Similar production, different perception

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

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The University of Edinburgh
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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 & Hofvegan 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
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 Petit Chaperon 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/, /ʃ/)

• 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/Hardworking
  – Friendly/Unfriendly
  – Masculine/Effeminate
    (German: Maskulin/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

French listener’s rating differences (hi-mid)

Null result for /s/ manipulation.
German Results

Null result for /s/ manipulation.

Sanity Check: English

Results seen for both pitch and /s/ manipulation.

Sanity Check: English

Positive effect for the same stimuli for English listeners.
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”
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
  - Michael 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

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Extra Slides

Testing (e.g. German)

Listener Variability

Respondents

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

<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=20); Switzerland (N=1)
Methods

• Four stimuli languages
  – one speaker per language

Pretest Ratings

<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>

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).

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

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