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Therapy for the Male-to-Female Transgender Client
A Clinician's Guide

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Report

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Abstract

Therapy for the Male-to-Female Transgender Client: A Clinician's Guide

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Male-to-female transgender clients seek therapy to learn to safely modify their voices in order to sound more feminine. Unfortunately, to this author's knowledge, there are no data that report the number of transgender individuals who are actively seeking speech therapy, nor any accurate estimate of the number of transgender individuals in the United States. Moreover, current resources for speech-language pathologists (SLPs) lack up-to-date, comprehensive information about assessing and treating transgender clients. The present handbook will provide the most recent research related to appropriate therapeutic guidelines and activities to SLPs and SLP graduate students. In specific, the handbook will include research and techniques for modifying pitch, resonance, intonation, semantics, and nonverbal communication for transgender women. Moreover, the handbook will include background information about the current issues transgender women face in society and in seeking medical treatment.

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Introduction

What is transgender? What is the speech-language pathologist's role in working with transgender clients? Why should you care? This handbook provides an answer to all of these questions and more. Unfortunately, most speech language pathologists (SLPs) have very little knowledge of what it means to be transgender and even less knowledge about how to work with someone who is transgender. As the population grows, civil rights movements expand, and people become more open-minded, SLPs will be more likely to serve transgender clients. This handbook provides a starting point for providing evidence-based therapy for this ever-increasing clinical population.

What is transgender?

The word transgender is an umbrella term for a number of gender identities. These include, but are not limited to, gender-variant, genderqueer, crossdresser, and transsexual (Teich, 2012). People who identify under this umbrella are considered gender-nonconforming because they do not conform to society's standards for binary gender identification based on biological sex. For the purposes of this handbook, the term male-to-female (MTF) transgender will refer to individuals who were born as biological males but whose gender identity is female. The term "transgender woman" will be used synonymously with MTF transgender.

People whose gender matches their biological sex may wonder why a transgender individual may not feel this way. The majority of transgender individuals report feeling that they were the opposite gender from a very young age. However, society puts so

much pressure on a young child to conform to their biological sex that many transgender individuals stay in denial of their true gender and many also work very hard to conform to the roles society has enforced upon them (Hines, 2007).

Is gender determined via nature or nurture? One unfortunate case study can provide insight. An individual named Bruce Reimer was born male, but a botched circumcision as an infant left him without a penis. A psychologist convinced Bruce's parents to give him female hormones and raise him as a girl named Brenda. At the age of 14, Brenda learned what her parents had done. In response, Brenda adopted the name David and immediately began living as the boy he had always felt that he was. David’s childhood was incredibly troubled due to the psychological implications of being raised as a girl. He began working with Dr. Milton Diamond, who believed that gender was inborn and not a product of how one is raised. With his own research in addition to David's story, Dr. Diamond concluded that although nurture impacts an individual's behavior, nature is what determines an individual's sense of gender identity (Teich, 2012).

Historically, the American Psychological Association provided the diagnosis of gender identity disorder (GID) to transgender individuals to ensure that transgender people had access to healthcare. However, this diagnostic label was not without controversy as the diagnosis implies that a transgender person is inherently disordered. The Diagnostic and Statistics Manual, 5th edition (DSM-V), replaced GID with the diagnosis of gender dysphoria (Glicksman, 2013). The World Professional Association

for Transgender Health (WPATH) further clarifies the term gender dysphoria in their *Standards of Care for the Health of Transsexual, Transgender, and Gender Non-conforming People*. The Standards of Care (SOC) urges healthcare providers to refrain from viewing gender nonconformity as a pathological condition. The SOC defines gender dysphoria as the discomfort or distress caused by the discrepancy between one's gender identity and their assigned sex at birth. The SOC emphasizes the fact that only some gender non-conforming people experience gender dysphoria at some point in their lives. They further emphasize that this dysphoria is likely related to minority stress stemming from societal pressures, prejudice, and discrimination associated with being transgender (World Professional Association for Transgender Health [WPATH], 2012).

THE SPEECH-LANGUAGE PATHOLOGIST'S ROLE

Clients come to SLPs for a variety of reasons. Our scope of practice under the American Speech-Language-Hearing Association (ASHA) includes addressing typical and atypical communication in the areas of speech sound production, resonance, voice, and language (American Speech-Language Hearing Association [ASHA], 2007). Therefore, a transgender individual who wants to change their speech and language to match their innately-sensed gender may seek the services of an SLP to help them do so safely and effectively. According to the ASHA Code of Ethics, SLPs are ethically obligated to provide services to individuals without discrimination on the basis of gender or gender identity (American Speech-Language Hearing Association [ASHA], 2010).

CRITICAL CONSIDERATIONS UNIQUE TO TRANSGENDER CLIENTS

Building a therapeutic rapport with your client is important to positive clinical outcomes (Leach, 2005). Part of building rapport with a client involves having empathy. Empathy includes an ability to understand a client's feelings, background, situation, and perspective (Mercer & Reynolds, 2002). In order to have empathy for a transgender client, one must understand some of the common experiences transgender individuals may go through.

Due to society's standards for gender conformity, transgender individuals who choose to live as their intuited gender are susceptible to depression, violence, and discrimination (Lombardi, Wilchins, Priesing, & Malouf, 2002; Norton & Herek, 2013; Khobzi Rotondi, 2012). Norton and Herek (2012) studied heterosexual Americans' attitudes towards homosexuals, bisexuals, and transgender individuals. The researchers found that negative attitudes towards transgender individuals are widespread. Moreover, men's attitudes towards transgender individuals were more negative than women's attitudes.

Though up-to-date information is unavailable, Lombardi et al. (2002) found that over 59% of their transgender questionnaire respondents had been victims of violence or harassment in their lifetime. Kenagy (2005) found that 51.3% of transgendered survey respondents reported that they had been physically abused. Kenagy also found that 68.8% of MTF survey respondents reported that they had been forced to have sex. Abuse and

discrimination is all too common for transgender individuals. Thus, it is not surprising that depression is highly reported among transgenders.

Depression is a mood disorder with no single, central cause. Depression affects a disproportionately large number of transgender individuals (Khobzi Rotondi, 2012). This could be expected due to the stigmatization, discrimination, and abuse experienced by individuals in the transgender community (Khobzi Rotondi, 2012). Nuttbrock et al. (2010), collected data on the incidence of depression across the life span of transgender women. The younger respondents reported high rates of major depression (38.4%) during their adolescence. These rates declined to 19.1% as the respondents approached middle age. Among older respondents, major depression was reported to be high (23.5%) during early adolescence, and these rates remained stable throughout their life course and through middle and late middle age (Nuttbrock et al., 2010). Kenagy (2005) found that 30.1% of transgender individuals surveyed admitted to having attempted suicide.

Budge, Adelson, and Howard (2013) found that the rates of depression and anxiety in transgender women far surpass the rates of anxiety and depression in the general population. The authors studied the relationship between transition status and degree of avoidant coping mechanisms. Avoidant coping is the tendency to prevent an emotional response to a stressor by avoiding behaviors or thoughts, minimizing problems, detaching oneself from the outcome of a problem, or overeating or drinking. The authors found that transgender individuals who are in the beginning stages of transition use more avoidant coping and experience more distress. Therefore, transition

status is important to consider when working with a new client as certain psychological factors could significantly affect progress in therapy.

