

**Critical Review:**  
**Does transgender voice and communication therapy influence gender perception by listeners among male-to-female transgender individuals?**

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Acquiring a sex-appropriate voice has been demonstrated to be a crucial part of the transition process for many TG individuals. This critical literature review examines the effect of voice feminization therapy on perception by listeners among male-to-female transgender individuals. Study designs reviewed included a single-group post-test study, ABA single subject study, two pseudo-randomized clinical trials and one systematic review. Overall, findings suggest that voice feminization therapy for TG women may contribute to increased perceived voice femininity by listeners.

***Introduction***

Transgender (TG) individuals have a gender identity, or gender expression, that differs from the sex that they were assigned at birth (ohrc.on.ca). Results from the Trans Pulse study suggested that as many as 1 in 200 adults in Ontario, Canada identify as TG (transpulseproject.ca).

Acquiring a sex-appropriate voice has been demonstrated to be a crucial part of the transition process for many TG individuals (McNeill, 2006). A gender-congruent voice has been demonstrated to reduce feelings of gender dysphoria and increase quality of life (American Psychiatric Association, 2016; Hancock, Krissinger, & Owen, 2011). Furthermore, a sex appropriate voice has been suggested to play an important role in TG individuals' health, safety and employment (Serrano, 2013). TG people face less prejudice when they are perceived as cis gender, a concept known as "passing privilege" (Serrano, 2013). Meeting cisgender norms, including vocal qualities, is associated with a reduced risk of harassment and violence, as well as increased employment opportunities (Godfrey, 2015).

Male-to-female (MTF) individuals are those who are assigned male at birth, however, identify and express themselves as female. These individuals are one of the largest groups seeking voice therapy services. While female-to-male TG individuals are often able to achieve their desired voice with hormone therapy, the same does not apply to MTF individuals. MTF individuals must often seek services, including surgery and voice therapy, to achieve their desired voice (Davies, Papp, & Antoni, 2015).

Surgery and therapy aim to make the voice more feminine in quality. Voice pitch, breathiness, intonation, articulation and inflection are aspects of voice that influence perception of gender (Coleman et al., 2012).

At the present moment, literature reviews investigating the efficacy of voice therapy for MTF individuals on perceived femininity by listeners are limited and further investigation is warranted. Further information regarding the efficacy of voice therapy for TG individuals is required in order for clinicians to implement evidence-based care. The current research, in this area, is explored in this critical review.

***Objectives***

The objective of this paper is to critically review the existing literature regarding the association between voice feminization therapy for TG women and perceived voice femininity by listeners.

***Methods***

**Search Strategy**

The computerized databases PubMed and Google Scholar were searched. The following search terms were used.

("trans", "transgender", "transsexual" OR "male-to-female") AND ("voice", "speech", "voice feminization", "speech therapy" OR "voice therapy").

**Selection Criteria**

Studies were selected for inclusion based on the following criteria: i) All studies included MTF TG individuals, ii) methods included participation in voice feminization therapy with a speech-language pathologist, iii) outcome measures included perceived voice femininity.

## Data Collection

Six studies from the literature search met selection criteria for this review. The studies included one Level 1 research evidence study: ABA single subject study (Hancock & Helenius, 2012). Four Level 2 research evidence studies were included: two Level 2a pseudo-randomized clinical trials (Gelfer & Tice, 2013; Gelfer & Van Dong, 2013), one Level 2a+ pseudo-randomized clinical trial (Nolan, Mirisson, Arowojolu, Crowe, Massie, Adler, Chaiet, Francis, 2019) and one Level 2b repeated measures study (Carew, Dacakis & Oates, 2007). Finally, one Level 3 single-group post-test study was included (Hancock, Krissinger & Owen, 2011).

## ***Results***

### ABA Single Subject Study

An ABA Single Subject is an experimental paradigm in which a single participant serves as their own control participant. During the initial phase A, the dependent variable is assessed, establishing a baseline. During phase B, the treatment is introduced. Lastly, during the final phase A, the dependent variable is assessed for change.

### **Hancock and Helenius (2012)**



There were 10 lines along the VAS, each 1 cm apart. Each of the participants recorded a voice sample pre- and post-therapy of a section in “The Rainbow” passage which was presented to 12 listeners (SLP students), who then rated femininity using the same VAS (10 point continuum: left = very masculine, right = very feminine). An acoustic analysis of the recordings was also done to gather data on formant frequencies (f0) during vowel production.

The Wilcoxon signed ranks tests was used for all perceptual data. Relevant to this article, the results revealed that self-ratings of femininity of voice and ratings of voice satisfaction were significantly higher post-



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2

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