The year in review:
Voice and communication

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Pubmed search

<table>
<thead>
<tr>
<th>Inclusion criteria:</th>
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<tr>
<td>- &quot;voice&quot; / &quot;communication&quot; AND &quot;transgender&quot; / &quot;transsexual&quot;</td>
</tr>
<tr>
<td>- publication year 2014</td>
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<td>- abstract available</td>
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27 different publications

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<th>Exclusion criteria:</th>
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<tr>
<td>- reviews</td>
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<td>- Use of &quot;voice&quot; / &quot;communication&quot; in the metaphorical sense</td>
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4 publications

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<th>Sole focus on MFT (1)</th>
<th>Focus on MFT &amp; FMT (2)</th>
<th>Sole focus on FMT (1)</th>
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+ Manuscript from doctoral thesis on FMT

The year in review – Dr. Marjan Cosyns – 14/03/2015, 1st EPATH conference

Department of Speech, Language, and Hearing Sciences
5 Publications

- **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)
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

• 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

Van Borsel et al., 2014

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Conversational topics

• 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

Van Borsel et al., 2014
Conversational topics

- 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

Van Borsel et al., 2014
5 Publications


**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 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