expressed by their participants were mostly related to their own competence in TVCT and not personal issues with LGBTQ+ people. Furthermore, the themes identified in the current study indicate a lack of awareness among participants of existing ethical and clinical guidelines to consult when working with transgender clients. Additional support for this finding is research by Hallin & Partanen (2022). In their study, the researchers found a lack of sufficient clinical guidelines as the main challenge reported by Swedish SLPs in clinical decision making after conducting an assessment (Hallin & Partanen, 2022). Awareness of existing guidelines among SLPs can be developed through targeted education and training programs and workshops. Moreover, regulatory agencies and professional associations in South Africa can endeavor to develop ethical and clinical guidelines that are contextually relevant to SLPs in the South African context.

Participants generally self-reported feeling knowledgeable about, and comfortable with, LGBTQ+ related topics. Interestingly, older participants generally reported feeling less comfortable with LGBTQ+ related topics than younger participants, indicating an age effect, even

though no age effect was noted with regards to knowledge of LGBTQ+ associated terminology. Nonetheless, this finding supports similar results by Matthews et al. (2020) who found that younger SLPs generally felt more comfortable working with transgender people. Participants self-reported higher levels of comfort when compared to knowledge in LGBTQ+ topics, supporting the findings in existing literature (Gunjawate et al., 2020). Participants with higher levels of self-reported knowledge in LGBTQ+ topics also reported significantly higher levels of self-perceived comfort with LGBTQ+ topics. This could suggest that greater knowledge of LGBTQ+ topics may contribute to increased comfort and confidence among participants when engaging with issues related to the LGBTQ+ community.

For future research, it is recommended that a similar study with a larger representative sample be conducted, as only a small sample size of 52 valid responses could be obtained for the current study. Although the lack of adequate sample size is acknowledged, it should be noted that the response rates for online surveys are typically low. This could be attributed to the rise of online surveys, mobile phones, and information requests (Beullens et al., 2018). Future research could also focus on capturing uncertainties and experiences with transgender clients in the survey to provide a more comprehensive understanding of the experiences of South African SLPs. To explore and identify larger gaps in education and training, curriculum studies should be conducted across a range of various UMIC and LMIC. Finally, given that this survey collected self-reported data concerning professional and ethical matters, the potential for bias is heightened (Matthews et al., 2020). Future research could therefore perhaps adapt the tool to measure more applied outcomes or supplement self-reported data with other methods of data collection, such as interviews.

Conclusion

The current study aimed to investigate the perceptions, knowledge, and self-perceived competence of South African SLPs in relation to TVCT. The study revealed a critical gap in the education and training of South African SLPs concerning TVCT. Most participants reported feeling inadequately equipped to serve transgender clients due to insufficient preparation during their qualifying degree programs, paralleling trends observed in international literature. Participants displayed fair knowledge of LGBTQ+ terminology but were generally unfamiliar with GAHC. While participants felt knowledgeable and comfortable with LGBTQ+ topics, they perceived themselves as lacking competence in TVCT. To address these issues, larger-scale representative studies are recommended, as well as improved education and training initiatives, and the development of contextually relevant and comprehensive ethical and clinical guidelines on TVCT.

Statement of human rights and ethical approval

The authors declare that the following study, with all its methods and procedures, have been approved by the appropriate institutional research ethics committee of the Faculty of Humanities at the University of Pretoria (HUM013/1022), in accordance with the ethical standards as laid down in the 1964 Declaration Helsinki and its later amendments or comparable ethical standards.

Informed consent

Informed consent was obtained from all individual participants included in this article. The informed consent form completed by the participants indicated permission for the results of the study to be disseminated through articles and dissertations. Participants were provided with the contact details of the authors should they wish to obtain the results of the study after its conclusion.

References

Adam, I., & Moodley, Y. (2021). Positive postoperative blood cultures in major abdominal surgery patients attending a tertiary hospital in Durban, South Africa. *Althea Medical Journal*, *8*(4), 181-187. https://doi.org/10.15850/amj.v8n4.2427

Adler, R. A., Hirsch, S., & Pickering, J. (2019). *Voice and Communication Therapy for the Transgender/Gender Diverse Client: A Comprehensive Clinical Guide* (3rd ed.). Plural Publishing, Inc.

American Psychiatric Association. (2022). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed., text rev.). https://doi.org/10.1176/appi.books.9780890425787

American Speech-Language-Hearing Association. (2016). *Scope of Practice in Speech-Language Pathology* [Scope of Practice]. https://www.asha.org/siteassets/uploadedfiles/sp2016-00343.pdf

American Speech-Language-Hearing Association. (2021). *Self-Reflection: Gender Inclusivity*. Available from https://www.asha.org/siteassets/uploadedfiles/multicultural/gender-inclusivity-self-reflection.pdf

American Speech-Language-Hearing Association. (2021). *Cultural Competence Check-in: Self-reflection*. Available from https://www.asha.org/siteassets/uploadedfiles/multicultural/self-reflection-checklist.pdf

Azul, D., Hancock, A. B., Nygren, U. (2020). Forces Affecting Voice Function in Gender Diverse People Assigned Female at Birth. *Journal of Voice*, *35*(4). https://doi.org/10.1016/j.jvoice.2020.01.001

Baicus, C., & Caraiola, S. (2009). Effect measure for quantitative endpoints: Statistical versus clinical significance, or "how large the scale is?". *European Journal of Internal Medicine*, *20*(5), e124-e125. https://doi.org/10.1016/j.ejim.2008.10.002

Beullens, K., Loosveldt, G., Vandenplas, C., & Stoop, I. (2018). Response Rates in the European Social Survey: Increasing, Decreasing, or a Matter of Fieldwork Efforts?. *Survey Methods: Insights from the Field*. https://doi.org/10.13094/SMIF-2018-00003

Boone, D. R., McFarlane, S. C., Von Berg, S. L., & Zraick, R. I. (2020). *The voice and Voice Therapy* (10th ed.). Pearson Education, Inc.

Cardinali, J., & Manzer, D. (2021). The Role of Physical Therapy in the Care of Transgender Patients. In: Nikolavsky, D., Blakely, S.A. (eds) *Urological Care for the Transgender Patient*. Springer, Cham. https://doi.org/10.1007/978-3-030-18533-6_16

Chadwick, K. A., Coleman, R., Andreadis, K., Pitti, M., & Rameau, A. (2022). Outcomes of Gender-Affirming Voice and Communication Modification for Transgender Individuals. *The Laryngoscope*, *132*, 1615-1621. https://doi.org/10.1002/lary.29946

Coleman, E., Radix, A. E., Bouman, W. P., Brown, G. R., de Vries, A. L. C., Deutsch M. B., … Arcelus, J. (2022). Standards of Care for the Health of Transgender and Gender Diverse People (Version 8). *International Journal of Transgender Health*, *23*(S1), S1-S260. https://doi.org/10.1080/26895269.2022.2100644

Daly, V., & Hynes, S. M. (2020). A Phenomenological Study of Occupational Participation for People who Identify as Transgender. *Annals of International Occupational Therapy*, *3*(3), 127-135. https://doi.org/10.3928/24761222-20200309-04

Davies, S., & Goldberg, J. (2006). Clinical aspects of transgender speech feminization and masculinization. *International Journal of Transgenderism, 9*(3-4), 167-196. https://doi.org/10.1300/J485v09n03_08

Davies, S., Papp, V. G., & Antoni, C. (2015). Voice and Communication Change for Gender Non-conforming Individuals: Giving Voice to the Person Inside. *International Journal of Transgenderism*, *16*(3), 117-159. https://doi.org/10.1080/15532739.2015.1075931

Ettner, R., Monstrey, S., Coleman, E. (2016). *Principles of Transgender Medicine and Surgery* (3rd ed.). Routledge.

Faul, F., Erdfelder, E., Lang, A., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*, 175–191. https://doi.org/10.3758/BF03193146

Gonta, G., Hansen, S., Fagin, C., Fong, J. (2017). Changing Media and Changing Minds: Media Exposure and Viewer Attitudes Towards Homosexuality. *Pepperdine Journal of Communication Research*, *5*(5), 22-34. https://digitalcommons.pepperdine.edu/pjcr/vol5/iss1/5

Gray, M. L., & Courey, M. S. (2019). Transgender Voice and Communication. *Otolaryngologic Clinics of North America*, *52*(4), 713-722. https://doi.org/10.1016/j.otc.2019.03.007

Gunjawate, D. R., Kumar, R. B., Ravi, R., & Kunnath, L. S. (2020). Knowledge and attitudes toward the transgender community among speech-language pathologists in India: A questionnaire-based exploration. *International Journal of Transgenderism*, *21*(4), 455-462. https://doi.org/10.1080/26895269.2020.1753135

Hallin, A. E., & Partanen, P. (2022). Factors affecting speech-language pathologists' language assessment procedures and tools – challenges and future directions in Sweden. *Logopedics Phoniatrics Vocology*. Advance online publication. https://doi.org/10.1080/14015439.2022.2158218

Hancock, A. B., & Garabedian, L. M. (2013). Transgender voice and communication treatment: a retrospective chart review of 25 cases. *International Journal of Language & Communication Disorders, 48*(1), 54-65. https://doi.org/10.1111/j.1460-6984.2012.00185.x

Hancock, A., & Haskin, G. (2015). Speech-Language Pathologists' Knowledge and

Attitudes Regarding Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ+) Populations. *American Journal of Speech-Language Pathology, 24*(2), 206-221. https://doi.org/10.1044/2015_AJSLP-14-0095

Hancock, A. B., Krissinger, J., & Owen, K. (2011). Voice Perception and Quality of Life of Transgender People. *Journal of Voice, 25*(5), 553-558. https://doi.org/10.1016/j.jvoice.2010.07.013

Health Professions Act No. 56 of 1974 (2017). *Regulations Defining the Scope of Practice of Speech-Language Therapy*. Available from https://www.gov.za/sites/default/files/gcis_document/201712/41350gon1459.pdf

Jakomin, J. R., Ziegler, A., Rio, C., & Suddarth, R. (2020). Opportunities to Learn Transgender Voice and Communication Therapy in Graduate Speech-Language Pathology Education: Preliminary E-Survey Findings. *Perspectives of the ASHA Special Interest Groups*, *5*(3), 876-883. https://doi.org/10.1044/2020_PERSP-20-00047

Jiang, D.D., Gallagher, S., Burchill, L., Berli, J., & Dugi, D. (2019). Implementation of a Pelvic Floor Physical Therapy Program for Transgender Women Undergoing Gender-Affirming Vaginoplasty. *Obstetrics & Gynecology*. *133*(5):1003–1011. https://doi.org/10.1097/AOG.0000000000003236

Kelly, R. J., & Robinson, G. C. (2011). Disclosure of Membership in the Lesbian, Gay, Bisexual, and Transgender Community by Individuals with Communication Impairments: A Preliminary Web-Based Survey. *American Journal of Speech Language Pathology*, *20*, 89-94. https://doi.org/10.1044/1058-0360(2011/10-0060)

Kim, H. (2020). Vocal Feminization for Transgender Women: Current Strategies and Patient Perspectives. *International Journal of General Medicine*, *13*, 43-52. https://doi.org/10.2147/IJGM.S205102

Kugara, L. S., Netshandama, V. O., & Matshidze, P. E. (2017). Lesbian, Gay, Bisexual

and Transgender Rights in South Africa: A Struggle for Equality. *Gender and Behaviour, 15*(2), 9031-9035. https://hdl.handle.net/10520/EJC-b41480c56