Male-to-female transgender individuals have a hard time "passing" as a female if their transition occurred after puberty because they may be taller, have facial hair, deeper voices, and more prominent facial features (Teich, 2012). One reason that transgender women seek speech-language therapy is to learn more feminine ways of speaking and communicating in order to increase the likelihood that others will perceive them as a woman. The more feminine they are, the more likely they will be perceived as women, and the less likely they will be targets of violence and discrimination. This will ensure a reduced susceptibility towards discrimination, violence, and the associated depression and anxiety.

The "typical" client

Bodoin, Byrd, and Adler (in press) studied the common characteristics of transgender women. Their goals were to determine whether or not the profile of the transgender woman has changed given rising acceptance of gender nonconformity, and to determine whether or not there are any relevant additional characteristics unique to the modern transgender woman who presents for speech therapy.

Using a survey, the authors found that transgender women of today who seek speech therapy have a similar demographic profile (age, marital status, number of children) to transgender women described two decades ago. The mean age of transgender women at their initial therapy consultation was 36, with a range of 18 to 55

years. The survey did not include subjects under the age of 18. Seventy-one percent of survey respondents had been married at least once, with the majority of respondents having only been married once. Fifty-six of the participants surveyed reported to have at least one child, while the remaining respondents did not have any children (Bodoin et al., in press).

With respect to the transgender woman's perception of critical factors specific to passing as their true gender, the authors further reported that participants rated being perceived as female as very important, with physical appearance being ranked highest in terms of importance. The remaining aspects of being perceived as female are listed in order of reported importance: voice, nonverbal communication, and vocabulary use (Bodoin et al., in press). The authors also found that transgender women who had participated in speech therapy felt higher rates of satisfaction with their feminine presentation.

Assessment

A thorough and complete assessment of one's client is the basis for an effective treatment plan. The overarching goal of treatment for a transgender woman is to help her safely use a more feminine voice that she feels comfortable with, while also promoting a more feminine presentation via other aspects of communication. Prior to any voice assessment, the client should be advised to visit an otolaryngologist to ensure that her vocal folds are healthy.

The initial evaluation of the MTF transgender client should include a client interview, case history, hearing screening, instrumental or subjective assessment of vocal parameters, a hierarchy of anxiety-producing communication scenarios, assessment of voice related quality of life, baseline data collection on nonverbal communication behaviors, and a femininity rating by an unfamiliar listener.

CASE HISTORY

The case history and interview should include questions about the client's reasons for seeking therapy, medical history, stage in the transition process, and an extensive discussion of vocal hygiene. These questions are included on the case history form in Appendix A. A discussion of each aspect of the case history form follows.

When obtaining a medical history, ask the client whether or not they have had any surgeries requiring intubation, as intubation may cause iatrogenic damage to the vocal folds. Moreover, obtain a list of medications and supplements the client takes regularly. The National Center for Voice and Speech (NCVS) provides a tool for checking specific

medications for side effects which may affect vocal health. The tool can be found at ncvs.org. Given the previously reported disproportionately higher rates of depression in this population, clinicians should be aware that antidepressants such as Elavil (amitriptyline), Pamelor (nortriptyline), Sinequan and Adapin (doxepin), Tofranil (imipramine), and Vivactil (protriptyline) are known to cause dryness of the vocal tract (Simpson, 1996). Clients should be encouraged to speak to their prescribing doctors if their medications are causing excessive dry mouth, as this could affect their vocal health during treatment.

Vocal hygiene is an important consideration with transgender clients. One should gather information about the client's allergies, reflux symptoms, daily water intake, daily caffeine intake, daily alcohol intake, smoking status, and non-prescription drug use. Moreover, one should obtain information regarding the frequency with which the client uses her voice both professionally and recreationally. The answers to these questions will help you guide treatment pertaining to vocal health.

Use the client interview and case history to determine the client's transition status. A client's stage in the transition process has significant implications for therapy. A client who is undergoing hormone therapy and is already spending most of her time living as a woman is more likely to be motivated and have a more positive response to therapy. On the other hand, a client who is in the early stages of the transition process may be more interested in exploring her options for change and may have a slower response to

treatment (Gelfer, 1999). A client should be informed of these implications at the initial evaluation session.

Another critical consideration is the patient reality distance. Clinicians should consider whether the client's perspective of their verbal and nonverbal communication is in line with listener perception. Clinicians should also ask the client what she expects to gain from therapy and determine whether those expectations are too high or possibly too low. Whatever the case, the clinician will want to adjust the client expectation through education.

HEARING SCREENING

Providing auditory feedback is an important part of transgender therapy. A client's ability to make changes to her voice depends on her ability to hear subtle differences in vocal productions. Therefore, it is necessary to establish the client's baseline hearing status. Conduct a hearing screening at 500, 2000, and 4000 Hz using a 25 dB pure tone. If the client does not pass the hearing screening, she should be referred to an audiologist for further evaluation and treatment.

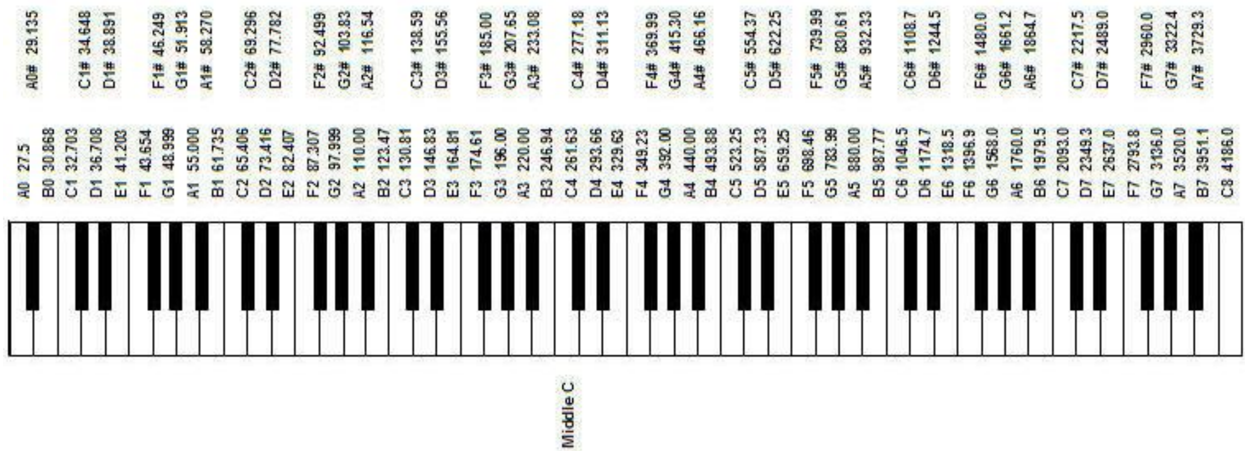
VOICE ANALYSIS

Another important aspect of transgender assessment is the measurement of voice parameters including fundamental frequency, pitch range, and habitual pitch. Software exists for specifically measuring voice parameters. However, if you do not have access to

the more expensive voice analysis software, free software exists online. The following website provides free pitch analysis software: http://www.fon.hum.uva.nl/praat/

In addition, it may be possible to determine a speaker's fundamental frequency by matching her voice to a pitch-pipe or keyboard. Boone, MacFarlane, Von Berg, and Zraick (2014) provide typical speaking pitches in relation to musical notes. The typical adult male voice is near C3 (131Hz) and the typical female speaking voice is near A3, or 220 Hz (Boone et al., 2014). You can have your client produce isolated vowels or connected speech and then match her pitch to the corresponding musical note. You may also use this method to determine your client's pitch range by having her produce her lowest and highest pitch.

