



Faculty of Medicine and Health Sciences

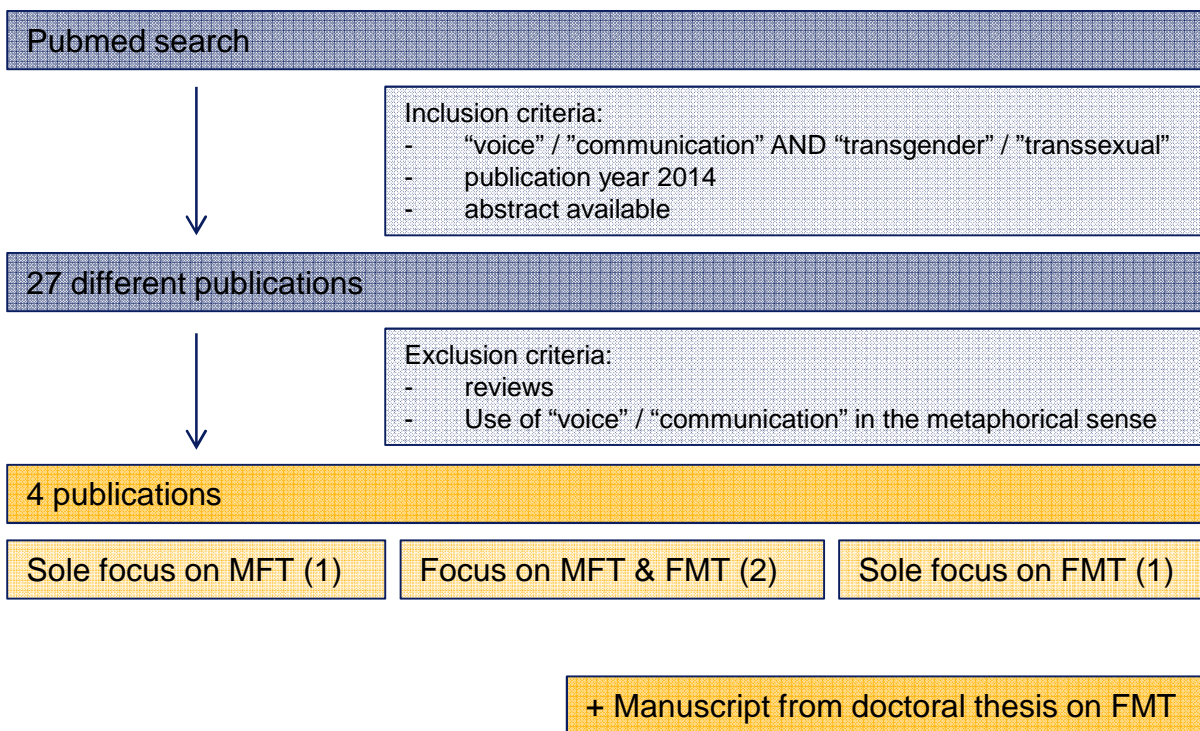


The year in review:

Voice and communication

Dr. Marjan Cosyns

Department of Speech, Language, and Hearing Sciences, Ghent University, Belgium





5 Publications

- MFT • Anderson JA. Pitch elevation in transgendered patients: anterior glottic web formation assisted by temporary injection augmentation. *J Voice*. 2014 Nov;28(6):816-21.
- Both • Hancock A, Colton L, Douglas F. Intonation and gender perception: applications for transgender speakers. *J Voice*. 2014 Mar;28(2):203-9.
- Both • Van Borsel J, Cayzeele M, Heirman E, T'sjoen G. Conversational topics in transsexual persons. *Clin Linguist Phon*. 2014 Jun;28(6):428-36.
- FMT • Cosyns M, Van Borsel J, Wierckx K, Dedecker D, Van de Peer F, Daelman T, Laenen S, T'Sjoen G. Voice in female-to-male transsexual persons after long-term androgen therapy. *Laryngoscope*. 2014 Jun;124(6):1409-14.
- FMT • Nygren U, Nordenskjöld A, Arver S, Södersten M. Effects on voice fundamental frequency in trans men during testosterone treatment – a longitudinal study. Manuscript