Leyns, C., Corthals, P., Cosyns, M., Papeleu, T., van Borsel, J., Morsomme, D., T'Sjoen, G., & D'haeseleer, E. (2021). Acoustic and Perceptual Effects of Articulation Exercises in Transgender Women. *Journal of Voice*. Advance online publication. https://doi.org/10.1016/j.jvoice.2021.06.033

Litosseliti, L., & Georgiadou, I. (2018). Taiwanese speech-language therapists' awareness and experiences of service provision to transgender clients. *International Journal of Transgenderism*, *20*(1), 87-97. https://doi.org/10.1080/15532739.2018.1553693

Luvuno. Z. P. B., Ncama, B., & Mchunu, G. (2019). Transgender population's experiences with regard to accessing reproductive health care in Kwazulu-Natal, South Africa: A qualitative study. *African Journal of Primary Health Care & Family Medicine, 11*(1), a1933. https://doi.org/10.4102/phcfm.v11i1.1933

Matthews, J. J., Olszewski, A., & Petereit, J. (2020). Knowledge, Training, and Attitudes of Students and Speech-Language Pathologists About Providing Communication Services to Individuals Who Are Transgender. *American Journal of Speech-Language Pathology, 29*(2), 597-610. https://doi.org/10.1044/2020_AJSLP-19-00148

McNeill, E. J. M., Wilson, J. A., Clark, S., & Deakin, J. (2008). Perception of Voice in the Transgender Client. *Journal of Voice, 22*(6), 727-733. https://doi.org/10.1016/j.voice.2006.12.010

Mills, M., & Stoneham, G. (2017). *The Voice Book for Trans and Non-Binary People: A Practical Guide to Creating and Sustaining Authentic Voice and Communication*. Jessica Kingsley Publishers.

Mills, M., & Stoneham, G. (2021). *Voice and Communication Therapy with Trans and Non-Binary People – Sharing the Clinical Space*. Jessica Kingsley Publishers.

Nobili, A., Glazebrook, C., & Arcelus, J. (2018). Quality of life of treatment-seeking transgender adults: A systematic review and meta-analysis. *Reviews in Endocrine and Metabolic Disorders, 19*, 199-220. https://doi.org/10.1007/s11154-018-9459-y

Pitts, M. K., Couch, M., Mulcare, H., Croy, S., & Mitchell, A. (2009). Transgender people in Australia and New Zealand: Health, well-being, and access to health services. *Feminism & Psychology*, *19*(4), 475-495. https://doi.org/10.1177/0959353509342771

Raaijmakers, Q. A. (1999). Effectiveness of different data treatments in surveys with Likert-type data: Introducing the relative mean substitution approach. *Educational and Psychological Measurement*, *59*(5), 725-748. https://doi.org/10.1016/j.cptl.2015.09.001

Sawyer, J., Perry, J., & Dobbins-Scaramelli, A. (2015). A Survey of the Awareness of Speech Services Among Transgender and Transsexual Individuals and Speech-Language Pathologists. *International Journal of Transgenderism, 15*(3-4), 146-163. https://doi.org/10.1080/15532739.2014.995260

Schwarz, K., Fontanari, A. M. V., Schneider, M. A., Borba Soll, B. M., da silva, D. C., … Lobato, M. I. R. (2017). Laryngeal surgical treatment in transgender women: A systematic review and meta-analysis. *The Laryngoscope, 127*(11), 2596-2603. https://doi.org/10.1002/lary.26692

Sue, D. W. (2001). Multidimensional facets of cultural competence. *The Counseling Psychologist*, *29*(6), 790-821. https://doi.org/10.1177/0011000001296002

Téllez, A., García, C. H., & Corral-Verdugo, V. (2015). Effect size, confidence intervals and statistical power in psychological research. *Psychology in Russia: State of the Art*, *8*(3), 27-46. https://doi.org/10.11621/pir.2015.0303

World Bank (n.d.). *The world bank data: South Africa*. The World Bank. Available from https://data.worldbank.org/country/ZA

Wylie, K., Knudson, G., Khan, S. I., Bonierbale, M., Watanyusakul, S., & Baral, S.

(2016). Serving transgender people: clinical care considerations and service delivery models in transgender health. *Lancet, 388*(10042), 401-411. https://doi.org/10.1016/s0140-6736(16)00682-6

Yusoff, M. S. B. (2019). ABC of Content Validity and Content Validity Index Calculation. *Education in Medicine Journal*, *11*(2), 49-54. https://doi.org/10.21315/eimj2019.11.26

Zimman, L. (2017). Transgender voices: Insights on identity embodiment, and the gender of the voice. *Language and Linguistics Compass*, *12*, e12284. https://doi.org/10.1111/Inc3.12284

CHAPTER 4: DISCUSSION AND CONCLUSION

This chapter aims to summarise and discuss the findings of the current study. The theoretical and clinical implications of the research are outlined. This chapter concludes with a critical evaluation of the strengths and limitations of the current study, and makes recommendations for future research.

4.1 SUMMARY OF RESULTS AND IMPLICATIONS OF THE STUDY

The increased visibility and legal protections for transgender people globally (Flores, 2019; Nolen et al., 2019; Rider et al., 2018), and in South Africa specifically (The Republic of South Africa, 1996; Tshuma et al., 2021; van Heerden, 2019), may result in the increased involvement of South African SLTs in transgender healthcare. The availability of research regarding the knowledge, perceptions, and perceived competencies of SLTs with regards to the provision of TVCT has been limited to international literature (Gunjawate et al., 2020; Hancock & Haskin, 2015; Litosseliti & Geogiadou, 2018; Matthews et al., 2020; Sawyer et al., 2015). This study therefore aimed to ascertain the perceptions, knowledge, and self-perceived competence of South African SLTs in relation to TVCT. Prior to this study, research among South African SLTs in this regard has been limited.

4.1.1 Education and training

A significant challenge faced by most of the SLTs who participated in the study was a lack of adequate education and training in TVCT (n=34, 65.4%), similar to what was reported in international literature (Dickinson et al., 2023; Gunjawata et al., 2020; Hancock & Haskin, 2015; Matthews et al., 2020, Sawyer et al., 2015). This could have practical implications for the quality of care provided to transgender clients. Similar to findings in related literature (Sawyer et al., 2015), this study found that the majority of education and training on TVCT provided to South African SLTs are theoretical in nature, with little-to-no exposure to practical experience. Sawyer et al. (2015) stressed that, to remedy this lack of clinical exposure in SLT training programs, an emphasis must be placed on teaching clinical methods for TVCT assessment and intervention in class, and to provide culturally competent materials. This could be facilitated through the use of comprehensive clinical case studies and interdisciplinary panel discussions on TVCT within educational settings (Hancock & Haskin, 2015). To address this gap in training, academic institutions and professional organizations will have to collaborate to develop more comprehensive TVCT education and competency guidelines and requirements and incorporate

these into SLT training programmes. Moreover, workshops, seminars, and online courses could be developed to provide ongoing training and updates for practicing SLTs, ensuring they are equipped with the necessary knowledge and skills to provide competent care to transgender people (Sawyer et al., 2015).

The small number of participants who reported receiving education and training in TVCT in their degree programs were observed to be significantly more likely to feel adequately prepared to deliver TVCT related service (p=0.016, rs=0.340). This suggests that explicit education and training programs targeting transgender health issues among healthcare professionals, could increase their cultural competencies which results in improved transgender healthcare outcomes (Hancock & Haskin, 2015; Jacob & Cox, 2017; Matthews et al., 2020). Thus, the inclusion of TVCT in the curriculum of SLTs could positively influence the participants' perceptions of their own preparedness to render the service as well as improved transgender healthcare outcomes (Jacob & Cox, 2017). The current study did not, however, obtain information on which topics in TVCT were covered in the education and training programs of these participants. Future research could therefore focus on determining what exactly is covered in the education and training of South African SLTs with regards to TVCT through curriculum studies.

4.1.2 Perceptions and cultural competence

Due to the scope of the article included in this dissertation (Chapter 3), data related to LGBTQ+ cultural competence (Appendix F) among participating South African SLTs were excluded from analysis and discussion. This content will however be discussed here. Due to the diversity of populations SLTs serve, it is important that nuanced discussions be held regarding the factors that can impact our cultural competence (Hudnall, 2022).

Comparable to international literature (Litosseliti & Georgiadou, 2018; Matthews et al., 2020), this study found that younger participants (p=0.008, rs=-0.374), and participants with less experience (p=0.016, rs=-0.339) tended to have a significantly stronger self-perceived role in transgender care when compared to older participants and those with more experience. This could be a result of younger participants being more likely to have received education and training on TVCT (Matthews et al., 2020). Alternatively, this could also be a result of younger participants being more exposed to evolving attitudes regarding transgender issues

(Flores, 2019; Nolan et al., 2019). Most participants reported that it is within their scope of practice to provide TVCT (n=42, 84.0%), and that treating transgender clients referred to them is their ethical responsibility (n=40, 80%). Most participants also reported that access to healthcare is a right regardless of one's sexual orientation and/or gender identity/expression (n=34, 68%). These are promising results, as it suggests an openness and general positive attitude among South African SLPs towards the transgender and wider LGBTQ+ community, and supports findings in international literature (Gunjawate et al., 2020; Litosseliti & Georgiadou, 2018; Sawyer et al., 2015).

While most participants reported feeling comfortable working with LGBTQ+ clients (n=33, 75%), the majority also reported not perceiving themselves as being competent in the assessment (n=28, 53.8%) and treatment of transgender voice (n=31, 62%), akin to research by Litosseliti & Georgiadou (2018) and Sawyer et al. (2015). A possible reason for this could be the lack of sufficient education and training reported by participants on TVCT (n=34, 65.4%), resulting in participants perceiving themselves as not possessing the necessary knowledge or skills to serve this population (Matthews et al., 2020). While most participants reported knowing how to use pronouns that reflect all genders (n=29, 64.4%), most participants also reported not asking their clients what their preferred pronouns are before engaging in assessment or treatment activities (n=27, 44.5%). There are several reasons why this mismatch in knowledge and practice might be present, however, this was beyond the scope of the current study. Future research should delve deeper into this phenomenon to clarify the underlying factors which could contribute to the apparent disparity between theoretical knowledge and practical application of cultural competence.

Regardless of the underlying cause of this knowledge-practice disconnect, addressing it remains of utmost importance. Correct pronoun use is considered a critical part of the gender affirmation process for transgender people and serves as a protective factor for maintaining mental health and well-being among transgender people (Glynn et al., 2016; Sevelius et al., 2020). Especially as correct terminology use among healthcare professionals is highly valued among transgender people (Pitts et al., 2009). Furthermore, Kelly & Robinson (2011) suggests that addressing clients according to their preferred pronoun may promote a safe environment for therapy and support rapport between gender diverse clients and their clinicians.

Thus, WPATH's Standards of Care recommends that clients should always be addressed by their preferred pronouns (Coleman et al., 2022). To address these challenges, researchers suggest explicit education and training on inclusive language use and healthcare practices, with an emphasis on the significance of correct pronoun use, with clients (McPhail et al., 2016; Soled et al., 2022). To mitigate the possible negative effects of using the incorrect pronouns, healthcare practitioners should always discuss preferred pronoun use with clients at the initiation of assessment (Coleman et al., 2022). Ways in which this could be achieved is by including preferred pronoun use as questions on intake forms, through institutional staff education and training, and through clinicians introducing their own pronouns at the start of sessions to set gender diverse clients at ease to disclose their own gender identity (Coleman et al., 2022; Kelly & Robinson, 2011).

