Shaping Androgynous Voice: Bridging the Research Gap in Gender-Affirming Voice Therapy

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Introduction

Voice is closely tied to identity. In the context of gender, norm-referenced data provides clear markers for binary vocal features. These include pitch, intonation patterns, prosody, rate, and rhythm, which influence the perception of masculinity or femininity (Coleman, 1971; Gelfer & Mikos, 2005). People who don't identify as the binary genders, however, often desire a gender-neutral voice.

Androgynous vocal features, by contrast, refer to acoustic and perceptual qualities that do not align clearly with either binary gender. These may exist within a "gender-neutral zone," blending masculine and feminine features or presenting as perceptually neutral elements (Papeleu et al., 2022).

Individuals who do not identify as binary genders may seek to develop androgynous voices as a part of their gender expression. However, the lack of clarity of what determines an androgynous voice presents challenges for clinicians working to help clients create more androgynous voices in gender-affirming voice care.

While binary voice characteristics are well documented, there remains limited consensus on how androgynous voices should be defined and measured (Adessa et al. 2023). Some studies emphasize acoustic markers, while others rely on self-perception or listener ratings, leading to inconsistent clinical approaches (Holmberg et al., 2023). A comprehensive synthesis of these approaches is needed to inform clinical practice and gender-affirming care.

We hypothesize that androgynous voices integrate elements of binary vocal features and unique, neutral characteristics. **Through a systematic review, we will contribute to the development of evidence-based frameworks for defining and supporting androgynous voice modification in both research and clinical practice.**

Methods

Data Collection and Analysis: A systematic review of existing research.

Inclusion Criteria
- Studies focusing on voice perception, acoustics, gender expression, and androgynous, nonbinary, and gender-diverse voices
- Qualitative (self-reports, clinician perspectives) and quantitative (acoustic analysis, listener ratings) studies

Quantitative Data
- Acoustic measures such as fundamental frequency, resonance, speech rate, and prosody will be compared
- Listener-perception studies assessing gender identification and vocal ambiguity

Qualitative Data
- Thematic analysis of self-perceptions, clinician strategies, and therapy outcomes from qualitative studies
- Spectrograph analysis of vowel formants
- Coding frameworks to identify key themes in gender perception and voice modification

Findings/Outcomes

Some areas of voice show that the androgynous zone is a mix of the binary genders and lives somewhere in the overlap of the two. In other areas, the androgynous zone is entirely different and independent of the binary genders.

Pitch:
Pitch is the most widely studied acoustic measure of voice.
- Masculine range: 85-155 Hz
- Feminine range: 165-255 Hz (Watson, 2019)
- Androgynous (nonbinary) range: 165-187 Hz

Prosody/ Intonation
- Nonbinary people didn't pattern their voices like women or men; they patterned with a combination of both genders' intonation characteristics (Schmid & Bradley, 2019).

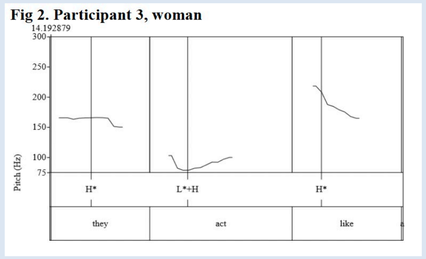

Fig 2. Participant 3, woman

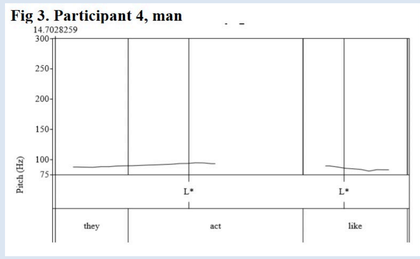

Fig 3. Participant 4, man

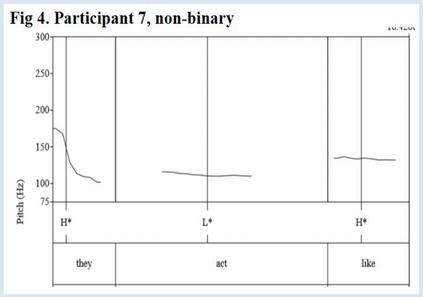

Fig 4. Participant 7, non-binary

Rate:
- Men tend to speak slightly faster than women in both reading and in spontaneous speech (Jacewicz et al., 2009)

Vowel Formants
- Most significant overlaps occur in F2 and F3 for both /i/ and /a/
- F1 overlaps are smaller, making them more distinct for gender perception
- These overlaps contribute to ambiguity in gender perception when relying on vowel formants alone (Gelfer & Bennett, 2013)

Conclusions

The study highlights the complexity of defining androgynous voices in gender-affirming care. Unlike binary voices, androgynous voices blend masculine and feminine vocal traits with unique characteristics of their own. Understanding these distinctions is clinically important, as it shapes how clinicians approach voice assessment and intervention. As medical speech pathologists, we are the healthcare professionals entrusted with delivering this individualized care.

Limitations
- An inconsistency and lack of consensus concerning acoustic parameters associated with androgynous voice traits.
- Paucity of research—limited literature available for review.
- Nonbinary individuals are often critical of their vocal traits due to the perceived subjectivity of what is feminine, masculine, or androgynous.
- Limited sample sizes within the body of research.

Considerations: Moving Forward
- Further research is needed on androgynous voice to create norm-referenced data to guide clinicians when establishing goals for their clients.
- Improved training for Speech-Language Pathologists to effectively evaluate and develop treatment plans associated with the delivery of gender-affirming care.
- Propose interdisciplinary research, i.e. hormone replacement, gender-affirming voice care, and mental health support to develop a comprehensive plan of care.

Acknowledgements

My deepest gratitude to my professor and faculty mentor, Andrew Christler, MBA, M.A., CCC-SLP. I could not have done it without your support and guidance. I appreciate you immensely. Thank you to Marissa A. Barrera, Ph.D., MSCS, CCC-SLP, for your support and your help with the final touches.

References