Voice and Communication Across the Gender Spectrum

Laura Wolford, PhD, CCC-SLP
she/her

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Goals

- Establishing common vocabulary
- Pitch & Resonance
- Communication & pragmatics
- Structuring therapy
- Embracing gender diversity across settings

Common Vocabulary

Sex vs. Gender

Sex	Classification as male/female, assigned at birth based on appearance of external anatomy
Gender Identity	"Person's internal, deeply held sense of their gender" (GLAAD)
Gender Expression	External manifestations of gender – name, pronouns, hair, dress, voice, body characteristics, etc.

Trans*

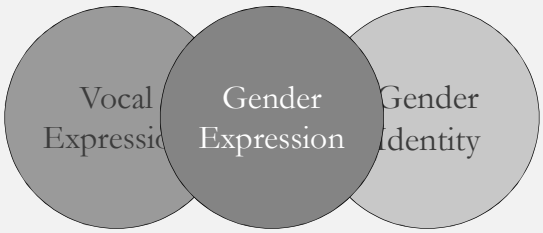
Transgender	Person's gender identity doesn't align with sex assigned at birth
Transsexual	Person has undergone medical intervention to change their body to be more congruous with gender (Somewhat controversial, not an umbrella term)
Trans*	Shorthand for transgender & transsexual + Often used to be inclusive of the full gender spectrum

The Gender Spectrum

Nonbinary	Gender identity doesn't fall neatly into "man" or "woman", not synonymous with transgender
Gender Spectrum	Encompassing transgender, nonbinary, gender fluid, gender queer, and other gender identities
Cisgender	A person's gender identity matches sex assigned at birth

Gender-Affirming Voice Therapy

Goal for Therapy



Gender Expression

- Outward manifestations of gender
- Differ by culture and by individual
- Ex: Hair, dress, stance/gait, voice

Goal of therapy: Help communication patterns match desired gender expression

"Passing"

- Common goal
- **Not** always the client's goal
- Assumes a gender binary
- For transgender clients, one of the most difficult barriers to gender expression is their voice (Byrne, Dacakis, & Douglas, 2003)

Literature Appraisal

- Cis men vs. cis women
- Cis vs. trans men/women
- Listener perception
- What makes trans* individuals feel self-actualized?

- No RCT, pseudo-RCT, or large experimental studies (Oates, 2019)

Voice Masculinization & Feminization

- Literature focus on feminization
- Masculinization: Historical focus on testosterone
  - Not always wanted, not a panacea
  - Dissatisfaction common (Azul, Nygren, Södersten, & Neuschaefer-Rube, 2017)
- Masc/feminization not "all-or-nothing"
  - Many pick & choose aspects
  - May depend on context
  - Including nonbinary, genderqueer, gender fluid individuals

Pitch

Pitch

- Perceptual correlate of frequency
- F0
- Mass & tension of the vocal folds

Pitch

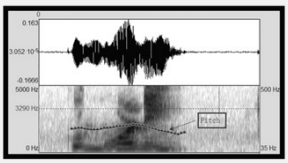
Most powerful acoustic marker for female voice perception for trans women (King, Brown, & McCrea, 2012)

- Mean speaking frequency above 180 Hz
- Maintaining a speaking frequency range of approx. 140–300 Hz

- Min F0 for listeners to perceive speaker as female
  - 155-164 Hz (Gelfer & Schofield, 2000; Spencer, 1988; Wolfe, Ratusnik, Smith, & Northrup, 1990)

Determining Current Speaking F0

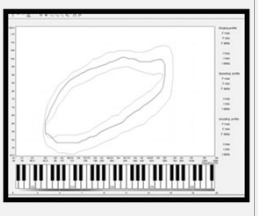
- Habitual Speaking F0:
  - Sustained phonation
  - Paragraph reading
  - Spontaneous speech



- Physiologically appropriate F0:
  - Vegetative phonation → Sustained phonation
  - "Mhmm"

Determining F0 Range

- Pitch glides
- Humming
- Voice Range Profile/Phonetogram



Adjusting Speaking Frequency

- Choose a target pitch & work to habituate
  - Perhaps 150-160 Hz (Gelfer, Pickering & Mordaunt, 2019)