One outlier (n=1, 2.5%) expressed the view that transgenderism is a "psychological disorder" and that providing TVCT is "unethical", suggesting a potential bias or lack of understanding towards transgender individuals and their experiences (Kelly & Robinson, 2011). Research has established that people who identify as part of the LGBTQ+ are more likely to experience barriers to healthcare than their heterosexual counterparts (Dahlhamer et al., 2016). Together, these findings stress the importance of understanding what moral beliefs practitioners hold towards the community, as well as potential barriers experienced by practitioners when providing services to LGBTQ+ clients. By identifying these beliefs and barriers among clinicians' more effective and targeted education and training programs, as well as ethical and treatment guidelines, can be developed to address concerns and reduce inequities in health care of LGBTQ+ people (Rowe et al., 2017).

4.1.3 Knowledge and self-perceived competence

Participants who reported feeling more competent and knowledgeable in general voice assessment and therapy, were also more likely to feel knowledgeable and competent in transgender voice care ($p<0.001$, $r_s=0.519$). Research has found that clinicians who possess skills in one area of practice, could result in increased competence in a related or similar field of practice (Gaziano & Serrano, 2012). This transferability of skills could possibly apply here as well, where skills associated with general voice assessment and therapy provide a foundation for the participants to build upon and understand TVCT. Furthermore, as TVCT is a subspecialty of voice treatment, there are various concepts and principles which will be applicable to both

fields such as vocal anatomy and physiology. Thus, participants who have a better understanding of the basic principles of general voice assessment and therapy might find it easier to apply this knowledge to specific considerations of TVCT. As a result, they may perceive themselves as more knowledgeable and competent in both general voice care and transgender voice care. Although it is important to take note of the fact that self-perceived competence and knowledge does not always translate into objectively measured expertise, it could still play a significant role in a clinician's ability to attain clinical competence and outcomes in a field of practice (Parveen & Santhanam, 2021).

4.2 CRITICAL EVALUATION

4.2.1 Strengths of the study

This study provides preliminary information on the perceptions, knowledge, and self-perceived competence of SLTs with regards to TVCT in South Africa. This is particularly significant given the South African context, which is considered to be a UMI country (Adam & Moodley, 2021; World Bank, n.d.) where research in the field of TVCT is relatively limited. By delving into this underexplored area, this study could have laid the foundation for broader discussions and advancements in the field.

Moreover, the implications of this study extends beyond academic discourse. The insights gained from exploring the knowledge, perceptions, and self-perceived competence among SLTs in the context of TVCT could have a tangible impact on policy development and decision making processes of relevant stakeholders such as South African institutions of higher education and the SLTs who participated in the study. Relevant stakeholders can draw from the findings to better understand the current state of TVCT services in South Africa and to make informed decisions about resource allocation, training initiatives, and the integration of transgender healthcare needs to the broader educational and healthcare framework.

As the study contributes to the growing body of knowledge in the domain of transgender healthcare, it adds a unique perspective to the global discourse. South Africa's socio-cultural and healthcare landscape offers a distinct context that can enrich the understanding of transgender healthcare provision, particularly within the African context where LGBTQ+ rights are generally either limited or actively restricted (Ibrahim, 2015). Combined with future research, the findings of this study

could cater to the needs of transgender individuals seeking voice and communication therapy in South Africa.

4.2.2 Limitations of the study

While the study was successful in achieving its primary objective of investigating the perceptions, knowledge, and self-perceived competence of SLTs in South Africa in relation to TVCT, the study is not without limitations. These limitations are both inherent to the study's design and implementation, as well as the sample size obtained.

While being more cost-effective and easier to administer, non-probability purposive and convenience sampling are subject to risks. This includes an increased risk for sampling bias and a reduced ability to control for opportunity bias, both of which reduces the generalisability of the results obtained in the study (Brink & van Rensburg, 2023). Another key limitation of this study is the small sample size (n=52) that was obtained, constraining the generalizability of the findings (Leedy & Ormrod, 2021). The small number of participants reduced the potential statistical power of this study to detect large and medium effect sizes (Serdar et al., 2021). This could have undermined the study's ability to detect meaningful relationships or differences in the participants' spectrum of perceptions, knowledge levels, and self-perceived competence of South African SLTs with regards to TVCT (Serdar et al., 2021). However, as previously discussed, G*Power software indicated that a minimum of 84 responses were required to achieve a statistical power of 0.8 for medium effect sizes (0.3). This being said, the smallest correlation (in absolute value) in the current study was 0.339, with the corresponding achieved statistical power being 0.704. This means that there was a 70.4% chance of detecting a true effect for this correlation, with these percentages only increasing for all other correlations reported on. It should further be noted that although the more stringent cut-off value of 0.8 was used as an input parameter in G*Power for statistical power, some researchers have advocated that 0.7 is an acceptable level (Kraemer & Blasey, 2016). Taking this into consideration, inferences drawn from this sample still holds sufficient value for generalization to the broader population of South African SLTs.

Nonetheless, this observation prompts a contemplation of the factors contributing to the limited number of individuals with experience in transgender client interactions. It is noteworthy that this scarcity appears counterintuitive in the context of an

increasingly open-minded global landscape, where the recognition and understanding of transgender identities are expanding (Flores, 2019; Nolen et al., 2019; Rider et al., 2018).

4.3 RECOMMENDATIONS FOR FUTURE RESEARCH

It is recommended that a similar study with a larger sample be conducted, as only 52 valid responses could be obtained for the current study. Although the lack of adequate sample size is acknowledged, it should be noted that the response rates for online questionnaires are typically low. This could be attributed to the rise of online surveys, mobile phones, and information requests (Beullens et al., 2018). Future research could also focus on capturing uncertainties and experiences with transgender clients in the survey to provide a more comprehensive understanding of the experiences of South African SLTs. This could be achieved by changing the response option for “neutral” to “unsure” to capture the potential ambiguity surrounding SLTs’ encounters with transgender clients. Additionally, incorporating an open-ended follow-up question, when “unsure” is selected, can offer valuable and nuanced insights into the factors contributing to this uncertainty, enabling a deeper understanding of the experiences and challenges faced by SLTs in their interactions with transgender clients seeking TVCT. Finally, as this survey collected self-reported data on professional and ethical issues, the chance of bias is increased (Matthews et al., 2020). Future research could therefore perhaps adapt the tool to measure more applied outcomes or supplement self-reported data with other methods of data collection, such as interviews. Finally, it is also suggested that a future study be designed with the deliberate intent to sample until a sufficient number of participants are attained within both the groups having and lacking experience in working with transgender clients. This approach would enable the undertaking of a meaningful comparative analysis between these two groups, thereby enriching the depth of insights derived from such investigations.

4.4 CONCLUSION

The current study sheds light on, and lays a foundation for understanding, the perceptions, knowledge, and self-perceived competence of South African SLTs in the context of TVCT. One of the prominent findings of this study is the prevalent lack of adequate education and training in TVCT among South African SLTs who participated in the study. This echoes findings in international literature and underscores the need for comprehensive and culturally competent educational programs.

Cultural competence emerged as another important aspect of this study. Most participants

exhibited reasonable knowledge of LGBTQ+ terminology but had limited familiarity with Gender Affirming Health (GAHC). While most participants reported holding a positive attitude towards the LGBTQ+ community, as well as a general openness to working with transgender people, a significant portion did not feel competent in health care service delivery for this population due to insufficient education and training. The study also revealed some demographic trends, such as younger and less experienced participants feeling more confident in providing TVCT. This suggests that older SLTs may benefit from more exposure to education and training on transgender healthcare issues. However, further research is needed to explore these trends and their implications. To address these challenges the study recommends larger, more representative studies, improved education and training initiatives, and the development of contextually relevant and comprehensive ethical and clinical guidelines for TVCT service delivery.

REFERENCES

Adam, I., & Moodley, Y. (2021). Positive postoperative blood cultures in major abdominal surgery patients attending a tertiary hospital in Durban, South Africa. *Althea Medical Journal*, *8*(4), 181-187. https://doi.org/10.15850/amj.v8n4.2427

Adler, R. A., Hirsch, S., & Pickering, J. (2019). *Voice and Communication Therapy for the Transgender/Gender Diverse Client: A Comprehensive Clinical Guide* (3rd ed.). Plural Publishing, Inc.

American Psychiatric Association. (2022). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed., text rev.). https://doi.org/10.1176/appi.books.9780890425787

American Psychological Association. (2020). *Publication Manual of the American Psychological Association* (7th ed.). https://doi.org/10.1037/0000165-000

American Speech-Language-Hearing Association. (2016). *Scope of Practice in Speech-Language Pathology* [Scope of Practice]. Available from https://www.asha.org/siteassets/uploadedfiles/sp2016-00343.pdf

American Speech-Language-Hearing Association. (2021). *Self-Reflection: Gender Inclusivity*. Available from https://www.asha.org/siteassets/uploadedfiles/multicultural/gender-inclusivity-self-reflection.pdf

American Speech-Language-Hearing Association. (2021). *Cultural Competence Check-in: Self-reflection*. Available from https://www.asha.org/siteassets/uploadedfiles/multicultural/self-reflection-checklist.pdf

Baicus, C., & Carailo, S. (2009). Effect measure for quantitative endpoints: Statistical versus clinical significance, or “how large the scale is?”. *European Journal of Internal Medicine*, *20*(5), e124-e125. https://doi.org/10.1016/j.ejim.2008.10.002

Beullens, K., Loosveldt, G., Vandenplas, C., & Stoop, I. (2018). Response Rates in the European Social Survey: Increasing, Decreasing, or a Matter of Fieldwork Efforts?. *Survey Methods: Insights from the Field*. https://doi.org/10.13094/SMIF-2018-00003

Bilchitz, D. (2015). *Constitutional Change and Participation of LGBTI Groups: A case study of South Africa*. International IDEA. Available from https://constitutionnet.org/sites/default/files/constitutional-change-and-participation-of-lgbti-groups-a-case-study-of-south-africa-pdf.pdf

Braun, V., & Clarke, V. (2013). *Successful Qualitative Research: A Practical Guide for Beginners* (1st ed.). SAGE Publications Ltd.

Brink, H., & Van Rensburg, G. (2023*) Fundamentals of Research Methodology for Healthcare Professionals* (5th ed.). Juta & Company, (Pty) Ltd.

Chadwick, K. A., Coleman, R., Andreadis, K., Pitti, M., & Rameau, A. (2022). Outcomes of Gender-Affirming Voice and Communication Modification for Transgender Individuals. *The Laryngoscope*, *132*, 1615-1621. https://doi.org/10.1002/lary.29946

Christensen, L. B., Johnson, R. B., & Turner, L. A. (2020). *Research Methods, Design, and Analysis* (13th ed.). Pearson Education Ltd.

Coleman, E., Radix, A. E., Bouman, W. P., Brown, G. R., de Vries, A. L. C., Deutsch, M. B., … Arcelus, J. (2022). Standards of Care for the Health of Transgender and Gender Diverse People (Version 8). *International Journal of Transgender Health*, *23*(S1), S1-S260. https://doi.org/10.1080/26895269.2022.2100644

Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). SAGE Publications, Inc.

Crooks, R., & Baur, K. (2014). *Our Sexuality* (12th International ed.). CENGAGE Learning.