Refer to the following image to match a client's pitch to frequency:



Source: Dannenberg, R.B.,

You may also visit the following website to use an online keyboard for matching pitch: http://www.onlinepianist.com/virtual_piano

In addition to analyzing the frequency aspects of voice, it is necessary to assess the vocal health of your client prior to beginning any voice therapy program. Because transgender communication therapy involves extensive vocal training, your client's vocal health is of utmost importance. There are several methods of assessing a client's baseline vocal health.

A quick and simple way to screen for vocal pathology is to determine a client's S/Z ratio. The S/Z ratio was developed by Daniel Boone (Boone et al., 2014). To determine the S/Z ratio, have your client take a deep breath and sustain the /s/ sound for as long as possible on the one breath. Time your client's production. Next, have your client take a deep breath and sustain the /z/ sound for as long as possible while timing her production. Divide the number of seconds your client sustained the /s/ sound by the number of seconds your client sustained the /z/ sound. The resulting number is your client's S/Z ratio. To obtain a reliable assessment, obtain two additional S/Z ratios and calculate the average. An individual with good vocal health should have an S/Z ratio around 1.0. Individuals with an S/Z ratio greater than 1.4 are more likely to have an existing vocal pathology, such as nodules or polyps (Boone et al., 2014) and this should be further investigated by an otolaryngologist.

Maximum phonation time is the longest duration an individual can sustain phonation of a vowel (Boone et al., 2014). In order to determine your client's maximum phonation time, have her take a deep breath and sustain the vowel /a/ for as long as possible while you time the production. Time three independent productions and calculate the average maximum phonation time. Ma and Yui (2006) found that the average maximum phonation time for males and females between the ages of 20 and 55 years was 22.9 seconds (as cited in Boone et al., 2014). If your client's maximum phonation time falls significantly under this average, one should again refer the client to an otolaryngologist for possible pathology causing inefficient vocal fold vibration.

VOICE-RELATED QUALITY OF LIFE

A comprehensive assessment of any voice disorder requires an understanding of how the client's voice affects their quality of life. Though the MTF transgender client may not necessarily have a concomitant voice disorder, her vocal quality has affected her life sufficiently to seek treatment for change. Dacakis, Davies, Oates, Douglas, and Johnston (2013) psychometrically verified the reliability of a transgender-specific questionnaire to assess voice-related quality of life. The Transsexual Voice Questionnaire for Male-to-Female Transsexuals (TVQ^{MtF}) is a reliable measure of the voice-related difficulties of MTF transgendered persons and the impact these difficulties have on an individual's life (Dacakis et al., 2013).

While psychometrically verifying the questionnaire, the authors found the two most significant voice-related problems for 35 transgender MTF persons. These were

"concentration needed to achieve desired voice," and "distress when perceived as a man owing to voice." Otherwise, the individuals varied significantly in their remaining responses to the questionnaire. Some participants never or rarely experienced any problems related to their voice, while others had frequent voice-related issues in their daily lives. The most frequently reported difficulty across all participants was the distress experienced when one was perceived as a man (Dacakis et al., 2013). The study also found that psychosocial consequences included the participants feeling less feminine, feeling that their voice did not match their physical appearance, and feeling that their voice did not reflect their true selves.

The TVQ^{MtF} is a reliable measure of voice-related quality of life for transgender individuals. A copy of the questionnaire is available on Shelagh Davies' website. This document is free to the public and can be found at the following address:

http://www.shelaghdavies.com/questionnaire/TVQ_Questionnaire.pdf

The information obtained from the measure can be useful in goal-setting, treatment planning, and evaluation of the effectiveness of therapy.

Treatment

Many transgender women seek speech therapy with the goal of increasing the pitch of their speaking voice to a more feminine range. However, pitch is not the only aspect of transgender communication that should be targeted because pitch is not the only contributor to perception of gender (Dacakis, Oates, & Douglas, 2012). Further, the potential for significant increase in pitch may be limited for some. The following section describes aspects of communication that have been found to increase perception of femininity in transgender women. In addition, techniques and suggestions for improving these aspects of communication are provided in each section.

ELIMINATION OF HARMFUL VOCAL BEHAVIORS

Proper vocal hygiene is the crux of any voice therapy program. Identifying which specific vocal abuses to eliminate should occur during the initial assessment. The client should be educated during the first session about how her specific vocal hygiene issues could affect her voice. Boone et al. (2014) suggests having the client count the number of times a day she engages in a particular vocally abusive behavior, plot it on a graph, and to bring the graph to therapy session in order to promote awareness and eventual decline in frequency. Appendix B provides a chart that can be used for this purpose.

VOCAL EXERCISES

Clients may experience vocal fatigue, hoarseness, and pitch breaks from habitually speaking at the top of their pitch range (Boone et al., 2014). Vocal function

exercises (VFE) aim to improve the laryngeal musculature by developing strength, tone, balance, and stamina. In addition, VFE were developed to improve the balance between laryngeal muscle effort, respiratory effort, and supraglottic adaption of laryngeal tone, as well as improving vocal fold cover (Stemple, Lee, D'Amico, & Pickup, 1994).

Vocal function exercises involve four steps. The first step is to sustain the vowel /i/ for as long as possible at a comfortable pitch with a forward focus. Next, the client glides from the lowest to highest note in their pitch range on the sound /nol/ without any pitch breaks. Then, the client glides down from the highest note in their pitch range to the lowest note in their pitch range on the sound /nol/. Finally, the client sustains the notes C, D, E, F, and G for as long as possible, two times per note. These exercises should be completed two times each, twice daily (See Appendix B for a summary of VFE).

VFE were shown to improve maximum phonation times, frequency ranges, phonation volumes, and airflow rates in female subjects with normal voices (Stemple et al., 1994). Thus, the use of these strategies should be able to do the same for transgender woman seeking to strengthen their ability to use their higher pitch. Refer to temple *Clinical voice pathology: theory and management* (1984), for an in-depth description of Joseph Stemple's vocal function exercises.

INCREASING FUNDAMENTAL FREQUENCY

Various research on MTF transgender individuals attempt to provide the ideal fundamental frequency range at which a voice is perceived as female, or more feminine than masculine (Dacakis, Oates, & Douglas, 2012). King, Brown, and McCrea (2011)

compared the voices of transgender women to the voices of biological females. The authors concluded that an average fundamental frequency of 170 Hz combined with female intonation patterns contribute strongly towards being perceived as female. Similarly, Oates and Dacakis indicated that perceptions of gender based on fundamental frequency overlap in the range of 145 to 160Hz (as cited in Davies & Goldberg, 2006). Although fundamental frequency is important and should be addressed regularly in therapy, it is important to remember (and to remind your client), that vocal pitch is not the only factor contributing to perception of gender.

There are several factors that contribute to increased fundamental frequency. Boone et al. (2014) emphasize the importance of auditory feedback for voice improvement. This technique can be used to achieve a higher fundamental frequency as well. Auditory feedback must be immediate. Recordings may be made using a digital recorder or smartphone. When attempting to elevate a client's pitch, clinicians should provide immediate auditory feedback of her productions to ensure improvement (Boone et al., 2014).

In order to establish a new pitch, clinicians should use the target pitch identified during assessment as the therapy goal. Using a client's own recorded voice model for both target pitch and current pitch provides the advantage of having already had the voicing experience of producing the sound she is trying to match (Boone et al., 2014).