OR

- Gradually increase F0 over sessions (Davies, 2017)
  - Often by 10 Hz steps (Gelfer et al., 2019)

Therapeutic Techniques

- Practice target F0 without strain
- Possible techniques:
  - Resonance techniques (e.g. Lessac-Madsen RVT)
  - Semi-occluded vocal tract (Kaspner-Smith et al., 2015; Titze, 2006)
  - Lax Vox (Denizoglu & Sihvo, 2010; Simberg & Laine, 2007)
- Use a range (e.g. target F0 ± 10 Hz)

Practicing pitch range

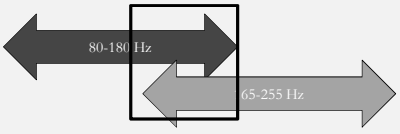
- Contrastive stress
  "Bob went to the store."
  "Who went to the store?"
  "BOB went to the store."
- Reading practice
  - picture book → standard passage → conversation
- Emotional stress
  - "Tomorrow I leave for Chicago" – happy, sad, etc.

Caveats

- Mean F0 for cis females differs by age (Boone et al., 2014, Ovetsky, 2004; Saxman & Burk, 1967; Stoicheff, 1981)
- Roughly 30 Hz F0 increase from voice tx (Hancock & Garbedian, 2013)
- Need a range (up AND down) for typical prosody
- Perceived femininity predictive of client satisfaction, not F0 (McNeill, Wilson, Clark, & Deacons, 2008)

It's not all about the pitch.

- Typical cis male & cis female pitch ranges overlap
  - Males: 80-180 Hz vs. Females: 165-255 Hz (Titze, 1994)
  - Yet cis men with higher voices are still perceived as male



- Average cis male vs. female F0 are different in different cultures
  - At least partially a learned behavior (Traunmuller & Eriksson, 1995; Rose, 1991)

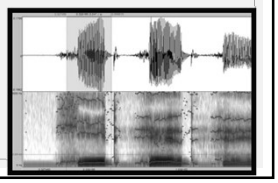
F0 isn't everything.

Exerpt from "The World Within Your Voice"

Resonance

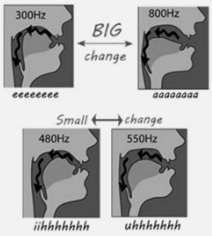
Resonance

- Vocal tract physiologic differences
  - Voice is perceived as lower if vocal tract is longer, even if F0 unchanged
- F1, F2, and F3

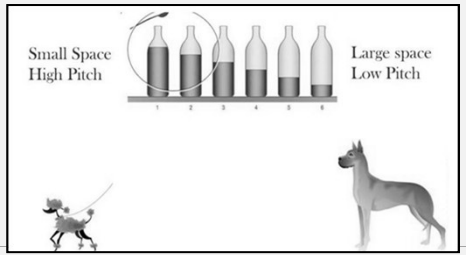


Resonance

- Vocal tract shape amplifies some frequencies.
  - Dampens some frequencies
- Amplified frequencies = Formants



Small containers of air = high pitch
Large containers = low pitch



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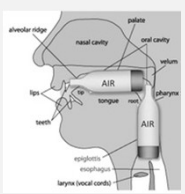
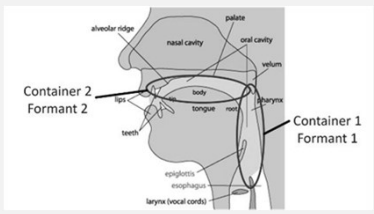
Vocal tract = multiple containers of air that vibrate at certain resonances





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Feminine Formants

- Cis females tend to use their tongue height, tongue advancement, oral opening, pharyngeal constrictors, & velum more to constrict their throat and oral cavity
  - Raises F1 and F2 (Hillenbrand et al., 1995)
- Desirable resonance = hard to measure instrumentally
  - Subjective measures more effective (Case, 1996)

Hearing Resonance Differences

- Physiologic descriptions
  - Tongue advancement & height, oral opening, /i/
- Voice "location"
  - Chest voice vs. Head voice
  - Forward resonance
- Vocal "tone/color/brightness"

Brightening Resonance

- Lessac-Madsen Resonant Voice Therapy (Verdolini 2000; Verdolini Abbott, 2008)
- /i/-ification (Hirsch, 2006 & 2017; Hirsch & Gelfer, 2012)
- Smiling/lip spreading

Communication Patterns & Pragmatics

Warning!

