Similar production, different perception

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Similar production, different perception: Social meaning in cross-linguistic speech perception

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Sociophonetics, Gender, & Sexual Orientation

• Phonetic variation can serve as a robust cue to both speaker gender identity and sexual orientation.
  - These social meanings are indexed regardless of the speaker’s actual identity (some straight men ‘sound gay’, etc.)
• Interestingly, some of these cues appear to be cross-linguistic.
  - e.g., sibilants, especially /s/

/s/ Variation and Gayness

• /s/ US & UK Englishes
  Campbell-Kibler 2011; Grist 1997; Levon 2007, 2014; Munson 2007; Munson et al. 2006; Podesva & Hofwegan 2016; Zimman 2017
• /s/ Other Languages
• Compared to straight men, gay men’s /s/
  – Higher Centre of Gravity (CoG) (Niebuhr et al. 2011: 10)
  – Negative Skewness
  (c.f. Munson et al. 2006; Munson 2007; Zimman 2013)

Today’s Talk

• /s/ Variation and Gayness
• Sociophonetics, Gender, & Sexual Orientation
• /s/ Variation and Gayness
• Today’s Talk
Today’s Talk

1. Few studies have looked at this variation in French or German, and,
2. Few studies have considered bilingual or cross-linguistic recognition of indexical cues (but see Vaughn 2014; Szakay et al. 2016).

3. TODAY:
   - F & G speakers: /s/ indexicality in production?
   - F & G listeners: /s/ indexicality in perception?
     • Both in native language and cross-linguistically (i.e. non-native G/F, English, & Estonian)

French and German Production – Boyd 2017

• Results:
  – Both French and German speakers vary /s/ according to sexual orientation.
  – Higher /s/ CoG (and more negative skew) appears to be an indexical marker of gay identity (at least in production)
French and German Production – Boyd 2017

Q: “Can you tell if someone is gay by how they speak?”

<table>
<thead>
<tr>
<th>“Something in Speech”</th>
<th>Prosody</th>
<th>/s/ in English</th>
<th>/s/ in L1</th>
</tr>
</thead>
<tbody>
<tr>
<td>18/19</td>
<td>13/19</td>
<td>1/19</td>
<td>0/19</td>
</tr>
</tbody>
</table>

‘Oh, I’ve heard of [the “gay lisp”] in English, but we definitely don’t have it’ – German Gay
Core Questions

• To what extent might French and German listeners use /s/ variation as a cue to perceiving someone as gay?

• Do these socio-indexical cues extend cross-linguistically to languages the listener is (un)familiar with?

Methods

• Levon (2006, 2007) & Pharao et al. (2014)

• Matched-Guise Test (Lambert et al. 1960)
  – Three [s] guises: [s-], [s], & [s+]
  – Three pitch guises: low-, mid-, & high-
  – One speaker per language stimuli set

• Audio from read speech
  – English (Essex): Snow White
  – French (Lyon): Le Petite Chauperon Rouge
  – German (Düsseldorf): Rotkäppchen
  – Estonian (Püünsi): Venevere Muinasjutt

Stimuli – /s/ guises

<table>
<thead>
<tr>
<th>/s/ Guise</th>
<th>CoG</th>
<th>Skew</th>
</tr>
</thead>
<tbody>
<tr>
<td>[s-]</td>
<td>5208</td>
<td>1.1502</td>
</tr>
<tr>
<td>[s]</td>
<td>6436</td>
<td>0.033</td>
</tr>
<tr>
<td>[s+]</td>
<td>7988</td>
<td>-1.0795</td>
</tr>
</tbody>
</table>

- 4+ instances of /s/ per segment
- Not controlled for medial/onset/coda
- Matched for intensity & duration of original speech

Stimuli – Pitch Guises

• Comparison Variable

• Segments containing no sibilants (/s/, /z/, /ʒ/)

• Mid pitch
  – Very minor manipulation which averaged pitch across all speakers

• Low- & high- pitch guises
  – Adjusted mid pitch by ±25Hz
Methods

- Online via Qualtrics
  - 23 German participants
  - 32 French participants
- Guises rated on 6 semantic differentials:
  - Educated/Uneducated
  - Straight/Gay
  - Lazy/Handworking
  - Friendly/Unfriendly
  - Masculine/Effeminate
    (German: Masculin/Feminin*)
  - Natural/Synthetic

Analysis

- Estimated pseudomedians and confidence intervals via Hodges-Lehman estimator
  - Linguistic feature (/s/ or pitch)
  - Stimulus language
  - Rating scale
- P-values: one-sample Mann-Whitney U tests
  - Adjusted for multiple comparisons using the Holm-Bonferroni method

French Results

Null result for /s/ manipulation.