Boone et al. (2014) recommend establishing a new pitch first at the word level and preferably in words that begin with vowels. Once the client has shown effective

maintenance of pitch at the word level, the difficulty can be increased by having the client maintain pitch in phrases and shorter sentences. The hierarchy may then progress through maintaining pitch at the sentence level, in reading passages, and, ultimately, in real-life conversational situations. Boone et al. (2014) suggest having the client practice the new pitch with strangers primarily, as it may be more difficult to use new phonation with familiar communication partners. This stranger first practice is contrary to our typical treatment protocol as SLPs typically have clients practice with familiar persons first and then move to unfamiliar. The client's best voice and pitch across the situations critical to the client should be primary goals in therapy (See Appendix B for worksheets that can be used to establish a new pitch).

Resonant Voice

The resonance of the vocal cavities can also contribute to the perception of a voice as feminine or masculine, with males having what can be described as "chest resonance," which may feel like the voice vibrating within the chest cavity. Females, on the other hand, may be described as having "head resonance," which results in a forward-focused sound resonating within the oral cavity (Hancock & Helenius, 2012). In addition, a resonant voice with forward focus can sustain phonation more efficiently and for longer periods of time (Boone et al., 2014). Boone et al. (2014) describes this type of resonance as vibrations within the "facial mask."

You must first establish the difference between the client's current resonance and a forward-focused resonance. Teach forward resonance by having the client sense the

vibrations in the "facial mask" produced in words and phrases with many nasals, such as "My mom made money." It is also helpful to have the client visualize herself using a forward focus and speaking from her head space. Once the client can establish the difference between her typical resonance and the more forward resonance, the client can practice this forward resonance in words with front vowels (Boone et al., 2014). Auditory feedback is helpful in this technique as well. Once the client is successful with this technique at the word level, resonant voice practice can be implemented at the phrase, sentence, and conversational levels (See Appendix B for resonant voice practice sheets).

ORAL RESONANCE

In addition to maintaining head resonance, studies have examined the effectiveness of changing the oral cavity to affect different vowel formants. Carew, Dacakis, and Oates (2007) studied the effectiveness of treating MTF transgender voice clients using what they call "Oral Resonance Therapy." The participants had not received any prior voice therapy to feminize their voices. The authors used two strategies to modify the participants' oral resonance. First, the participants were taught to use lip spreading during speech. The second goal was to increase forward tongue carriage. The participants did not practice combining the two techniques in connected speech until they were proficient with each technique separately.

The authors' results provided preliminary evidence that oral resonance therapy may be effective in increasing the perception of femininity in the voices of transgender women. The lip spreading technique was mastered easily in just a few sessions.

Although increasing fundamental frequency was not a goal of this particular study, the authors found that participants achieved a significant increase in this measure after therapy (up to 30Hz). Furthermore, there was an increase in formant frequency for individual vowels. Most importantly, the participants rated their satisfaction with their voice significantly higher than when they began therapy.

Lip spreading was taught by first demonstrating the difference between lip spreading and lip rounding. The clients then used positive and negative practice of lip spreading versus lip rounding. Once successful, the clients used lip spreading in a hierarchy of situations: isolated vowels, monosyllabic words, sentences, etc. (Carew et al., 2007). Appendix B contains a worksheet with which to practice lip spreading to facilitate more feminine oral resonance.

The authors addressed forward tongue carriage using the suggestions of Boone, and Martin and Darley (as cited in Carew et al., 2007). Boone et al. (2014) describe strategies to improve voice in persons with posterior focus. The authors suggest using auditory feedback to provide contrast between the anterior-focused and posterior-focused voices. In addition, using words with high front vowels (/i/, /ɪ/, /e/) can be helpful when practicing frontward focus. The techniques and words used in the aforementioned resonance section can also be helpful when practicing frontward oral focus (See Appendix B).

Another exercise that can stimulate better oral resonance is Boone et al.'s (2014) tongue protrusion exercise. The client protrudes her tongue outside of the mouth so that

the tongue base is pulled forward and away from the oral pharynx. The client emphasizes this movement by producing the /i/ sound.

ARTICULATION

Oates and Dacakis (1983) reported that female speakers produce more precise articulatory movements than male speakers (as cited in Dacakis, Oates, & Douglas, 2012). Studies have shown that MTF transgender women using precise versus imprecise articulation were characterized as more representative of a female speaker (Dacakis, Oates, & Douglas, 2012). In addition, men tend to make hard articulator contacts and women articulate in a lighter manner. Men are also more likely than women to drop endings of words (Davies & Goldberg, 2006).

Davies and Goldberg (2006) described men's articulation as "punching out" words. This is a useful metaphor to use with clients. Clinicians should demonstrate to the client the difference between light articulation and hard articulation. In addition, clinicians should encourage clients to observe the differences in articulation amongst her male and female acquaintances, relatives, and friends. Practicing light articulation at the word level and then moving up through the phrase level, sentence level, and conversational level will be helpful in generalizing light articulation skills. Any of the various word and phrase lists found in the appendices of this handbook can be used to demonstrate and practice light articulation (See Appendix B for a worksheet that specifically targets light articulation).

INTONATION

Wolfe, Ratusnik, Smith, and Northrop (1990) studied the intonation patterns of transgender women to determine which characteristics of intonation are present in transgender women whose voices are perceived as female. The authors found that the voices perceived as female were less monotonous and more variable than voices perceived as male. In addition, the authors found that the voices perceived as female had a higher percentage of upward intonations and downwards shifts, as well as a smaller percentage of level intonations than voices perceived as male.

In addition to upward and downward shifts, females achieve variable intonation through vowel prolongation and changing pitch to emphasize speech sounds, syllables, and words (King et al., 2011). As with perfecting other feminine speech patterns through increasingly challenging practice activities, clinicians should have client initiate practice of variable intonation at the word level, then progress to more complex tasks such as variable intonation within sentences and monologues. Clinicians should also provide clients with models of exaggerated intonation at the word level while using their hand, as a conductor would, to emphasize where their voice is shifting. This verbalization paired with the gesture will facilitate a much more accurate and effortless replication of the production. In addition, exaggerated practice of varying intonation helps clients to generalize a more variable, but unexaggerated intonation within conversational speech. Refer to the Appendix B for word, phrase, and sentence level intonation practice sheets.

DIFFERENCES IN LANGUAGE USE

Several studies have examined the differences in language use of males and females. Newman, Groom, Handelman, and Pennebaker (2008) used sophisticated software to analyze 14,000 text samples from language transcripts, written language, books, poems, and songs. The authors found that females were more likely to use negations, pronouns, verbs, and social words (e.g., sister, friend). Females also referred to home and to psychological processes (e.g., mad, uneasy, remember) more than males. On the other hand, men swore more frequently and discussed various current concerns (e.g. an assignment, apartment) significantly more than females.

After extensive analysis of these samples, the authors also concluded that females and males use language for different reasons. Males used language to label external events, objects, and processes while females used language to discuss people and what they were doing and communicating internal processes to others. Additionally, women used words related to thoughts, emotions, senses, other people, verbs, and negations. Men used words related to occupation, money, and sports, in addition to more numbers, articles, prepositions, and long words (Newman et al., 2008). These aspects of language use can be taught directly to your client and then reinforced using the language "Highlighting Style Differences" worksheet (See Appendix B).