Dahlhamer, J. M., Galinsky, A. M., Joestl, S. S., & Ward, B. W. (2016). Barriers to Health Care Among Adults Identifying as Sexual Minorities: A US National Study. *American Journal of Public Health*, *106*(6), 1116-1122. https://doi.org/10.2105/AJPH.2016.303049

Davies, S., & Goldberg, J. (2006). Clinical aspects of transgender speech feminization and masculinization. *International Journal of Transgenderism, 9*(3-4), 167-196. https://doi.org/10.1300/J485v09n03_08

Davies, S., Papp, V. G., Antoni, C. (2015). Voice and Communication Change for Gender Non-conforming Individuals: Giving Voice to the Person Inside. *International Journal of Transgenderism*, *16*(3), 117-159. https://doi.org/10.1080/15532739.2015.1075931

Dhejne, C., Van Vlerken, R., Heylens, G., & Arcelus, J. (2016). Mental health and gender dysphoria: A literature review. *International Review of Psychiatry, 28*(1), 44-57. https://dx.doi.org/10.3109/09540261.2015.1115753

Dickinson, T., Normandin, M., & Wulheren, R. W. (2023). Gender Diversity Cultural Responsiveness Education in Speech-Language Pathology Graduate Programs: A Pilot Survey. *Teaching and Learning in Communication Sciences and Disorders*, *7*(2), 1-20. https://ir.library.illinoisstate.edu/tlcsd/vol7.iss2/5

Elder LGBT Interprofessional Collaborative Care Program. (2022). *LGBT Cultural Competency Self-Reflection Questionnaire*. Available from https://communitycatalyst.org/wp-content/uploads/2022/11/LGBT-Cultural-Competency-Training-Questionnaire-Post-Test.pdf1477578524

Ettner, R., Monstrey, S., & Coleman, E. (2016). *Principles of Transgender Medicine and Surgery* (2nd ed.). Routledge.

Faul, F., Erdfelder, E., Lang, A., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*, 175–191. https://doi.org/10.3758/BF03193146

Fein, L. A., Salgado, C. J., Alvarez, C. V., & Estes, C. M. (2017). Transitioning Transgender: Investigating the Important Aspects of the Transition: A Brief Report. *International Journal of Sexual Health, 29*(1), 80-88. https://doi.org/10.1080/19317611.2016.1227013

Flores, A. (2019). *Social Acceptance of LGBT People in 174 Countries, 1981 to 2017*. The Williams Institute. Available from https://williamsinstitute.law.ucla.edu/wp-content/uploads/Global-Acceptance-Index-LGBT-Oct-2019.pdf

Gaziano, J., & Serrano, J. I. (2012). Transferable skills in the field of speech language pathology. *Current Opinion in Otolaryngology & Head and Neck Surgery*, *20*(30, 155-159. https://doi.org/10.1097/MOO.0b013e3283534e9b

Glynn, T. R., Gamarel, K. E., Kahler, C. W., Iwamoto, M., Operario, D., Nemoto, T. (2016). The role of gender affirmation in psychological well-being among transgender women. *Psychology of Sexual Orientation and Gender Diversity*, *3*(3), 336-344. https://doi.org/10.1037/sgd0000171

Gray, M. L., & Courey, M. S. (2019). Transgender Voice and Communication. *Otolaryngologic Clinics of North America*, *52*(4), 713-722. https://doi.org/10.1016/j.otc.2019.03.007

Gunjawate, D. R., Kumar, R. B., Ravi, R., & Kunnath, L. S. (2020). Knowledge and attitudes toward the transgender community among speech-language pathologists in India: A questionnaire-based exploration. *International Journal of Transgenderism*, *21*(4), 455-462. https://doi.org/10.1080/26895269.2020.1753135

Hancock, A. B., & Garabedian, L. M. (2013). Transgender voice and communication treatment: a retrospective chart review of 25 cases. *International Journal of Language & Communication Disorders, 48*(1), 54-65. https://doi.org/10.1111/j.1460-6984.2012.00185.x

Hancock, A., & Haskin, G. (2015). Speech-Language Pathologists' Knowledge and Attitudes Regarding Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ+) Populations. *American Journal of Speech-Language Pathology, 24*(2), 206-221. https://doi.org/10.1044/2015_AJSLP-14-0095

Hancock, A. B., Krissinger, J., & Owen, K. (2011). Voice Perception and Quality of Life of Transgender People. *Journal of Voice, 25*(5), 553-558. https://doi.org/10.1016/j.jvoice.2010.07.013

Hanson, C. S., Ju, A., & Tong, A. (2019). Appraisal of Qualitative Studies. In Liamputtong, P. (Ed.). *Handbook of Research Methods in Health Social Sciences* (1st ed., pp. 1013-1026). Springer Nature Singapore, (Pty) Ltd. https://doi.org/10.1007/978-981-10-5251-4

Hardy, T. L. D., Boliek, C. A., Aalto, D., Lewicke, J., Wells, K., & Rieger, J. M. (2019). Contributions of Voice and Nonverbal Communication to Perceived Masculinity-Femininity for Cisgender and Transgender Communicators. *Journal of Speech, Language, and Hearing Research, 63*(4), 931-947. https://doi.org/10.1044/2019_JSLHR-19-00387

Health Professions Act No. 56 of 1974 (2017). *Regulations Defining the Scope of Practice of Speech-Language Therapy*. Available from https://www.gov.za/sites/default/files/gcis_document/201712/41350gon1459.pdf

Hudnall, M. (2022). Self-Reported Perspectives on Cultural Competence Education in Speech-Language Pathology. *American Journal of Speech-Language Pathology*, *31*(2), 631-638. https://doi.org/10.1044/2021_AJSLP-20-00338

Ibrahim, A. M. (2015). LGBT rights in Africa and the discursive role of international human rights law. *African Human Rights Law Journal*, *15*(2), 263-281. https://doi.org/10.17159/1996-2096/2015/v15n2a2

International Journal of Transgender Health. (2023, March 17). *Instructions for authors*. Available from https://www.tandfonline.com/action/authorSubmission?show=instructions&journalCode=wijt21#my-authored-works

Jacob, M., & Cox, S. R. (2017). Examining transgender health through the International Classification of Functioning, Disability, and Health's (ICF) contextual factors. *Quality of Life Research, 26*, 3177-3185. https://doi.org/10.1007/s11136-017-1656-8

Junior, C. N. V., & de Medeiros, A. M. (2022). Voice and gender Incongruence: Relationship Between Vocal Self-Perception and Mental Health of Trans Women. *Journal of Voice*, *36*(6), 808-813. https://doi.org/10.1016/j.jvoice.2020.10.002

Kelly, R. J., & Robinson, G. C. (2011). Disclosure of membership in the lesbian, gay, bisexual, and transgender community by individuals with communication impairments: a preliminary web-based survey. *American Journal of Speech-Language Pathology*, *20*(2), 86-94. https://doi.org/10.1044/1058-0360(2011/10-0060)

Kim, H. (2020). Vocal Feminization for Transgender Women: Current Strategies and Patient Perspectives. *International Journal of General Medicine*, *13*, 43-52. https://doi.org/10.2147/IJGM.S205102

Kraemer, H. C., & Blasey, C. (2016). *How Many Subjects?: Statistical Power Analysis in Research* (2nd ed.) SAGE Publications, Ltd.

Kugara, L. S., Netshandama, V. O., & Matshidze, P. E. (2017). Lesbian, Gay, Bisexual and Transgender Rights in South Africa: A Struggle for Equality. *Gender and Behaviour, 15*(2), 9031-9035. https://hdl.handle.net/10520/EJC-b41480c56

Kuper, L. E., Wright, L., & Mustanski, B. (2018). Gender identity development among transgender and gender nonconforming emerging adults: An intersectional approach. *International Journal of Transgenderism, 19*(4), 436-455. https://doi.org/10.1080/15532739.2018.1443869

Leedy, P. D., & Ormrod, J. E. (2021). *Practical Research: Planning and Design* (12th global ed.). Pearson Education Ltd.

Litosseliti, L., & Georgiadou, L. (2018). Taiwanese speech-language therapists' awareness and experiences of service provision to transgender clients. *International Journal of Transgenderism*, *20*(1), 87-97. https://doi.org/10.1080/15532739.2018.15536393

Luvuno. Z. P. B., Ncama, B., & Mchunu, G. (2019). Transgender population's experiences with regard to accessing reproductive health care in Kwazulu-Natal, South Africa: A qualitative study. *African Journal of Primary Health Care & Family Medicine, 11*(1), a1933. https://doi.org/10.4102/phcfm.v11i1.1933

Matthews, J. J., Olszewski, A., & Petereit, J. (2020). Knowledge, Training, and Attitudes of Students and Speech-Language Pathologists About Providing Communication Services to Individuals Who Are Transgender. *American Journal of Speech-Language Pathology, 29*(2), 597-610. https://doi.org/10.1044/2020_AJSLP-19-00148

McNeill, E. J. M., Wilson, J. A., Clark, S., & Deakin, J. (2008). Perception of Voice in the Transgender Client. *Journal of Voice, 22*(6), 727-733. https://doi.org/10.1016/j.voice.2006.12.010

McPhail, D., Rountree-James, M., & Whetter, I. (2016). Addressing gaps in physician knowledge regarding transgender health and healthcare through medical education. *Canadian Medical Education Journal*, *7*(2), e70-e78. https://doi.org/10.36834/cmej.36785

Meier, S. L. C., Fitzgerald, K. M., Pardo, S. T., & Babcock, J. (2011). The Effects of Hormonal

Gender Affirmation Treatment on Mental Health in Female-to-Male Transsexuals. *Journal of Gay & Lesbian Mental Health, 15*(3), 281-299. https://doi.org/10.1080/19359705.2011.581195

Millet, N., Longworth, J., & Arcelus, J. (2017). Prevalence of anxiety symptoms and disorders in the transgender population: A systematic review of the literature. *International Journal of Transgenderism, 18*(1), 27-38. https://doi.org/10.1080/15532739.2016.1258353

Nobili, A., Glazebrook, C., & Arcelus, J. (2018). Quality of life of treatment-seeking transgender adults: A systematic review and meta-analysis. *Reviews in Endocrine and Metabolic Disorders, 19*, 199-220. https://doi.org/10.1007/s11154-018-9459-y

Nolan, I. T., Kuhner, C. J., Dy, G. W. (2019). Demographic and temporal trends in transgender identities and gender confirming surgery. *Translational Andrology and Urology, 8*(3), 184-190. https://doi.org/10.21037/tau.2019.04.09

Norwood, K. (2012). Transitioning meanings? Family Members' Communicative Struggles Surrounding Transgender Identity. *Journal of Family Communication, 12*(1), 75-92. https://doi.org/10.1080/15267431.2010.509283

Nygren, U., Nordenskjöld, A., Arver, S., & Södersten, M. (2016). Effects on Voice Fundamental Frequency and Satisfaction with Voice in Trans Men during Testosterone Treatment – A Longitudinal Study. *Journal of Voice, 30*(6), 766.e23-766.e34. https://doi.org/10.1016/j.jvoice.2015.10.016

Oates, J., & Dacakis, G. (2015). Transgender voice and communication: research evidence underpinning voice intervention for male-to-female transsexual women. *Perspectives on Voice and Voice Disorders*, *25*(2), 43-58. https://doi.org/10.1044/vvd25.2.48

Parveen, S., & Santhanam, S. (2021). Speech-Language Pathologists' Perceived Competence in Working With Culturally and Linguistically Diverse Clients in the United States. *Communication Disorders Quarterly*, *42*(3), 166-176. https://doi.org/10.1177/1525740120915205

Peeters, M. J. (2016). Practical significance: Moving beyond statistical significance. *Currents in*

Pharmacy Teaching and Learning, *8*(1), 83-89. http://dx.doi.org/10.1016/j.cptl.2015.09.001

Peterson, C. M., Matthews, A., Copps-Smith, E., & Conard, L. A. (2017). Suicidality, Self-Harm, and Body Dissatisfaction in Transgender Adolescents and Emerging Adults with gender dysphoria. *Suicide and Life-Threatening Behaviour, 47*(4), 475-482. https://doi.org/10.1111/sltb.12289

Pillay, M., Tiwari, R., & Chikte U. (2020). Sustainable Workforce: South African Audiologists and Speech Therapists. *Human Resources for Health, 18*(47), 1-13. https://doi.org/10.1186/s12960-020-00488-6

Pitts, M. K., Couch, M., Mulcare, H., Croy, S., & Mitchell, A. (2009). Transgender people in Australia and New Zealand: Health, well-being, and access to health services. *Feminism & Psychology*, *19*(4), 475-495. https://doi.org/10.1177/0959353509342771

Polit, D. F., & Beck, C. T. (2017). *Nursing Research: Generating and Assessing Evidence for Nursing Practice* (10th ed.). Lippincott, Williams & Wilkins.