- Literature: Cisgender differences, *not* studied in trans* population
- Stereotyping?
- Norms vary significantly by culture

Body language (US)

- Proximity
- Eye contact
- Touch
- Mirroring
- Maintaining conversational turn

Facial Expression

- Cis women…
  - Smile more often (Soojin, 2000)
  - Vary their facial expressions more frequently (Glass, 1992)
  - Make eye contact more often but also break it more frequently (Argyle & Ingham, 1972; Burgoon, Buller, & Woodall, 1996; Ivy & Backlund, 1994)

Word Choice & Articulation: Not well studied

- "Softer" word choices
  - "just", "actually", qualifiers ("I'm no expert in this, but…")
  - Mostly anecdotal, not studied in trans* population
- Articulatory precision (Dacakis et al., 2012; Free & Dacakis, 2007)
  - Cis speakers with more precise articulation rated as more "female" by listeners
  - BUT – their speech was also produced with higher F0

Structuring Therapy

Evaluation

- Medical history & voice history
- Client's goals
  - Take note of word choice
- Quality of life assessment -
  - Transsexual Voice Quality Questionnaire (TVQ_{MtF})
  - Voice Handicap Index (VHI)
- Acoustic measurements (inc. habitual speaking F0 & range)
- Perceptual evaluation of voice quality
- Trial therapy

(Davies, Papp, & Antoni, 2015)

Laryngeal Visualization?

Controversial

Typical best practice for voice therapy

BUT

Needing voice affirmation tx is NOT a voice disorder

AND

Must be judicious with client's resources

SLP Voice Therapy

- Listen to the client's needs and goals.
- Find out what the client wants to be called & when
  - Name, pronouns (he/him, she/her, they/them, etc.)
  - May have different desires based on social situation
- Discuss the client's "voice role model"

Techniques for Vocal Transition

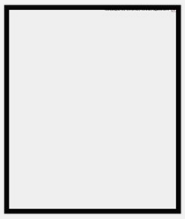
- Biofeedback
  - F0 & resonance targets
- Hierarchical approach
  - Humming, syllables, words, sentences, conversational speech
- Resonant voice therapy & "Frontal focus"

Embodying a Persona

- May help clients automatically complete a host of physiological voice changes
- May be easier than thinking about voice, resonance, and prosody alterations individually
- Client may benefit from giving their female voice a name

Inner Voice

- Self-talk
- Audiobooks
- Silent speech
- Use down-time to slip into authentic behavior patterns (not just when it's time to "perform")



Journaling & Recordings

- Journaling
  - Linking emotion to voice
  - What "worked"/didn't "work"
  - What was easy/hard
- Regular audio/visual recordings to track progress
  - Reduce discouragement
  - Self-critique/self-model

Team Approach

- Multidisciplinary teams
- Recommended by WPATH standard of care 7 (Coleman et al., 2012)
- Includes psychiatrist/psychologist, social worker, doctor, possibly surgeon, electrolysis experts, etc.

Gender Inclusivity in Practice

On meeting new clients:

- Give your pronouns with your name
- Ask for pronouns
- Have a blank, not a checkbox for gender
  - If part of a case history, ask open-ended question

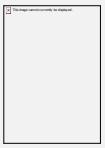
Bringing gender spectrum awareness into your practice

- Be aware of gendered language
- Gender-neutral restrooms in your office
- Educate coworkers
  - Pop-ups in medical charts

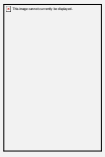
Additional Resources

Books

- Voice and Communication Therapy for the Transgender/Gender Diverse Client (3rd Edition)
  - Adler, Hirsch, & Pickering, 2019



- The Voice Book for Trans and Non-Binary People
  - Mills & Stoneham, 2017
  - Great for clients



Websites

- Leah Helou, Sandy Hirsch, & Christie Block's Transgender & GNC course
  - Available in person & online
- L'GASP: LGBTQ Audiologists & Speech-Language Pathologists
  - www.noglstp.net/lgasp
- Gender Spectrum Voice & Communication Facebook group

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