In addition to the general differences in language use among men and women, there are actually specific words that women are more likely to use than men and vice versa. For example, words like yummy, hair-do, cute, adorable, fabulous, fantastic,

tummy, and outfit are words that are more characteristic of women (Hetrick, 2010). On the other hand, words like dude, boss, word, and haircut are words that you're more likely to hear a man say.

This handbook provides worksheets for teaching the language style and vocabulary differences in men and women (See Appendix B). Clinicians should have their client read through each of the interactions on the worksheets to decide which speaker is the female and which speaker is the male. Then, go through each interaction to pick out aspects of language use and vocabulary that are decidedly male or female. Alternatively, clinicians can also role play the scenarios for the client and have the client identify through observation (as opposed to reading) of the interaction.

NONVERBAL ASPECTS OF COMMUNICATION

It is generally agreed upon that several aspects of communication including both verbal and nonverbal contribute to whether or not a transgender woman will be perceived by others as female. It is also accepted that males and females differ widely in several aspects of nonverbal communication. What follows is a summary of the major differences between males and females in nonverbal communication.

Females smile and laugh more than males and they have more expressive faces. In addition, women are more likely to smile when they are with other women (Frances, 1979; Hall, 1984). Females also have a tendency to gaze more at others in friendly and comfortable interactions than males do. Furthermore, females keep a closer interpersonal distance to their communication partners than males (Hall, 1984). Females tend to nod

more frequently and take up less physical space than males (Hall, 1984). By comparison, males tend to display more restlessness, fidgeting, manipulation of objects, and backward leaning in interactions than females. Moreover, men have a more expansive posture, including wider knees, open body posture, and outwardly expressive gestures. Finally, in an examination of gender differences in intentional social touch, Major, Schmidlin, and Williams (1990), found that across a variety of settings, including public and private settings, men touched women more than women touched men and women touched other women more than women touched other men. The authors also found that cross-sex touch occurred more frequently than same-sex touch.

Appendix A contains a rating form that summarizes these stereotypically gendered behaviors. This rating form can be used during assessment and treatment in a variety of activities. As mentioned in the assessment section, this rating form can be used to gather baseline data of the client's nonverbal behavior in interaction. During treatment, these nonverbal behaviors can be addressed through role play. The client will benefit from watching video recordings of herself during role play and other interactions. She may use the rating form to rate her nonverbal behaviors and determine which behaviors she may use that are perceived as more masculine. In addition, feedback from other objective observers can be helpful in rating the client's nonverbal behaviors.

Conclusion

As society becomes more accepting of transgender individuals, our caseloads are likely to include more transgender clients seeking communication therapy. There are a number of critical considerations to be aware of when working with a transgender client. The conscientious therapist will take these considerations into account when planning and implementing therapy with the transgender client.

Transgender therapy encompasses several aspects of voice and communication. Assessment includes an interview and case history, hearing screening, voice analysis, assessment of voice related quality of life, hierarchy analysis, baseline data on nonverbal communication behaviors, and subjective feedback from unfamiliar listeners and observers as well as a careful consideration of patient reality distance. Treatment includes elimination of harmful vocal behaviors, vocal exercises, increasing pitch, facilitating resonant voice, teaching oral resonance and lip spreading, improving light articulation, teaching variable intonation, addressing language and vocabulary differences, and attending to nonverbal aspects of communication.

Our goal as therapists is to provide transgender clients with the tools they need to achieve a more feminine communication style so that they may live successfully as their true gender. Following these guidelines and participating in ongoing education regarding transgender research is vital to the continued improvement in transgender therapy outcomes.

Appendix A

Assessment Documents

Suggested Assessment Format

I. Introductions

II. Client interview and case history including vocal hygiene summary

III. Hearing Screening at 500, 2000, and 4000Hz using 25 dB tone

IV. Voice Analysis:

- a) Habitual Pitch
- b) Pitch Range
- c) S/Z ratio
- d) Maximum Phonation Time

V. TVQ^{MtF}

VI. Hierarchy of Communication Situations

VII. Baseline Data of Nonverbal Communication Behaviors

VIII. Baseline audio recording of voice

Case History Form

Full Name:_____________________ Date of Birth____________________

Preferred Name:____

Phone Number:_________________Email:__________________________

Emergency Contact:____

Reasons for Seeking Speech and Communication Therapy

What is your primary reason for seeking therapy?______________________

____

Please rank the following goals in order of importance to you.

_____ improve vocal hygiene (i.e. vocal health)

_____ raise fundamental frequency of speaking voice (i.e. pitch)

_____ feminine nonverbal communication styles

_____ variable intonation (i.e. feminine use of stress patterns in speaking)

_____ light articulation

_____feminine body language

_____feminine language styles, vocabulary, and social skills

Have you ever had voice or communication therapy? ☐yes ☐no

If yes, please describe____

____

Have you ever had a hearing test? ☐yes ☐no Date:__________

Results of hearing test: ____

What percentage of your day is spent living as your true gender?

☐0-25% ☐25-50% ☐50-75% ☐75-100%

How long have you been living as your true gender? ____________________

Describe any current or previous therapy you have received to facilitate your transition:____

____

Medical History

Current Medications (name and dosage; include herbs and supplements):

____

____

Allergies:____

Have you ever had surgery that required intubation? ☐yes ☐no

If yes, please explain: ____

Please check if you have any of the following conditions:

☐ Allergies	☐ Frequent throat clearing
☐ Asthma	☐ Hearing loss
☐Chronic cough	☐ Hoarseness
☐Chronic heartburn	☐ Loss of voice
☐Difficulty swallowing	☐ Sinus problems

Vocal Hygiene

Approximate daily intake of water and other non-caffeinated, non-alcoholic beverages (in ounces): ____

Daily Intake of Caffeine (in ounces):________________________________

Daily Intake of Alcohol (in ounces):________________________________

Do you currently smoke cigarettes or marijuana*? ☐yes ☐no

If yes, with what frequency:____

Have you smoked cigarettes or marijuana in the past? ☐yes ☐no

If yes, with what frequency:____

Please list any other current or previous use of non-prescription drugs*:____

____

____

***ALL INFORMATION IS CONFIDENTIAL AND USED FOR THERAPY PURPOSES ONLY**

Please describe your voice demands at work (i.e. how often you have to speak for extended periods of time) _________________________________

____

Please describe your voice demands outside of work (i.e. singing, acting, etc)____

____

Please add any additional information that is relevant to your case and treatment:

____

____

____

____

Hierarchy Analysis

(Adapted from Boone et al., 2014)

List communication situations that ordinarily produce anxiety (i.e. talking on the phone, talking to salespeople, talking to the doctor):

____
____
____
____

Rank your communications situations from "Least anxiety/discomfort" to "Most anxiety/discomfort."

1. ____________________________ Least anxiety
2. ____________________________
3. ____________________________
4. ____________________________
5. ____________________________
6. ____________________________
7. ____________________________
8. ____________________________
9. ____________________________
10. ____________________________ Most anxiety

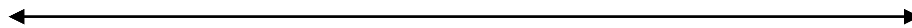
Nonverbal Rating Sheet

Circle the number along the continuum that best describes the observed nonverbal behaviors.