Raaijmakers, Q. A. (1999). Effectiveness of different data treatments in surveys with Likert-type data: Introducing the relative mean substitution approach. *Educational and Psychological Measurement*, *59*(5), 725-748. https://doi.org/10.1016/j.cptl.2015.09.001

Reisner, S. L., Radix, A., & Deutsch, M. B. (2016). Integrated and Gender-Affirming Transgender Clinical Care and Research. *Journal of Acquired Immune Deficiency Syndromes, 72*, S235-S242. https://dx.doi.org/10.1097/QAI.0000000000001088

Rider, G. N., McMorris, B. J., Gower, A. L., Coleman, E., & Eisenberg, M. E. (2018). Health and Care Utilization of Transgender and Gender Nonconforming Youth: A Population-Based Study. *Pediatrics, 141*(3), e20171683. https://doi.org/peds.2017-1683

Rowe, D., Ng, Y. C., O'Keefe, L., & Crawford, D. (2017). Providers' Attitudes and Knowledge of Lesbian, Gay, Bisexual, and Transgender Health. *Federal Practitioner*, *34*(11), 28-34. PMCID: PMC6370394

Salas-Humara, C., Sequeira, G. M., Rossi, W., & Dhar, C. P. (2019). Gender affirming medical

care of transgender youth. *Current Problems in Pediatric and Adolescent Health Care, 49*(9), 1-21. https://doi.org/10.1016/j.cppeds.2019.100683

Sawyer, J., Perry, J., & Dobbins-Scaramelli, A. (2015). A Survey of the Awareness of Speech Services Among Transgender and Transsexual Individuals and Speech-Language Pathologists. *International Journal of Transgenderism, 15*(3-4), 146-163. https://doi.org/10.1080/15532739.2014.995260

Schwarz, K., Fontanari, A. M. V., Schneider, M. A., Borba Soll, B. M., da silva, D. C., … Lobato, M. I. R. (2017). Laryngeal surgical treatment in transgender women: A systematic review and meta-analysis. *The Laryngoscope, 127*(11), 2596-2603. https://doi.org/10.1002/lary.26692

Serdar, C. C., Cihan, M., Yücel, D., & Serdar, M. A. (2021). Sample size, power and effect size revisited: simplified and practical approaches in pre-clinical, clinical, and laboratory studies. *Biochemia medica*, *31*(1). https://doi.org/10.11613/BM.2021.010502

Sevelius, J. M., Chakravarty, D., Dilworth, S. E., Rebchook, G., & Neilands, T. B. (2020). Gender Affirmation through Correct Pronoun Usage: Development and Validation of the Transgender Women's Importance of Pronouns (TW-IP) Scale. *International Journal of Environmental Research and Public Health*, *17*(24), 9525. https://doi.org/10.3390/ijerph17249525

Shayib, M. A. (2018). *Descriptive Statistics – The Basics for Biostatistics: Volume 1*. Bookboon.

Soled, K. R. S., Clark, K. D., Altman, M. R., Bosse, J. D, Thompson, R. A., Squires, A., & Sherman, A. D. F. (2022). Changing language, changes lives: Learning the lexicon of LGBTQ+ health equity. *Research in Nursing & Health*, *45*(6), 621-632. https://doi.org/10.1002/nur.22274

Téllez, A., García, C. H., & Corral-Verdugo, V. (2015). Effect size, confidence intervals and statistical power in psychological research. *Psychology in Russia: State of the Art*, *8*(3), 27-46. https://doi.org/10.11621/pir.2015.0303

The Republic of South Africa. (1996). The Constitution of the Republic of South Africa. Available from https://www.gov.za/sites/default/files/images/a108-96.pdf

Tiwari, M., & Tiwari, M. (2012). Voice – How humans communicate?. *Journal of Natural Science, Biology and Medicine*, *3*(1), 3-11. https://doi.org/10.4103/0976-9668.95933

Tshuma, N., Mtapuri, O., Ndagurwa, P., Nyengerai, T., Maphosa, T., Mushavhanamdi, K., Shiku, C., Sibanda, E., Furshane, B., & Chimatira, R. (2021). *Population size estimates among transgender people in South Africa*. Available from J8006-BeyoneZero-TG-Pop-Size-2021-Report-0718-LR.pdf

University of Pretoria. (2017). *Research Data Management Policy* (Policy No. S4417/17). Available from https://www.up.ac.za/media/shared/12/ZP_Files/research-data-management-policy_august-2018.zp161094.pdf

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing and Health Sciences*, *15*(3), 398-405. https://doi.org/10.1111/nhs.12048

van Heerden, G. (2019). *LGBTQ Rights in Sub-Saharan Africa: Perspectives of the region from the region*. South African Institute of Race Relations (IRR). Available from https://irr.org.za/reports/occasional-reports/files/lgbtq-rights-in-sub-saharan-africa.pdf

World Bank (n.d.). *The world bank data: South Africa*. The World Bank. Available from https://data.worldbank.org/country/ZA

Wylie, K., Knudson, G., Khan, S. I., Bonierbale, M., Watanyusakul, S., & Baral, S. (2016). Serving transgender people: clinical care considerations and service delivery models in transgender health. *Lancet, 388*(10042), 401-411. https://doi.org/10.1016/s0140-6736(16)00682-6

Yusoff, M. S. B. (2019). ABC of Content Validity and Content Validity Index Calculation. *Education in Medicine Journal*, *11*(2), 49-54. https://doi.org/10.21315/eimj2019.11.26

Zimman, L. (2017). Transgender voices: Insights on identity embodiment, and the gender of the voice. *Language and Linguistics Compass*, *12*, e12284. https://doi.org/10.1111/lnc3.12284

APPENDICES

Appendix A: Participant informed consent form

Faculty of Humanities
Fakulteit Geesteswetenskappe
Lefapha la Bomotho

Department of Speech-Language Pathology and Audiology

PARTICIPANT INFORMED CONSENT FORM

PERCEPTIONS, KNOWLEDGE, AND PERCEIVED COMPETENCIES OF SOUTH AFRICAN SPEECH-LANGUAGE THERAPISTS TO RENDER TRANSGENDER VOICE AND COMMUNICATION TRAINING

Dear prospective participant,

This form is intended to obtain informed consent from South African speech-language therapists (SLTs) currently registered with the Health Professions Council of South Africa (HPCSA), and currently practicing as such in South Africa, to participate in a study regarding their perceptions, knowledge, and perceived competencies in transgender voice and communication training (TVCT). At the end of this form, you will be provided with an opportunity to provide informed consent should you wish to do so.

Researcher : Mr Johan Jacobus Maasz
u15015085

Organisation : Department of Speech-Language Pathology and Audiology
Faculty of Humanities
University of Pretoria

Supervisor(s) : Prof. Jeannie van der Linde
Dr Maria du Toit
Dr Carmen Milton

Purpose of this study

SLTs are uniquely qualified to provide TVCT due to their extensive education and training on voice and voice disorders. Clinicians are, however, expected to render these services ethically through extensive knowledge of the topic as well as evidence-based care (EBP) for this population. SLTs in general, and in South Africa specifically, often do not yet receive sufficient training regarding TVCT, resulting in a reduced capacity to render appropriate services to this already marginalized community.

This study will therefore aim to determine the perceptions and knowledge of South African SLT with regards to TVCT and the Lesbian, Gay, Bisexual, Transgender, Queer, and/or Questioning+ (LGBTQ+) community, as well as their perceived competencies to render gender affirming TVCT.

Procedures in this study

As a participant, you will be expected to complete an online survey hosted on Qualtrics using any capable device (for example, a cell phone, a laptop, a desktop, or a tablet). The survey was designed to be completed in approximately 10 to 15 minutes. The survey will remain open to complete for three weeks after the survey hyperlink was first activated and distributed through either the South African Speech-Language-Hearing Association (SASLHA) or social media platform groups such as those hosted on Facebook™. Once the study has concluded, you can contact the researcher or research supervisor to obtain the results.

Risks associated with this study

There are no established risks that have been identified to be associated with this study.

Benefits associated with this study

This study could start a discussion regarding the role of SLTs in TVCT in the South African context. This study could also influence future policy development and decision-making. This study will also contribute to the growing body of knowledge regarding transgender healthcare and health needs in South Africa.

Voluntary participation and withdrawal from this study

Your participation in the study is entirely voluntary. You may decide whether you want to participate in it or not, without coercion. You can choose to withdraw participation from this study at any point in time, without prior notification to the researcher or research supervisors, and fear of prejudice or reverberation.

Confidentiality

The data collected in this study will be kept strictly confidential. After completing the survey your responses will be safely stored in the University of Pretoria's research repository for a minimum of 10 years (until 2033). The findings of this study will be processed into a research thesis, academic publication, and/or conference proceedings. No names or identifying information will be recorded during your completion of the survey or be used in the reporting of the research results in either the research thesis, academic publication, and/or conference proceedings.

Your responses will be made available to the researcher, the research supervisors, and a pre-approved statistician affiliated with the University of Pretoria. Furthermore, your responses may also be shared in the future with third-party researchers researching the same or related topics. However, before any third-party researchers will be allowed access to your responses, they will have to comply with the policies of the University of Pretoria in this regard.

Questions

Should you have any questions regarding your participation in this study, or should you like to obtain the results upon its conclusion, please feel free to contact the researcher, Mr Johan Maasz (u15015085@tuks.co.za), or any of the research supervisors: Prof Jeannie van der Linde (jeannie.vanderlinde@up.ac.za), Dr Maria du Toit (maria.dutoit@up.ac.za), and Dr Carmen Milton (carmen.milton@up.ac.za).

Thank you for taking the time to read this information sheet and for considering participating in this study.

Kind regards

Mr Johan Jacobus Maasz
MA Speech-Language Pathology Candidate (UP)

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Humanities
Fakulteit Geesteswetenskappe
Lefapha la Bomotho
Humanities 100. Since 1919
Department of Speech-Language Pathology and Audiology

INFORMED CONSENT TO PARTICIPATE IN THE ONLINE STUDY:

PERCEPTIONS, KNOWLEDGE, AND PERCEIVED COMPETENCIES OF SOUTH AFRICAN SPEECH-LANGUAGE THERAPISTS REGARDING TRANSGENDER VOICE AND COMMUNICATION TRAINING

By providing "informed consent" you confirm the following:

1 I confirm that the person asking my consent to take part in this study has adequately informed me about the nature, procedures, potential risks, and benefits associated with this study.

