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Evaluating foreign-accented speech

The role of listener's background in recognising foreign-accented Estonian speech

23. rakenduslingvistika konverents

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INTRODUCTION

Research Topic

The role of listener's background in recognising foreign accented (FA) Estonian speech

Importance

First study focusing on accent recognition in Estonian language context*

Objective

Examining the correlation between an individual's background and their ability to accurately guess a speaker's first language (L1)

*As per our knowledge

Everyone has an accent

ACCENT

Way of pronouncing a language distinctive to

LX (acquired a language as second or foreign language)

L1 (acquired a language as mother tongue)*

Standard / Non-Standard

Synthetic speech (Artifical voice) AI

all varieties of language are equal and serve a function

ACCENT

However, in real life the way we speak have consequences (good or bad)

Linguist's perspective

Social Categorisation

Stereotyping

Soceity

L1 - positive, ingroups , non-stigmatized

L2/LX - negative, outgroups , stigmatized

LANGUAGE ATTITUDES

- **Attitude** – represents our thoughts and feelings towards a particular object

- **Language attitudes** – evaluations of speakers in based on different language varieties of any given language (mostly focused towards spoken languages) (Ryan, 1983; Dragojević et al., 2017; Dragojević & Goatley-Soan, 2020)

LANGUAGE ATTITUDES IN ESTONIA

Native speakers' attitudes towards FA Estonian (Sharma 2024)

- Attitudes exists however, overall positive in relation to FA Estonian
- Different conclusion than Dragojević & Giles (2016), Dragojević & Goatley-Soan (2020) and Lindemann (2003) with similar ratings on status and solidarity traits
- L1 listener's ability to differentiate between accents does seem depend on their exposure to and familiarity with different languages (same as in Cristià et al. 2012, Dewaele & McCloskey 2014)

JUSTIFICATION

If a listener's background information plays a role in formation of their attitudes towards FA speech, then we hypothesise that their background can also play a role in their ability to correctly recognise FA speech

ACTION

Examining the role of listener background in recognising the L1 of FA Estonian speakers.

QUESTIONNAIRE

Material 01

- Modified Verbal Guise Technique
- Audio samples (guises/stimuli) from Estonian Foreign Accent Corpus (Meister & Meister, 2012)
- Varied short texts instead of the same text were used
- 10 male, 10 female speakers with proficiency levels between Elementary to Proficient
- 2 Close-ended Pilots with limited participants
- Final Open-ended Online Questionnaire via UT LimeSurvey
- **Voluntary challenge to guess the native tongue of each stimulus**

Material 02

PARTICIPANTS

54 participants

- L1 Estionian speakers

- Bacground information on age, sex, education, profession, languages known & spoken daily, monolingual/bilingual status, total time spent abroad
- 1080 observations on accent identification (guessing the accent)

Method 01

CORRELATION TEST

RStudio (R Core Team 2018)

Accent Recognition Accuracy Score **x** **Participants' Background**

1- correct
0.5 - correct language family
0 - incorrect

Age
Sex
Education
Profession
Languages Known
Languages Used Daily
Mono-/Bilingual Status
Total time Spent Abroad

- **Kendall's Tau correlation coefficient for ordinal data**
- **Mann-Whitney U test and Kruskal-Wallis test to find differences between the groups within an independent variable (e.g., sex: male/female/non-binary)**

Results
01

CORRELATION TEST

- Dataset too small to establish overall statistical relevance
- Only Education as a variable drew near significance (p = 0.08)

Method 02

MULTILEVEL LOGISTIC REGRESSION MODEL

RStudio (R Core Team 2018)