Very Masculine				**Very Feminine**
Minimal Eye Contact				**Consistent Eye Contact**

1	**2**	**3**	**4**	**5**

Very limited smiling.				**Consistent Smiling**



1	**2**	**3**	**4**	**5**

No gestures, or gestures focused towards partner				**Gestures used frequently and toward self**

1	**2**	**3**	**4**	**5**

Minimal gazing at partner				**Consistent gazing at partner**

1	**2**	**3**	**4**	**5**

Legs spread, arms taking up space, leaning back				**Legs crossed, arms brought in and taking up very little space, upright posture**

1	**2**	**3**	**4**	**5**

Appendix B

Treatment Documents

Sample Therapy Plan - Initial Session

I. Greetings (2 minutes)

II. Teach Vocal Function Exercises (15 minutes)

III. Teach Resonant Voice (10 minutes)

IV. Introduce Feminine Nonverbal Behaviors (5 minutes)

V. Practice Variable Intonation (5 minutes)

VI. Assign Homework (3 minutes)

Suggested Homework:

- **-Daily Vocal Function Exercises**
- **-Resonant Voice Practice**
- **-Vocal Hygiene Chart**

Sample Therapy Plan - Subsequent Sessions

I. Warm Up with Vocal Function Exercises (5 minutes)

II. Review Homework (5 minutes)

III. Resonant Voice/Light Articulation/Maintain Optimal Pitch (10 minutes)

IV. Nonverbal Behaviors with Rating Scale (10 minutes)

V. Intonation (5 minutes)

VI. Vocabulary Differences/Language Use Differences (10 minutes)

VII. Wrap Up/Assign Homework:

Suggested Homework:

- **-Daily Vocal Function Exercises**
- **-Practicing techniques for 10 minutes a day with a communication partner**
- **-Read article about transgender communication therapy**
- **-Intonation Practice**

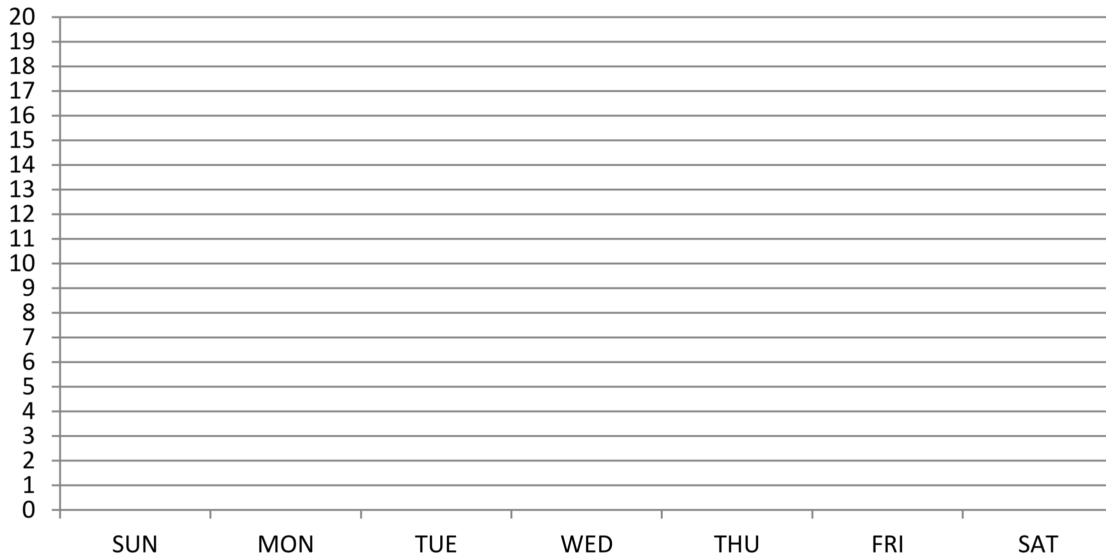
Vocally Abusive Behaviors

The following is a list of vocally abusive behaviors:

•yelling	•speaking in loud background noise	•coughing and excessive throat clearing	•smoking
•excessive talking or singing	•excessive crying or laughing	•speaking with hard glottal attack	•drinking excessive amounts of coffee
•drinking excessive amounts of alcohol	•limiting water intake	•excessive talking while having allergies or upper respiratory infection	•speaking too loudly

(Boone et al., 2014)

Choose one or two of these behaviors that you frequently have. Chart the number of times you partake in each behavior on a daily basis for the week.



Notes:____

____

____

Joseph Stemple's Vocal Function Exercises

(Stemple, 2006)

Directions: Practice each of the following exercises two times each, twice a day. Focus on maintaining effortless voice with no pitch breaks. Use forward focus in order to ease tension in larynx. These exercises do not have to be practiced loudly. Use only a loud enough voice so that you're vocally engaged (not falsetto).

1. Warm-Up: To work out the entire laryngeal musculature.

Sustain the vowel /i/ for as long as possible. Unload the larynx so that the point of constriction is not on the larynx, but in a more forward position.

2. Stretching Exercise: To open the throat in the pharyngeal area and to feel the resonance and buzzing on the lips.

Glide from your lowest comfortable note to your highest comfortable note on the word "knoll." If this is too difficult, try starting with a lip trill from the lowest to highest comfortable note.

3. Contracting Exercise: To no longer resist the downward inflections and to get used to using the entire system.

Glide from your highest comfortable note to your lowest comfortable note on the word "knoll." Be sure not to growl at the lowest comfortable note. Keep the focus of feeling vibrations on your lips.

4. Low Impact Adductory Exercise

Sustain 5 pitch levels on the notes middle C, D, E, F, and G. Sustain each note for as long as possible on the sound /ol/ while feeling the sympathetic lip buzz.

Please refer to Joseph Stemple's Vocal Function Exercises DVD produced by Plural Publishing for a more in-depth description of each exercise, as well as a demonstration of how to effectively do each one (Stemple, 2006).

Increasing Habitual Pitch - Word Level

These words start with vowels, which can facilitate establishing a new pitch.

always	airway	aimless
aural	alleviate	allay
elite	eight	emotion
enroll	entire	erode
imitate	initial	ideal
ivory	invoke	inane
odius	opulent	overhaul
offer	opinion	orator
under	umami	usage
upset	utile	usurp

Increasing Habitual Pitch - Greetings

Hello. How are you?	____Hz
What's up?	____Hz
I'm _______________(name).	____Hz
It's nice to meet you.	____Hz
I've heard so much about you.	____Hz
Where are you from?	____Hz
What do you do for a living?	____Hz
Thanks for coming!	____Hz
It was great meeting you.	____Hz
Have a good night.	____Hz
I'll see you later.	____Hz
Goodbye!	____Hz

Word-Level Worksheets for Practicing Resonant Voice

These worksheets contain words with nasals, liquids, and glides; which can help facilitate a more forward focus when practicing resonant voice.

mow	mole	now
may	new	norm
nay	no	mean
moor	many	melon
null	lemon	mealy
Meyer	mower	Molly
murmur	naming	molar

Word-Level Worksheets for Practicing Resonant Voice

These worksheets contain words with nasals, liquids, and glides; which can help facilitate a more forward focus when practicing resonant voice.

normally	manner	morning
Miami	manual	merry
women	mellow	merman
mailroom	mammal	malign
immune	maroon	mealworm
neural	manila	mariner
narrower	melanin	narrowly

Phrase-Level Worksheet for Practicing Resonant Voice

This worksheet contains words with nasals, liquids, and glides; which can help facilitate a more forward focus when practicing resonant voice.

merry men	mellow Mary
mean mariner	immune women
maroon mammal	many a moon
many a morning	narrow marrow
new manor	neural manual
mealy melon	man on moon
more mail now	my memory

Oral Resonance Practice

This worksheet contains words with high-front vowels and labial, interdental, and alveolar consonants, which can help facilitate anterior tongue carriage when targeting oral resonance at the word level.