2 I have read the information provided above, or it has been read to me, and understood what the information presented to me means.

3 I have had sufficient opportunity to contact the researcher or research supervisors to ask questions regarding this study and I understand what is expected of me.

4 I understand that my participation in this study is voluntary and that I am free to withdraw my participation from this study at any point in time without fear of penalty or reverberation.

5 I am aware that the findings of this study will be processed into a research dissertation, academic publication, and/or conference proceedings, but that my participation will be kept confidential.

6 I agree to the recording of my data for this study using an online survey hosted on Qualtrics.

I **consent** to participate in this study	I **do not consent** to participate in this study

Appendix B: Data collection instrument

Faculty of Humanities
Fakulteit Geesteswetenskappe
Lefapha la Bomotho

Humanities 100. Since 1919

Department of Speech-Language Pathology and Audiology

Perceptions, knowledge, and perceived competencies of South African speech-language therapists to render transgender voice and communication training.

A. Demographic Information

1. **Are you registered with the relevant registration authority as a speech-language therapist?**
   - Yes
   - No

2. **Are you currently practicing as a speech-language therapist in South Africa?**
   - Yes
   - No

3. **What is your age in years?** *(Please type the number only)*
   - _____ years

4. **Please indicate your gender**:
   - Male
   - Female
   - Non-binary/third gender
   - Prefer not to say
   - Other: _____

5. **I have resided for most of my life in a:**
   - Suburban setting (for example, a city)
   - Rural setting (for example, hamlet, village, town, or small settlement)
   - Both for an equal amount of time
   - Informal settlement

- Other: _____

6. **I have worked for most of my life in a:**
   - Suburban setting (for example, a city)
   - Rural setting (for example, hamlet, village, town, or small settlement)
   - Both for an equal amount of time
   - Informal settlement
   - Other: _____

7. **Do you identify as part of the Lesbian, Gay, Bisexual, Transgender, Queer, and/or Questioning (LGBTQ+) community?**
   - Yes
   - No
   - Prefer not to say
   - If yes, what is your self-identified sexual orientation? _____

8. **Do you personally know someone who identifies as part of the LGBTQ+ community?**
   - Yes
   - No
   - Unsure

9. **What is your highest level of education completed?**
   - Bachelor's degree
   - Honours degree
   - Master's degree
   - Doctoral degree
   - Post-doctoral research fellowship

10. **What is your current employment setting?** *(Please select all that apply)*
    - Private practice
    - Private hospital
    - Primary health care clinic
    - Public hospital
    - Public school
    - Private school
    - University

- Other: _____

11. Please indicate the age groups that you render services to. *(Please select all that apply)*

- New-borns (0 - 1 months)
- Infants (1 - 12 months)
- Toddlers (12 - 24 months)
- Early childhood (2 - 3 years)
- Middle childhood (3 - 5 years)
- Late childhood (5 - 12 years)
- Early adolescents (12 - 16 years)
- Late adolescents (16 - 21 years)
- Early adulthood (21 - 30 years)
- Middle adulthood (30 - 65 years)
- Late adulthood (65+ years)

12. How many years of experience do you have working as a speech-language therapist?

- _____ years

13. Please rate your level of agreement with the following statements:

1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree

- I perceive myself as knowledgeable on the topic of voice and voice therapy.
  1 2 3 4 5
- I perceive myself as competent in the topic of voice and voice therapy.
  1 2 3 4 5
- I feel comfortable with the provision of voice assessment and treatment in general.
  1 2 3 4 5

B. Education, training, and preparedness to render services

1. **Was transgender voice and communication addressed in your undergraduate speech-language pathology degree curriculum? Please select the most relevant answer.**
   - Not at all
   - Somewhat in class
   - Somewhat in practicum

- Both somewhat in-class and practicum
- Extensively in class and practicum

2. Please rate your level of agreement with the following statements:

1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree

- My university education has prepared me well for treating a transgender client.
  1 2 3 4 5
- I am comfortable providing an assessment for a transgender client.
  1 2 3 4 5
- I am comfortable in providing treatment for a transgender client.
  1 2 3 4 5
- I am likely to pursue further training in treating transgender clients.
  1 2 3 4 5

3. Have you ever been approached by a transgender client for transgender voice and communication training (TVCT) services?

- Yes
- No
- If yes, by how many people? _____ (for example, 1, 2, 3)

4. Do you currently have, or have you ever had, a transgender client in your caseload?

- Yes, currently
- Not currently, but in the past
- No, never

5. Please indicate your level of agreement with the following statements:

1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree

- It is within my scope of practice as an SLT to provide voice and/or communication training to transgender individuals seeking services.
  1 2 3 4 5
- Treating transgender clients who are referred to me is my ethical responsibility.
  1 2 3 4 5

- Transgender voice training is a medical and/or educational necessity for transgender clients.

  1 2 3 4 5

6. **Please provide a priority score for topics that you think should be addressed in undergraduate or postgraduate training for SLTs regarding LGBTQ+ client care:**

   1 = should not be addressed 2 = low priority 3 = neutral 4 = high priority 5 = must be addressed

• LGBTQ+ terminology	1	2	3	4	5
• LGBTQ+ demographics	1	2	3	4	5
• Transgender culture	1	2	3	4	5
• Counselling of transgender clients	1	2	3	4	5
• Gay/lesbian culture	1	2	3	4	5
• Ethical and legal implications for LGBTQ+ services	1	2	3	4	5
• Harassment/bullying	1	2	3	4	5
• Outreach plans for LGBTQ+ communities	1	2	3	4	5
• Communication masculinisation/feminisation best practice (EBP)	1	2	3	4	5
• Case examples	1	2	3	4	5
• Perspectives from LGBTQ+ speakers	1	2	3	4	5

7. **Have you ever heard- or read about the term gender-affirming healthcare (GAHC)?**
   - Yes
   - No

8. **If you answered "yes" to question 7, please explain what you understand about the term gender-affirming healthcare (GAHC):** [for example, what you think it is, why you think it might be important, etc.]

   _____

   _____

   _____

C. <u>Perceptions, knowledge, and perceived competencies towards the LGBTQ+ population</u>

1. Please indicate your level of agreement with the following statements:

1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree

- I am aware of my beliefs and value systems and do not impose them on others.
  1 2 3 4 5
- I am inclusive of individuals who are LGBTQ+ in my work or practice.
  1 2 3 4 5
- I know how to use pronouns that reflect all genders - binary and non-binary.
  1 2 3 4 5
- I know that not all genders align with the biological sex assigned at birth.
  1 2 3 4 5
- I am inclusive of all family structures (e.g., divorced parents; same-gender parents; grandparents as caretakers; non-binary family members; etc.).
  1 2 3 4 5
- I ask my clients what their preferred pronouns are before engaging in assessment or treatment.
  1 2 3 4 5
- I ensure that the materials my clients use correctly reflect their names and pronouns.
  1 2 3 4 5
- I use inclusive case forms that allow for self-disclosure and identification.
  1 2 3 4 5
- I use inclusive case forms that not only list someone as being male or female.
  1 2 3 4 5
- I model acceptance and normalise name changes (e.g., when individuals use nicknames, legally change their names, and when individuals change their names after getting married).
  1 2 3 4 5
- In my physical space, I hang a flag, picture, and/or other signs that reflect diversity and inclusivity.
  1 2 3 4 5
- I am aware of my own or my employer's policy for gender inclusivity.
  1 2 3 4 5
- My assessment and therapy materials reflect diverse family members, including diverse family structures with individuals across the gender spectrum.
  1 2 3 4 5

- I am prepared for a client to share the questioning of their gender with me.

  1 2 3 4 5

- I teach the use of gender-inclusive language, including non-binary pronouns.

  1 2 3 4 5

- I train my colleagues on how to respect the gender of my clients in the documentation and during conversations.

  1 2 3 4 5

2. Please indicate your level of agreement with the following statements:

1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree

- I feel comfortable working with LGBTQ+ clients.

  1 2 3 4 5

- I am comfortable discussing sexuality with my LGBTQ+ clients.

  1 2 3 4 5

- I perceive myself as competent in the treatment of transgender voice.

  1 2 3 4 5

- I do not assume that a person's health problems are related to their sexual orientation and/or gender identity/expression.

  1 2 3 4 5

- Access to healthcare is a right regardless of one's sexual orientation and/or gender identity/expression.

  1 2 3 4 5

- I use language that reflects that of my LGBTQ+ clients to increase communication effectiveness.

  1 2 3 4 5

- I advocate for the use of LGBTQ+ inclusive language in my organization/institution and among my colleagues.

  1 2 3 4 5

- I am aware of the health disparities the LGBTQ+ community experiences.

  1 2 3 4 5

- I keep abreast of clinical best practices for LGBTQ+ clients.

  1 2 3 4 5

3. **Please select the term you believe most appropriately fits the following description:**

3.1. A heterosexual person who confronts heterosexism/homophobia is:

- Heterosexist
- Queer
- Heterosexual ally *(Correct answer)*
- Transphobic
- I'm not familiar with this description

3.2. A person whose self-definition challenges and disrupts traditional binary conceptions and boundaries of gender and sexuality is:

- Intersex
- Gender confused
- Crossdresser
- Transgender *(correct answer)*
- I'm not familiar with this description

3.3. A system of institutional and cultural beliefs, norms, and practices that advantage heterosexuals are:

- Sexism
- Homophobic
- Heterosexism *(correct answer)*
- Gender roles
- I'm not familiar with this description

3.4. A person's sense of being a woman, a man, or another gender identification:

- Sex
- Gender expression
- Queer
- Gender identity *(correct answer)*
- I'm not familiar with this description

3.5. The assumption that heterosexuality is the only normal identity:

- Gender normativity
- Heteronormativity *(correct answer)*
- Gender roles
- Gender ideals

- I'm not familiar with this description

4. Please indicate your level of agreement or disagreement with the following statements:

1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree

- Many LGBTQ+ clients report negative interactions with healthcare providers.
  1 2 3 4 5
- I perceive an individual's identity status as part of the LGBTQ+ community as important to their healthcare needs.
  1 2 3 4 5
- People who identify as part of the LGBTQ+ community perceive their status as part of this community as important to their healthcare needs.
  1 2 3 4 5
- Most LGBTQ+ people feel their identities should not affect the care they receive from healthcare providers.
  1 2 3 4 5

5. Please indicate your level of agreement with the following statements:

1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree

- All people who identify as transgender are diagnosed with gender dysphoria.
  1 2 3 4 5
- Phonosurgery leads to increased satisfaction among transgender clients.
  1 2 3 4 5
- Hormone therapy leads to improved vocal pitch in both male-to-female and female-to-male clients. 1 2 3 4 5
- Hormone therapy in male-to-female clients does not affect vocal pitch.
  1 2 3 4 5
- Transgender people might seek voice therapy to reduce or prevent the risk or threat of violent behaviour against them. 1 2 3 4 5
- Transgender people might seek voice therapy to alleviate feelings of anxiety, stress, or mood disorders related to their voices. 1 2 3 4 5

- Transgender people might seek voice therapy to learn how to code-switch between masculine and feminine voices. 1 2 3 4 5

6. Please provide a priority score for the domains of intervention that you think should be addressed in TVCT:

1 = should not be address *2 = low priority* *3 = neutral*
4 = high priority *5 = must be addressed*

- Vocal health and education 1 2 3 4 5
- Resonance 1 2 3 4 5
- Vocal pitch 1 2 3 4 5
- Vocal intonation 1 2 3 4 5
- Vocal loudness 1 2 3 4 5
- Articulation 1 2 3 4 5
- Language 1 2 3 4 5
- Non-verbal communication 1 2 3 4 5

7. Please rate your level of agreement with the following:

Which other healthcare professionals would you consider as part of the transgender healthcare team for transitioning (the process through which transgender people undergo the necessary medical, social, and legal changes to align their gender expression with their associated gender identity)?