Accent Identification Success

1 - correct
0 - incorrect

+

Listener Variables

Age
Sex
Has University Degree
Employee Status
Bilingual
Living Abroad

+

Speaker Variables

Gender
L1
- neighbouring L1
- distant L1

Results
02

MULTILEVEL LOGISTIC REGRESSION MODEL

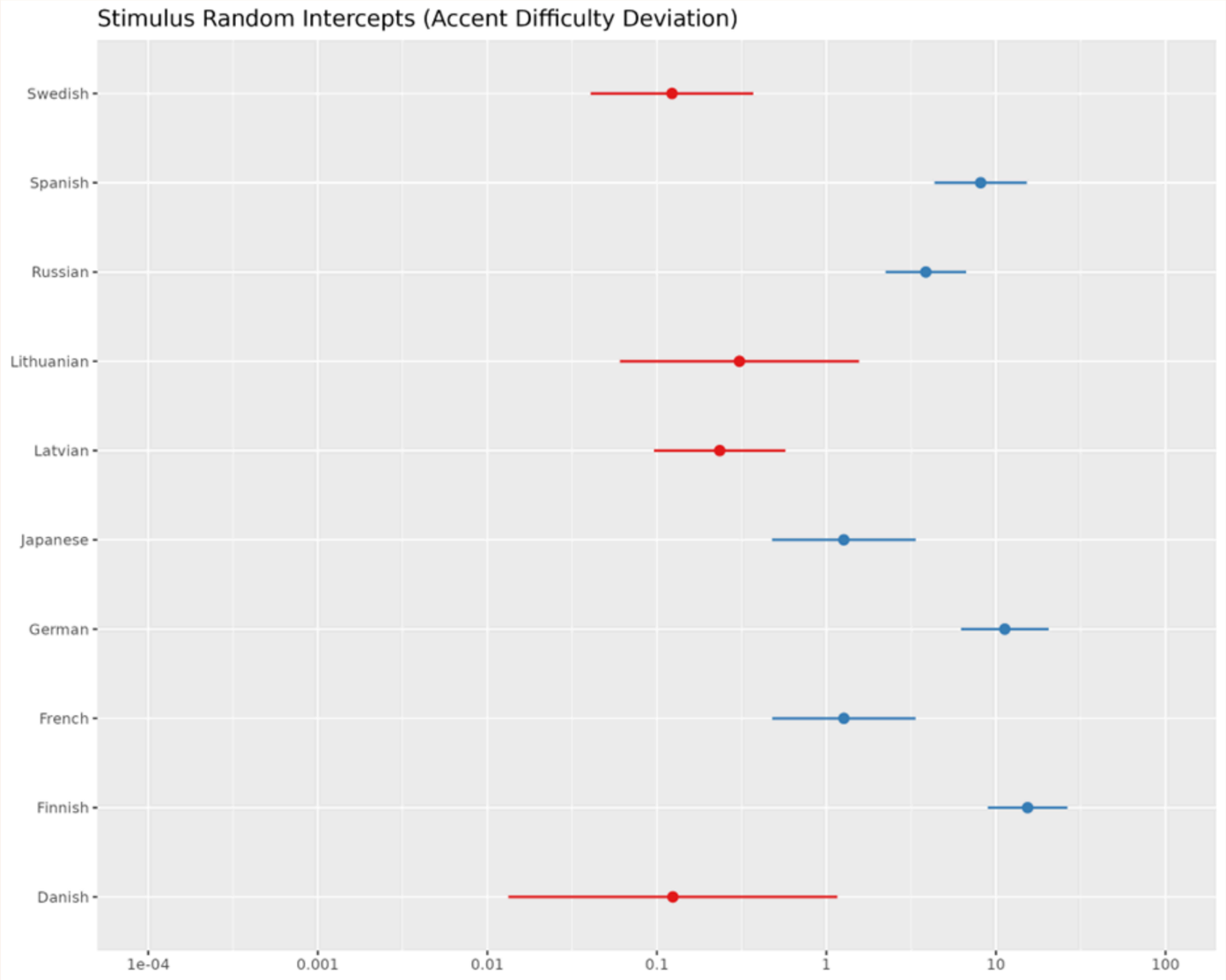
The odds of correct accent identification were **significantly higher** for participants

- in age group 45-54 (Odd Ratio = 5.43; p = 0.049)
- who were students (Odd Ratio = 5.36; p = 0.027)

Random Effects showed that stimulus is greater source of variability

- it was harder to correctly identify L1 of some stimuli than others

L1 IDENTIFICATION DEPENDED ON STIMULUS



DISCUSSION

- **University** is the place where students get exposed to people from all across the world. Hence, wider exposure to different language varieities
- However, to make a general assumption we still need a **larger dataset**
- It is an arduous or near impossible task to map out a listener's overall exposure and familiarity to variety of languages
- It is evident that in the age of social media, a listener can be exposed to vast amount of information in multiple formats and languages
- **Future research** focuses on language attitudes in Estonia on a broader scale

"What if I tried again with an English accent?"

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Aitäh

Thank you