/i/	/ɪ/	/e/
freely	pith	made
mealy	fib	nay
veal	wish	pain
fee	mill	fray
deem	this	they
these	thin	pay
bees	pin	may
me	bin	paste

Lip Spreading Practice

This worksheet contains sentences with which to practice lip spreading to facilitate more feminine oral resonance. Words with many rounded vowels (/u/, /o/) and /r/ and /w/ consonants were excluded due to the more rounded nature of their production.

Lacy loves to go to Panama.
She feels very sick.
Please give me another chance.
I end up getting the same thing every time.
I liked the second season better.
She told me that she has experience in the area.
I just got the cutest new outfit.
I saw a great film last Sunday.
She gave me the sweetest card on my birthday.

Sentences for Practicing Light Articulation

These sentences contain stops and velars on which to practice light articulation.

Let's take a shopping list when we go to the grocery store.
That dog looks like it needs a good bath.
People always tell me I look like someone they've met.
I have plenty of clothes in my closet, but nothing to wear!
Could you help me figure out how to do this? It's tricky.
They kept calling me all day long, but I didn't recognize the phone number!
She's going to be sorry she bought that. It's just a fad.
Just once I wish I could find pants that fit me perfectly!
I absolutely loved that movie. It was the best one I've seen in a really long time!
Katrina and Keith came over last weekend. We played board games and had a great time.
Could you direct me to the clothing department?
This is my favorite song. This artist is amazing.
I need to get a new jacket, but nothing I like is on sale!

Word-Level Worksheets for Varying Intonation

Directions: Add inflection lines to vary the inflections and recite.

Absolutely	Positive	Yes
Somewhat	So	Totally
Fine	True	Well
Remarkable	Either	Correct
Truly	Very	Unacceptable
Here	Terrible	Sick
Splendid	Often	Generally
Tonight	Gross	Awesome
Weird	Seven	Morning
Horrifying	Rarely	There
Normally	Goodnight	Perfect

Phrase-Level Worksheets for Varying Intonation

Directions: Add inflection lines to vary the inflections and recite.

No problem	You should
Never better	Maybe not
Trust me	I'm there
My pleasure.	You're welcome
I'm sorry	Everything's fine
You're late	Just because
Thank you	What's up
Me neither	Oh well
She's great	You're right
Love you	Call me
Not yet	Let's eat

Sentence-Level Worksheets for Varying Intonation

Directions: Add inflection lines to vary the inflections and recite.

It was the best thing I've ever tasted
I couldn't believe it
I can't argue with that
It was nice seeing you, too
To the best of my knowledge
Can I ask you a favor
Can you tell me where the water fountain is
What do you think about this
You'll just have to be patient
Let me get back to you

Highlighting Vocabulary Differences

The following scene played out between a man and a woman. Read through the scenario and determine which character was the man and which character was the woman, based on the vocabulary used. Highlight the words that are stereotypically gender-specific.

Character A: Hi! How are you?

Character B: I'm doing good, you?

Character A: I've been fantastic! It seems like it has been so long since I've seen you. What have you been up to?

Character B: Eh, not much. Just the same ol', same ol'. How about you? How was your weekend?

Character A: My weekend was great. I bought a new outfit on Saturday and got a brand new hairdo on Sunday! I was afraid my stylist wouldn't cut it right, but he did.

Character B: Oh yeah, it looks good.

Character A: Thanks. Did you have a nice weekend?

Character B: It was pretty good. I went to this restaurant called "Umami." I liked it.

Character A: I've been there! Oh my goodness, their food is so yummy. I have to go back soon.

Character B: Yeah, I liked it a lot.

Character A: Well, it was great to see you. I have to go to class now.

Character B: Yeah, it was good to see you too. I hope to see you around sometime. Have a good one.

Character A: That would be wonderful. Bye!

Highlighting Vocabulary Differences

The following scene played out between a man and a woman. Read through the scenario and determine which character was the man and which character was the woman, based on the vocabulary used. Highlight the words that are stereotypically gender-specific.

Character A: What are you going to order?

Character B: I'm not sure yet. Have you decided?

Character A: Uh-huh.

Character B: Oh, what are you going to have?

Character A: I'm gonna have the number eight.

Character B: Ooooh, that looks good.

Character A: Yeah. I've never had it before.

Character B: Ewwww! There's a hair in my water glass! Yuck!

Character A: That's not cool. Tell the waiter.

Character B: I will, I just hope he doesn't think I'm being rude.

Character A: Nah, you're just pointin' it out. No big deal.

Character B: Okay. Hmmmm, I think I will try the number six. That looks sooooo delicious!

Character A: Yeah, I saw that one. You're gonna have to lemme try it.

Character B: Absolutely not! Hee-hee. I'm just teasing.

Character A: Hah. You better be.

Character B: Okay, where is our waiter? My tummy is rumbling and I want a new water glass!

Highlighting Style Differences

The following scene played out between a man and a woman. Read through the scenario and determine which character was the man and which character was the woman, based on their communication style. Read the entire script before making your decision.

Character A: I had a difficult day at work today. My boss was so grumpy. She really hurt my feelings.

Character B: You might need to talk to HR about her.

Character A: I don't know if I need to do that. It's just that she always makes me feel so inadequate. I feel like I try so hard but it's never good enough for her.

Character B: Well, what does she tell you to improve upon? Why don't you start working towards a new goal to improve upon each day?

Character A: I *am* constantly trying to improve myself. I feel like she doesn't listen to me though. I wish she were just more sensitive to other people's feelings when she talks to them.

Character B: You know you're a hard worker. You should just focus on what you're doing right when she's being that way.

Character A: Yeah, I know. It's hard though. I guess I'm too sensitive sometimes. I wish I could talk to my coworkers about this, but they all seem to love her.

Character B: Hmmm. I don't know what to tell you.

Character A: I'm not looking for advice. I'm just telling you I had a rough day. I need someone to listen.

Character B: Okay. I'm listening.

Character A: Well, that was pretty much it. That's all I wanted to say. I just feel like I'm trying so hard and I'm not appreciated

Telephone Practice

These activities can help you practice your communication skills on the telephone with strangers. If necessary, practice some of your relaxation strategies before calling.

1. Call a car insurance company to get a free quote.

Sample starter:
"Hi, I'm calling to get a quote on my car." (be vague so the agent has to ask more questions, thus allowing you to talk more)

2. Call a bank to ask about interest rates on savings accounts.

Sample starter:
"Hi, I'm calling because I was wondering if I could get a higher interest rate on my savings account by switching to your bank."

3. Call a movie theater to get the show times for a number of different movies.

Sample text:
"Hi, I'm trying to decide on a movie to watch tonight. What time are you showing ________. Great, thanks. What is the latest show time for ____________. Okay. What is the next time that you're showing ______________. Okay. Thank you so much for your help."

4. Call a used bookstore and ask if they have a particular book in stock. Then, ask for recommendations for another book based on your favorite genre.

Sample text:
"Hi. I was wondering if you are currently carrying ______________. Thanks. I really like crime mysteries. Do you have any recommendations? Thanks. I also like sci-fi novels. What would you recommend? Okay. One more thing....I'd like to sell some of my books. When is the best time for me to come in and do that? Thank you!"