1 = strongly disagree *2 = disagree* *3 = neutral* *4 = agree* *5 = strongly agree*

- Audiologist 1 2 3 4 5
- Clinical Psychologist 1 2 3 4 5
- Ear, Nose, and Throat Surgeon 1 2 3 4 5
- Endocrinologist 1 2 3 4 5
- Gynaecologist 1 2 3 4 5
- General Practitioner (GP) 1 2 3 4 5
- Occupational Therapist 1 2 3 4 5
- Physiotherapist 1 2 3 4 5
- Plastic surgeon 1 2 3 4 5

• Psychiatrist	1	2	3	4	5
• Social worker	1	2	3	4	5
• Speech-Language Therapist	1	2	3	4	5
• Urologist	1	2	3	4	5

8. **Are there any other healthcare professionals you feel might form part of the transgender healthcare team for transitioning? If not, please indicate it as "not applicable."**

_____

_____

9. **Please rate your level of agreement with the following statements:**

1 = uncomfortable *2 = slightly uncomfortable* *3 = Neutral*
4 = slightly comfortable *5 = very comfortable*

I am comfortable with:

• The process of coming out for LGBTQ+ people	1	2	3	4	5
• LGBTQ+ culture	1	2	3	4	5
• LGBTQ+ healthcare issues	1	2	3	4	5
• The role of the SLT in LGBTQ+ healthcare	1	2	3	4	5
• Voice feminization/masculinization training	1	2	3	4	5

10. **Please rate your level of agreement regarding the following statements:**

1 = absolutely no knowledge *2 = some knowledge* *3 = Neutral*
4 = more knowledge than most *5 = an extensive amount of knowledge*

I am knowledgeable about:

• The process of coming out for LGBTQ+ people	1	2	3	4	5
• LGBTQ+ culture	1	2	3	4	5
• LGBTQ+ healthcare issues	1	2	3	4	5
• The role of the SLT in LGBTQ+ healthcare	1	2	3	4	5
• Voice feminization/masculinization training	1	2	3	4	5

11. **Do you feel as if there are any moral beliefs or scenarios which would prevent you from providing quality services to an LGBTQ+ client?**
    - Yes
    - No
    - Unsure

12. **If you answered "yes" to question 11, please expand on these belief(s) and scenario(s). If you answered "no", please indicate it as "not applicable."**

    _____

    _____

13. **Please briefly describe your views on transgender voice and communication training treatment in therapy.**

    _____

    _____

14. **If you have ever rendered transgender voice and communication training, please elaborate briefly on which sources you have found helpful in gaining knowledge and confidence in your management of these patients. If you have never rendered transgender voice treatment, please indicate it as *"not applicable."***

    _____

    _____

Thank you for your participation in this study and for completing this survey.

Should you wish to know the result of this study upon its conclusion, feel free to contact the researcher, Mr Johan Maasz (u15015085@tuks.co.za), or any of the research supervisors: Prof Jeannie van der Linde (jeannie.vanderlinde@up.ac.za), Dr Maria du Toit (maria.dutoit@up.ac.za), and Dr Carmen Milton (carmen.milton@up.ac.za).

References

American Speech-Language-Hearing Association. (2021). *Self-Reflection: Gender Inclusivity*. Available from https://www.asha.org/siteassets/uploadedfiles/multicultural/gender-inclusivity-self-reflection.pdf

American Speech-Language-Hearing Association. (2021). *Cultural Competence Check-in: Self-reflection*. Available from https://www.asha.org/siteassets/uploadedfiles/multicultural/self-reflection-checklist.pdf

Elder LGBT Interprofessional Collaborative Care Program. (2022). *LGBT Cultural Competency Self-Reflection Questionnaire*. Available from: https://communitycatalyst.org/wp-content/uploads/2022/11/LGBT-Cultural-Competency-Training-Questionnaire-Post-Test.pdf1477578524

Hancock, A., & Haskin, G. (2015). Speech-Language Pathologists' Knowledge and Attitudes Regarding Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ+) Populations. *American Journal of Speech-Language Pathology, 24*(2), 206-221. https://doi.org/10.1044/2015_AJSLP-14-0095

Kelly, R. J., & Robinson, G. C. (2011). Disclosure of membership in the lesbian, gay, bisexual, and transgender community by individuals with communication impairments: a pre-liminary web-based survey. *American Journal of Speech-Language Pathology*, *20*(2), 86-94. https://doi.org/10.1044/1058-0360(2011/10-0060)

Matthews, J. J., Olszewski, A., & Petereit, J. (2020). Knowledge, Training, and Attitudes of Students and Speech-Language Pathologists About Providing Communication Services to Individuals Who Are Transgender. *American Journal of Speech-Language Pathology, 29*(2), 597-610. https://doi.org/10.1044/2020_AJSLP-19-00148

Sawyer, J., Perry, J., & Dobbins-Scaramelli, A. (2015). A Survey of the Awareness of Speech Services Among Transgender and Transsexual Individuals and Speech-Language Pathologists. *International Journal of Transgenderism, 15*(3-4), 146-163. https://doi.org/10.1080/15532739.2014.995260

Appendix C: Internal and external letters of approval

Letter C-1 Faculty of Humanities Office of the Deputy Dean Postgraduate Studies and Research Ethics Preliminary Approval Letter

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Humanities

Deputy Dean Postgraduate Studies and Research Ethics Preliminary Approval

30 January 2023

Mr JJ Maasz
Department of Speech Language Pathology and Audiology
Faculty of Humanities
University of Pretoria

Dear Mr JJ Maasz

PERMISSION FROM DEAN'S OFFICE FOR RESEARCH PROJECT HUM013/1022

The letter serves to confirm that I am supportive of the following Masters research project:

KNOWLEDGE AND PERCEIVED COMPETENCIES OF SOUTH AFRICAN SPEECH-LANGUAGE PATHOLOGISTS TO RENDER TRANSGENDER VOICE AND COMMUNICATION TRAINING

I have no objection to the research team requesting the staff/students from the Faculty of Humanities to participate in this research project, **subject to ethics approval by the Faculty of Humanities Research Ethics Committee.**

Kind regards

Prof Innocent Pikirayi
Deputy Dean: Postgraduate Studies and Research Ethics

Letter C-2 Faculty of Humanities Research Ethics Committee (REC) Approval Letter

31 March 2023

Dear Mr JJ Maasz

Project Title:	Knowledge and perceived competencies of South African speech-language pathologists to render transgender voice and communication training
Researcher:	Mr JJ Maasz
Supervisor(s):	Prof J Van der Linde
Department	Speech Language Pathology and Audiology
Reference number:	15015085 (HUM013/1022)
Degree:	Masters

I have pleasure in informing you that the above application was **approved** by the Research Ethics Committee on 31 March 2023. Please note that before research can commence all other approvals must have been received.

Please note that this approval is based on the assumption that the research will be carried out along the lines laid out in the proposal. Should the actual research depart significantly from the proposed research, it will be necessary to apply for a new research approval and ethical clearance.

We wish you success with the project.

Sincerely,

Prof Karen Harris
Chair: Research Ethics Committee
Faculty of Humanities
UNIVERSITY OF PRETORIA
e-mail: tracey.andrew@up.ac.za

Letter C-3 Approval letter from the South African Speech-Language-Hearing Association (SASLHA) Research and Education Committee

SASLHA
South African Speech-Language-Hearing Association

Local Tel : 0861 113 297
Address : P. O Box 1690 Umhlanga Rocks 4320
Email : admin@saslha.co.za
Web : www.saslha.co.za

3 April, 2023

Dear Mr Maasz

Permission granted to distribute research survey to SASLHA members

Researcher: Mr JJ Maasz
Supervisors: Prof J van der Linde, Dr M du Toit, Dr C Milton
Title of study: Knowledge and perceived competencies of South African speech-language pathologists to render transgender voice and communication training.

On behalf of the SASLHA Research and Education Committee, I acknowledge receipt of your full ethics approval and edited Research Request template. I give approval for distribution of your research request and it will be scheduled for the next available distribution date. You will be responsible for adhering to all the ethical guidelines as specified in your HREC approval letter.

Kind regards

Nola Chambers, PhD
Research and Education Committee
SASLHA

Letter C-4 Approval letter from Facebook™ Social Media Platform Group Administrator - *Allied Health in South Africa!*

Faculty of Humanities
Fakulteit Geesteswetenskappe
Lefapha la Bomotho

Department of Speech-Language Pathology and

Attention: Prof S. Geertsema
Social Media Group Administrator
Allied Health in South Africa! (Professionals only)
salome.geertsema@up.ac.za

February 2023

Dear Prof Salomé Geertsema

REQUESTING PERMISSION TO CONDUCT A RESEARCH STUDY USING SOCIAL MEDIA PLATFORM GROUP TO ACCESS REGISTERED SPEECH-LANGUAGE PATHOLOGIST MEMBERS

I am a Master's candidate in Speech-Language Pathology at the University of Pretoria. The purpose of this letter is to obtain permission to use your Facebook Social Media Platform Group *Allied Health in South Africa* to approach registered South African speech-language pathologist members for participation in my research study.

The aim of this study is to determine the knowledge of registered South African speech-language pathologists to render transgender voice and communication training. This will be achieved by determining the knowledge and perceptions among South African speech-language pathologists to render services to clients who form part of the LGBTQ+ community, their current knowledge on the subject, as well as their self-perceived competencies to render these services. My data collection instrument is a survey that was developed through the use of existing and related surveys on the topic, as well as newly generated questions that fit the South African context and the topic under study.

The respondents on your social media group will be contacted through a Facebook post. The post will explain to them the importance of conducting the study, and why I would like for them to participate in the study. The post will also contain the hyperlink that they will need to follow to access and complete the survey. Once the survey has been accessed, the research participants will again be provided with the specifics of the study and prompted to provide informed consent. The survey will remain open for a period of 3 weeks and the respondents will, with your permission, be reminded of the survey on a weekly basis.

I would like to ask permission to post an infographic on your Facebook group to advertise my study and to recruit participants. All data collected will remain strictly confidential and you will not be required to support me in any way. My study has also applied for ethical clearance from the University of Pretoria's Faculty of Humanities Research Ethics Committee.

Room 3-14, Communication Pathology Building
University of Pretoria, Private Bag X20
Hatfield 0028, South Africa
Tel +27 (0)12 420 2355 | Fax +27 (0)12 420 2355
Email maria.dutoit@up.ac.za | www.up.ac.za/faculty-of-humanities

The inclusion criteria for my study will require that all participants be registered with the HPCSA as either a speech therapist or speech therapist and audiologist in the year 2023, and that all participants are actively practicing as a speech therapist in 2023.

Should you have any further questions regarding this research study, you are welcome to contact me, Johan Maasz (u15015085@tuks.co.za), or any of my research supervisors: Prof Jeannie van der Linde (jeannie.vanderlinde@up.ac.za), Dr Maria du Toit (maria.dutoit@up.ac.za) and Dr Carmen Milton (carmen.milton@up.ac.za).