Voice and communication therapy in MFT

- Early guidelines: Focus on elevating speaking fundamental frequency from male range (near 100 Hz) toward female range (near 200 Hz) or at least gender-neutral range (155 – 165 Hz)
- Changing pitch alone is not always sufficient



Differences between men's and women's speech

- Females:
 - Speak with a higher average pitch
 - Speak with more and different patterns of pitch variation
 - Produce higher formant frequencies
 - Speak on average 3-5 dB less loud
 - Speak with a more “breathy” voice
- + Differences in articulation, speech rate, language, and non-verbal communication



Intonation and gender perception

Hancock et al., 2014

- Speakers (n = 44):
 - 12 males, 12 females, 14 MFT, and 6 FMT
 - Picture description task → acoustic analysis of intonation
- Listeners (n = 14):
 - 6 males and 8 females
 - Femininity score using a rating scale (0-1000)

Masculine Male	Fem. Male/ Masc. Female	Feminine Female
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Intonation and gender perception

Hancock et al., 2014

- Analysis:
 - Comparison between gender groups
 - Comparison between perceived gender groups
 - Comparison based on 'passability' (MFT only)
 - Correlation between intonation measures and femininity scores



Intonation and gender perception

Hancock et al., 2014

- No significant differences between gender groups
 - Trend: Females have the most ↑ and the least ↓ intonations
- Speakers with more ↑ intonation and larger range are perceived as female
- No significant differences between MFT groups
 - Trend: MFT who do not pass use less ↑ and more ↓ intonations
- No significant correlations between intonation measures and femininity scores



Intonation and gender perception

Hancock et al., 2014

- Intonation can influence gender perception to some degree
- Treatment targets:
 - Enlarge range
 - Train the use of more ↑ intonations
- What is the added value?



Conversational topics

Van Borsel et al., 2014

- Participants:
 - 227 cis persons (111 males and 116 females)
 - 46 transgender persons (28 MFT and 18 FMT)
- Data collection and analysis:
 - List with 34 topics
 - How often (never, sometimes, often) they speak about each topic in conversations with males, females and in a gender-mixed group
 - Hierarchies of conversational topics



Conversational topics

Van Borsel et al., 2014

- Cis persons:
 - Males and females talk about different topics especially in same-sex conversations
- Transgender persons:
 - In conversation with someone of the desired gender, they behave like the desired gender
 - In conversation with someone of the natal gender, they behave more in line with their natal gender



Conversational topics

Van Borsel et al., 2014

- Adaptation depending on the gender of the conversational partner
- Not necessary to pay attention to conversational topics in therapy
- Gender is not as polarized and much more fluid than has traditionally been assumed



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Voice in FMT

- Prevailing opinion: Voice therapy is not necessary
 - Testosterone administration increases vocal fold mass
 - → lowering of voice pitch
 - → increases the likelihood to be perceived as male
- Literature is scarce



Voice in FMT after long-term androgen therapy

Cosyns et al., 2014

- Acoustically, the voice of the FMT was not significantly different from the voice of the controls
- Pitch lowering difficulties were found in 10%
 - Diminished androgen sensitivity



Effects of testosterone treatment on f_0

Nygren et al., unpublished

- After 12 months, f_0 values were congruent with normative data from vocally healthy males
- 24% needed voice and communication therapy
 - Vocal fatigue
 - Vocal instability
 - Hyperfunction
 - Insufficient lowering
 - ...



Take home messages

- MFT
 - Only train those aspects that make a difference for listeners
- FMT
 - It is recommended to consult a speech-language therapist before and at least once during testosterone treatment