French listener’s rating differences (hi-mid)
German Results

Null result for /s/ manipulation.

Sanity Check: English

Results seen for both pitch and /s/ manipulation.
All together now

Graph of All three languages together on /s/ stimuli

Summary

• /s/ results:
  – French and German listeners do not hear [s+] as “gay” or “effeminate”
  – Contrast to English listeners who hear it as “gay sounding” in native lang. stimuli as well as other languages (i.e. indexical transfer from English to other languages)

• No effects seen for listeners’:
  – Sexual orientation or gender
  – English (or other) language ability

Discussion

• The results show a mismatch between production and perception of /s/ indexicality for both French & German gay/straight identity.
  – This was for own-language, but also other-languages, regardless of proficiency (cf. English listeners).

• Hence, “Gay and Straight French and German Men Use Different /s/-es but Don’t Perceive Them Differently”
Discussion

- Our evidence supports the observation that indexicality in production precedes indexicality in perception:
  - Indexical orders rely on “recognition” (Agha 2003) of signs as being signs, i.e., as marking stylistic distinctiveness (Irvine 2001).
  - French/German [s+] currently has “meaning potential” (Eckert 2016), waiting for its “baptismal moment” (Silverstein 2003) to be taken up as an index of gay identity.

Thank You!

- Thanks for your attention!
- Special thanks to our translators
  - Mirjam Eiswirth (German); University of Edinburgh
  - Michaël Gauthier (French); University of Lyon 2
- Additional thanks to:
  - Our pilot participants for their invaluable feedback
  - Members of the Language Variation and Change Research Group at the University of Edinburgh

References Available upon request
Testing (e.g. German)

Experimental Phase
- German: Randomised /s/ & Pitch
- French: Randomised /s/ & Pitch
- English: Randomised /s/ & Pitch
- Estonian: Randomised /s/ & Pitch

Listener Variability

French listeners’ “Gay” rating differences: [s]

Respondents

<table>
<thead>
<tr>
<th>Survey Language</th>
<th>Total</th>
<th>Native Language ≠ Survey Language</th>
<th>Remaining participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>German</td>
<td>27</td>
<td>4</td>
<td>23</td>
</tr>
<tr>
<td>French</td>
<td>44</td>
<td>12</td>
<td>32</td>
</tr>
</tbody>
</table>

German Listeners’ Birthplace:
- Austria (N=13); Germany (N=11); Italy (N=1); Switzerland (N=1); unknown (N=1)

French Listeners’ Birthplace:
- Belgium (N=1); Canada (N=4); France (N=26); Switzerland (N=1)
Methods

• Four stimuli languages
  – one speaker per language

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Straight/Gay</th>
<th>Masc./Effem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (Essex)</td>
<td>1.733</td>
<td>2</td>
</tr>
<tr>
<td>French (Lyon)</td>
<td>2.866</td>
<td>2.333</td>
</tr>
<tr>
<td>German (Düsseldorf)</td>
<td>2.333</td>
<td>1.866</td>
</tr>
<tr>
<td>Estonian (Püünsi)</td>
<td>2.333</td>
<td>2</td>
</tr>
</tbody>
</table>

Pretest Ratings (7pt Likert Scale)

Discussion

• However, the speakers who produced the distinction were not the same people who responded to the perception survey.
  – Future: Production/Perception within the same participant group.
• This matters for understanding the mechanism behind production/perception mismatches:
  – e.g., in phonetics/phonology (e.g., near-mergers)
  • Note: near-merger is within the same speaker-listener

Other Future Directions

• Listeners were very diverse with respect to regional dialect/accent background.
  • English listeners were raised in Australia (N=1), New Zealand (N=1), the UK (N=9), and the US (N=16).
  • French listeners were from Belgium (N=1), Canada (N=4), France (N=26), and Switzerland (N=1).
  • German listeners were from Austria (N=13), Germany (N=11), Italy (N=1), Switzerland (N=1), or unknown (N=1).
  – Future: Control for region (especially given known differences in English; Stuart-Smith 2017).

Stimuli – Pitch Guises

• “Filler Stimuli”
• Segments containing no sibilants (/s/, /z/, /ʃ/)
• Mid pitch
  – Manipulated within ±5Hz across all speakers
• Low- & high- pitch guises
  – Adjusted mid pitch by ±25Hz
• Estonian pitch

  Estii low
  Estii mid
  Estii high