If you agree to the information as stated in this letter, please feel free to sign the below and return this letter using one of the above-mentioned email addresses.
Kind regards

Mr Johan J Maasz

Prof Jeannie van der Linde
Research Supervisor

Dr Maria du Toit
Research Supervisor

Dr Carmen Milton
Research Supervisor

Room 3-14, Communication Pathology Building
University of Pretoria, Private Bag X20
Hatfield 0028, South Africa
Tel +27 (0)12 420 2355 | Fax +27 (0)12 420 2355
Email maria.dutoit@up.ac.za | www.up.ac.za/faculty-of-humanities

PERMISSION TO CONDUCT A RESEARCH STUDY USING YOUR SOCIAL MEDIA PLATFORM GROUP TO ACCESS REGISTERED SPEECH-LANGUAGE PATHOLOGIST MEMBERS

Hereby I, _____**Prof S Geertsema**_____, give permission that the research study being conducted by Johan Jacobus Maasz regarding the knowledge of South African speech-language pathologists to render transgender voice and communication training, may be advertised on my social media platform, on Facebook.com. He may distribute the link to his survey to his target study population, South African speech-language pathologists registered with the HPCSA for the year 2023.

_____ 2023-02-22

Signature **Date**

Organizational Stamp

Room 3-14, Communication Pathology Building
University of Pretoria, Private Bag X20
Hatfield 0028, South Africa
Tel +27 (0)12 420 2355 | Fax +27 (0)12 420 2355
Email maria.dutoit@up.ac.za | www.up.ac.za/faculty-of-humanities

Letter C-5 Approval letter from Facebook™ Social Media Platform Group Administrator - *South African Audiologists and Speech-Language Therapists*

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Humanities
Fakulteit Geesteswetenskappe
Lefapha la Bomotho

Humanities 100

Department of Speech-Language Pathology and

Attention: Mrs. K. Casey
Social Media Group Administrator
South African Audiologists and Speech-Language Therapists
karyn@wol.co.za

February 2023

Dear Mrs. Karyn Casey

REQUESTING PERMISSION TO CONDUCT A RESEARCH STUDY USING SOCIAL MEDIA PLATFORM GROUP TO ACCESS REGISTERED SPEECH-LANGUAGE PATHOLOGIST MEMBERS

I am a Master's candidate in Speech-Language Pathology at the University of Pretoria. The purpose of this letter is to obtain permission to use your Facebook Social Media Platform Group *South African Audiologists and Speech-language pathologists* to approach registered South African speech-language pathologist members for participation in my research study.

The aim of this study is to determine the knowledge of registered South African speech-language pathologists to render transgender voice and communication training. This will be achieved by determining the knowledge and perceptions among South African speech-language pathologists to render services to clients who form part of the LGBTQ+ community, their current knowledge on the subject, as well as their self-perceived competencies to render these services. My data collection instrument is a survey that was developed through the use of existing and related surveys on the topic, as well as newly generated questions that fit the South African context and the topic under study.

The respondents on your social media group will be contacted through a Facebook post. The post will explain to them the importance of conducting the study, and why I would like for them to participate in the study. The post will also contain the hyperlink that they will need to follow to access and complete the survey. Once the survey has been accessed, the research participants will again be provided with the specifics of the study and prompted to provide informed consent. The survey will remain open for a period of 3 weeks and the respondents will, with your permission, be reminded of the survey on a weekly basis.

I would like to ask permission to post an infographic on your Facebook group to advertise my study and to recruit participants. All data collected will remain strictly confidential and you will not be required to support me in any way. My study has also already applied for ethical clearance from the University of Pretoria's Faculty of Humanities Research Ethics Committee.

Room 3-14, Communication Pathology Building
University of Pretoria, Private Bag X20
Hatfield 0028, South Africa
Tel +27 (0)12 420 2355 | Fax +27 (0)12 420 2355
Email maria.dutoit@up.ac.za | www.up.ac.za/faculty-of-humanities

The inclusion criteria for my study will require that all participants be registered with the HPCSA as either a speech therapist or speech therapist and audiologist in the year 2023, and that all participants are actively practicing as a speech therapist in 2023.

Should you have any further questions regarding this research study, you are welcome to contact me, Johan Maasz (u15015085@tuks.co.za), or any of my research supervisors: Prof Jeannie van der Linde (jeannie.vanderlinde@up.ac.za), Dr Maria du Toit (maria.dutoit@up.ac.zal) and Dr Carmen Milton (carmen.milton@up.ac.za).

If you agree to the information as stated in this letter, please feel free to sign the below and return this letter using one of the above-mentioned email addresses.

Kind regards

Mr Johan J Maasz

Prof Jeannie van der Linde
Research Supervisor

Dr Maria du Toit
Research Supervisor

Dr Carmen Milton
Research Supervisor

Room 3-14, Communication Pathology Building
University of Pretoria, Private Bag X20
Hatfield 0028, South Africa
Tel +27 (0)12 420 2355 | Fax +27 (0)12 420 2355
Email maria.dutoit@up.ac.za | www.up.ac.za/faculty-of-humanities

PERMISSION TO CONDUCT A RESEARCH STUDY USING YOUR SOCIAL MEDIA PLATFORM GROUP TO ACCESS REGISTERED SPEECH-LANGUAGE PATHOLOGY MEMBERS

Hereby I, Karyn Casey, give permission that the research study being conducted by Johan Jacobus Maasz regarding the knowledge of South African speech-language pathologists to render transgender voice and communication training, may be advertised on my social media platform on Facebook.com. He may distribute the link to his survey to his target study population, South African speech-language pathologists registered with the HPCSA for the year 2023.

Signature

22 February 2023

Date

Organizational Stamp

Room 3-14, Communication Pathology Building
University of Pretoria, Private Bag X20
Hatfield 0028, South Africa
Tel +27 (0)12 420 2355 | Fax +27 (0)12 420 2355
Email maria.dutoit@up.ac.za | www.up.ac.za/faculty-of-humanities

Appendix D: Infographic distributed to participants on social media platforms.

Transgender Voice Research Study

What

Transgender people often experience **voice-gender incongruence** leading to poor self-perception and psychological difficulties. They also often experience violence and transphobia due to not being perceived as their associated gender by others.

Due to their education and training on voice, speech therapists are uniquely qualified to render **Transgender voice and communication training (TVCT)** - a service that can help transgender people match their voices to their associated gender identity, and reduce their risk of victimisation and psychological distress.

This study therefore aims to determine the **perceptions**, **knowledge**, and **self-perceived competencies** of South African speech therapists to render transgender voice and communication training.

Who

To participate in this study, you must be:

1. **Registered** as a **speech therapist** with your registration authority.
2. **Actively practicing** as a **speech therapist**.

How

Please consider participating in this study by completing the following online survey:

https://pretoria.eu.qualtrics.com/jfe/form/SV_42fSvcyNZVpt1si

The Survey will close on: 30 April 2023 @ midnight

Should you have any questions contact J Maasz (u15015085@tuks.co.za), or Prof J van der Linde (jeannie.vanderlinde@up.ac.za) for more information.

Appendix E: Confirmation of submission to peer reviewed academic journal: *International Journal of Transgender Health (IJTH)*

Taylor & Francis
Taylor & Francis Group

Dear Johan Maasz,

Thank you for your submission.

Submission ID	**232218562**
Manuscript Title	**Perceptions, knowledge, and perceived competencies of South African speech-language pathologists to render transgender voice and communication training**
Journal	**International Journal of Transgender Health**

If you made the submission, you can check its progress and make any requested revisions on the Author Portal

Thank you for submitting your work to our journal.
If you have any queries, please get in touch with WIJT-peerreview@journals.tandf.co.uk.

Kind Regards,
International Journal of Transgender Health Editorial Office

Appendix F: LGBTQ+ cultural competence results

The participants were asked to indicate their level of agreement with multiple statements pertaining to their own cultural competence in LGBTQ+ care (Table F-1). No age effect was detected with regards to the tendency to advocate for inclusive language use (p=0.32, rs=-0.324).

Table F-1 Self-reported cultural competence in LGBTQ+ care (n=44)

Statement	Disagree		Neutral		Agree	
	n	%	n	%	n	%
I feel comfortable working with LGBTQ+ clients.	2	6.9	8	18.2	33	75
I am comfortable discussing sexuality with my LGBTQ+ clients.	7	15.9	7	15.9	30	68.2
I perceive myself as being competent in the treatment of transgender voice.	25	57.2	9	20.5	10	22.7
I do not assume that a person's health problems are related to their sexual orientation or gender identity/expression.	2	4.6	5	11.4	37	84.1
Access to healthcare is a right regardless of one's sexual orientation and/or gender identity/expression.	-	-	-	-	44	100
I use language that reflects that of my LGBTQ+ clients/patients to increase communication effectiveness.	5	11.4	9	30.5	30	68.4
I advocate for the use of LGBTQ+ inclusive language in my organization/institution and among my colleagues.	11	25.0	15	34.1	18	41.0
I am aware of the health disparities the LGBTQ+ community experiences.	13	29.6	7	15.9	24	54.5
I keep abreast of clinical best practice for LGBTQ+ clients.	20	31.8	13	29.6	17	38.7

Subsequently, participants were asked to rate their agreement with statements pertaining to gender inclusivity and cultural responsiveness in LGBTQ+ client care (Table F-2). No age effect was noted with regards to the participants' gender inclusivity and cultural responsiveness (p=0.275, rs=-0.166).

Table F-2 Self-reported gender inclusivity and cultural responsiveness (n=45)

Statement	Disagree		Neutral		Agree	
	n	%	n	%	n	%
I am aware of my beliefs and value systems and do not impose them on others.	1	2.2	3	6.7	41	91.1
I am inclusive of individuals who are LGBTQ+ in my work or practice.	-	-	5	11.1	40	88.9
I know how to use pronouns that reflect all genders – both binary and non-binary.	6	13.3	10	22.2	29	64.4
I know that not all genders align with biological sex assigned at birth.	4	8.9	6	13.3	35	77.8

I am inclusive of all family structures (e.g., divorced parents; same-gender parents; non-binary family members; etc.).	-	-	2	4.4	43	95.6
I ask my clients what their preferred pronouns are before engaging in assessment or treatment.	27	44.5	11	24.4	14	31.1
I ensure that the materials my clients use correctly reflect their names and pronouns.	7	15.6	16	35.6	22	48.9
I use inclusive case forms that allow for self-disclosure and identification.	17	37.8	13	28.9	15	33.3
I use inclusive case forms that not only lists someone as being male or female.	14	31.1	13	28.9	18	40.0
I model acceptance and normalize name changes (e.g., when individuals use nicknames, legally change their names, and when individuals change their names after getting married).	-	-	5	11.1	30	88.9
In my physical space, I hang a flag, picture and/or other signs that reflect diversity and inclusivity.	26	57.8	10	22.2	9	20.0
I am aware of my own or my employer's policy for gender inclusivity.	9	20.0	10	22.2	26	57.8
My assessment and therapy materials reflect diverse family members, including diverse family structures with individuals across the gender spectrum.	18	40.0	13	28.9	14	31.2
I am prepared for a client to share their questioning of their own gender with me.	8	17.8	3	6.7	34	75.6
I teach the use of gender-inclusive language, including non-binary pronouns.	20	44.4	15	33.3	20	22.2
I train my colleagues on how to respect the gender of my clients in documentation and during conversations.	11	24.4	19	42.2	15	33.3