Conversation Starters for Nonverbal Practice

Choose one of the following conversation starters to practice and rate nonverbal behaviors such as posture, eye contact, facial expressions, body positioning, and gestures. Videotape the conversation and then have your client use the self-rating form to rate her use of feminine nonverbal behaviors.

- ❖ Tell me about your favorite movie.
- ❖ Tell me about your favorite restaurant.
- ❖ What was the best vacation you've ever had?
- ❖ What were you like as a child?
- ❖ Tell me your funniest memory.
- ❖ What did you do last weekend?
- ❖ What do you like to do in your free time?
- ❖ Who do you admire most and why?
- ❖ If you could go anywhere in the world, where would it be and why?
- ❖ If you could meet any famous person, who would you want to meet. Why?
- ❖ Tell me about your earliest memory.
- ❖ If you won the lottery, how you spend your money?
- ❖ If you could live anywhere in the United States, where would you choose to live?
- ❖ Describe your dream vacation.

References

American Speech-Language-Hearing Association (ASHA), Ad Hoc Committee on the Scope of Practice in Speech-Language Pathology. (2007). *Scope of practice in speech-language pathology.* Retrieved from http://www.asha.org/policy/SP2007-00283.htm#sec1.5.

American Speech-Language-Hearing Association (ASHA). (2010). *Code of ethics*. Retrieved from http://www.asha.org/policy/ET2010-00309/.

Bodoin, E.M., Byrd, C.T., & Adler, R.K. (2014). *The Clinical Profile of the Male to Female Transgender of the 21st Century.* Manuscript submitted for publication.

Boone, D.R., McFarlane, S.C., Von Berg, S.L., & Zraick, R.I. (2014). *The Voice and Voice Therapy, 9th Edition.* Upper Saddle River, New Jersey: Pearson.

Byrd, C. (2013) *The male to female transgender clinical profile* [PowerPoint slides].

Budge, S.L., Adelson, J.L., & Howard, K.A.S. (2013). Anxiety and depression in transgender individuals: the roles of transition status, loss, social support, and coping. *Journal of Consulting and Clinical Psychology, 81*(3), 545-557. doi: 10.1037/a0031774

Carew, L., Dacakis, G., & Oates, J. (2007). The effectiveness of oral resonance therapy on the perception of femininity of voice in male-to-female transsexuals. *Journal of Voice, 21*(5), 591-603. doi: 10.1016/j.jvoice.2006.05.005

Dacakis, G., Davies, S., Oates, J.M., Douglas, J.M., & Johnston, J.R. (2013). Development and preliminary evaluation of the transsexual voice questionnaire for male-to-female transsexuals. *Journal of Voice, 27*(3), 312-320.

Dacakis, G., Oates, J., & Douglas, J. (2012). Beyond voice: perceptions in male-to-female transsexuals. *Current Opinion in Otolaryngology & Head and Neck Surgery, 20,* 165-170.

Davies, S. & Goldberg, J.M. (2006). Clinical aspects of transgender speech feminization and masculinization. *International Journal of Transgenderism, 9*(3-4), 167-196.

Frances, S.J. (1979). Sex differences in nonverbal behavior. *Sex Roles, 5*(4), 519-534.

Gelfer, M.P. (1999). Voice treatment for the male-to-female transgendered client. *American Journal of Speech-Language Pathology, 8, 201-208.*

Glicksman, E. (2013). Transgender today. *Monitor on Psychology, 44*(4). Retrieved from http://www.apa.org/monitor/2013/04/transgender.aspx.

Gorham-Rowan, M. & Morris, R. (2006). Aerodynamic analysis of male-to-female transgender voice. *Journal of Voice*, *20*(2), 251–262.

Hall, J.A. (1984). *Nonverbal Sex Differences,* Baltimore: The John Hopkins University Press.

Hancock, A. & Helenius, L. (2012). Adolescent male-to-female transgender voice and communication therapy. *Journal of Communication Disorders, 45,* 313-324.

Hetrick, J. (2010, May 11). Feminine and masculine words. Retrieved from http://voices.yahoo.com/feminine-masculine-words-6009242.html

Hines, S. (2007). *TransForming gender*. Bristol: The Policy Press.

Kenagy, G.P. (2005). Transgender health: findings from two needs assessment studies in Philadelphia. *Health & Social Work, 30*(1), 19-26. doi: 10.1093/hsw/30.1.19

Khobzi Rotondi, N. (2012). Depression in trans people: a review of the risk factors. *International Journal of Transgenderism, 13*(3), 104-116. doi: 10.1080/15532739.2011.663243

King, R.S., Brown, G.R., & McCrea, C.R. (2011). Voice parameters that result in identification or misidentification of biological gender in male-to-female

transgender veterans. *International Journal of Transgenderism, 13,* 117-130.

Leach, M. (2005). Rapport: a key to treatment success. *Complementary Therapies in Clinical Practice, 11*(4), 262-265. doi: 10.1016/j.ctcp.2005.05.005

Lombardi, E.L., Wilchins, R.A., Priesing, D., & Malouf, D. (2002). Gender violence. *Journal of Homosexuality, 42*(1), 89-101. doi: 10.1300/J082v42n01_05

Major, B., Schmidlin, A.M., & Williams, L. (1990). Gender patterns in social touch: the impact of setting and age. *Journal of Personality and Social Psychology, 58*(4), 634-643.

Mercer, S.W. & Reynolds, W.J. (2002). Empathy and quality of care. *The British Journal of General Practice, 52,* 9-12.

Newman, M.L., Groom, C.J., Handelman, L.D., & Pennebaker, J.W. (2008). Gender differences in language use: an analysis of 14,000 text samples. *Discourse Processes, 45,* 211-236.

Norton, A.T. & Herek, G.M. (2013). Heterosexuals' attitudes towards transgender people: findings from a national probability sample of U.S. adults. *Sex Roles, 68*(11-12), 738-753.

Nuttbrock, L., Hwahng, S., Bockting, W., Rosenblum, A., Mason, M., Macri, M., & Becker, J. (2010). Psychiatric impact of gender-related abuse across the life course of male-to-female transgender persons. *Journal of Sex Research, 47*(1), 12-23. doi: 10.1080/00224490903062258

Simpson, C.B. (1996). General voice care/vocal hygiene. Retrieved from http://uthscsa.edu/oto/voice.asp.

Stemple, J. (Producer). (2006). *Vocal Function Exercises* [DVD]. Available from http://www.pluralpublishing.com/publication_vfedvd.htm

Stemple, J.C., Lee, L., D'Amico, B., & Pickup, B. (1994). Efficacy of vocal function exercises as a method of improving voice production. *Journal of Voice, 8*(3), 271-278.

Teich, N.M. (2012). *Transgender 101: A Simple Guide to a Complex Issue*. New York: Columbia University Press.

Van Borsel, J., De Cuypere, G., & Van de Berghe, H. (2001). Physical appearance and voice in male-to-female transsexuals. *Journal of Voice, 15*(4), 570-575.

World Professional Association for Transgender Health. (2012). *Standards of Care for the Health of Transsexual, Transgender, and Gender Non-Conforming People, Version 7.*Retrieved from www.wpath.org.

Wolfe, V.I., Ratusnik, D.L., Smith, F.H., & Northrop, G. (1990). Intonation and fundamental frequency in male-to-female transsexuals. *Journal of Speech and Hearing Disorders, 55*, 43-50.