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Linguistics
GRADUATE SCHOOL

Affix rivalry in French demononyms: An experimental approach

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Introduction

Demonyms

Demonyms are the nouns denoting inhabitants of a given place

Berlin → *Berliner*

Paris → *Parisian*

Rome → *Roman*

Tokyo → *Tokyoite*

Introduction

Affix rivalry

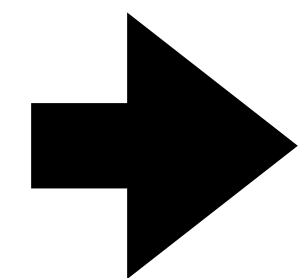
- Multiple forms  Same meaning & function

- -ien

- -éen

- -ais

- -ois



French demonym formation

Nancy
Nancéien
Nancéen
Nançais
Nançois
?

What are the underlying reasons for this phenomenon?

Introduction

Background

Massive research and progress in descriptive and theoretical morphology

- Lexical databases (e.g. Plag 1999, Lindsay & Aronoff 2013)
- Statistical modeling (e.g. Baayen et al. 2013, Varvara 2017)
- Computational simulations (e.g. Arnt-Lappe 2014, Guzmán Naranjo & Bonami 2023)

When we think about the limitations = heterogeneity

A way of alleviating this issue: conducting behavioral experiments

Introduction

Motivation for an experimental study

- Scarcity of experiments on the demononyms formation
- Deeper exploration of the phenomenon by isolating variables and factors
 - > better understanding
- Possible manipulation of non-real words without inherent lexical correlations
 - > complementary to studies on attested data

Introduction

Experimental work



Ridvan Kayirici



Olivier Bonami



Barbara Hemforth

- Two acceptability experiments on demonym formation in French

In which ways does the toponym phonology impact preferential choices of demonyms?

To which extent are these tendencies reflected in the attested lexicon?

- Presentation outline :
 - Thuilier et al. (2023) Study on attested data*
 - Experiments*
 - Results*
 - Discussion*

Introduction

Thuilier et al. (2023) Study

- Quantitative and statistical investigation of the rivalry between *-ois*, *-ais*, *-ien* and *-éen*
- 2,218 pairs of toponym-demonym from Prolex Database
- Assessing variables via multifactorial modeling
- Linguistic and non linguistic properties : Geographical, Morphological, **Phonological**
 - **Consonantic last segments** linked to attested suffixal tendencies

Alsace [alzas] → alsacien ; Loches [lɔʃ] → lochois
 - The most impactful: **type of vocalic last segment** (front oral-vowels or vocalic nasals), **vocalic backness** and length

Avignon [aviɲɔ̃] → avignonnais ; Bougival [buʒival] → bougivalais

Experiments

Phonology & selectional constraints

- Phonological properties of the last segment:
 - **Consonant type (plosive, approximant, etc.): EXPERIMENT 1**
 - **Nasality (focus on vowels): EXPERIMENT 2**
- Four most productive suffixes: *-ais*, *-ois*, *-éen* and *-ien* (Eggert, 2002; Plénat, 2008)
- Most attested toponym base length: Dissyllabic (Thuilier et al., 2023) *e.g. Nancy, Berlin*
 - > nonce toponyms : *Bilèpe, Sabon...*

Experiments

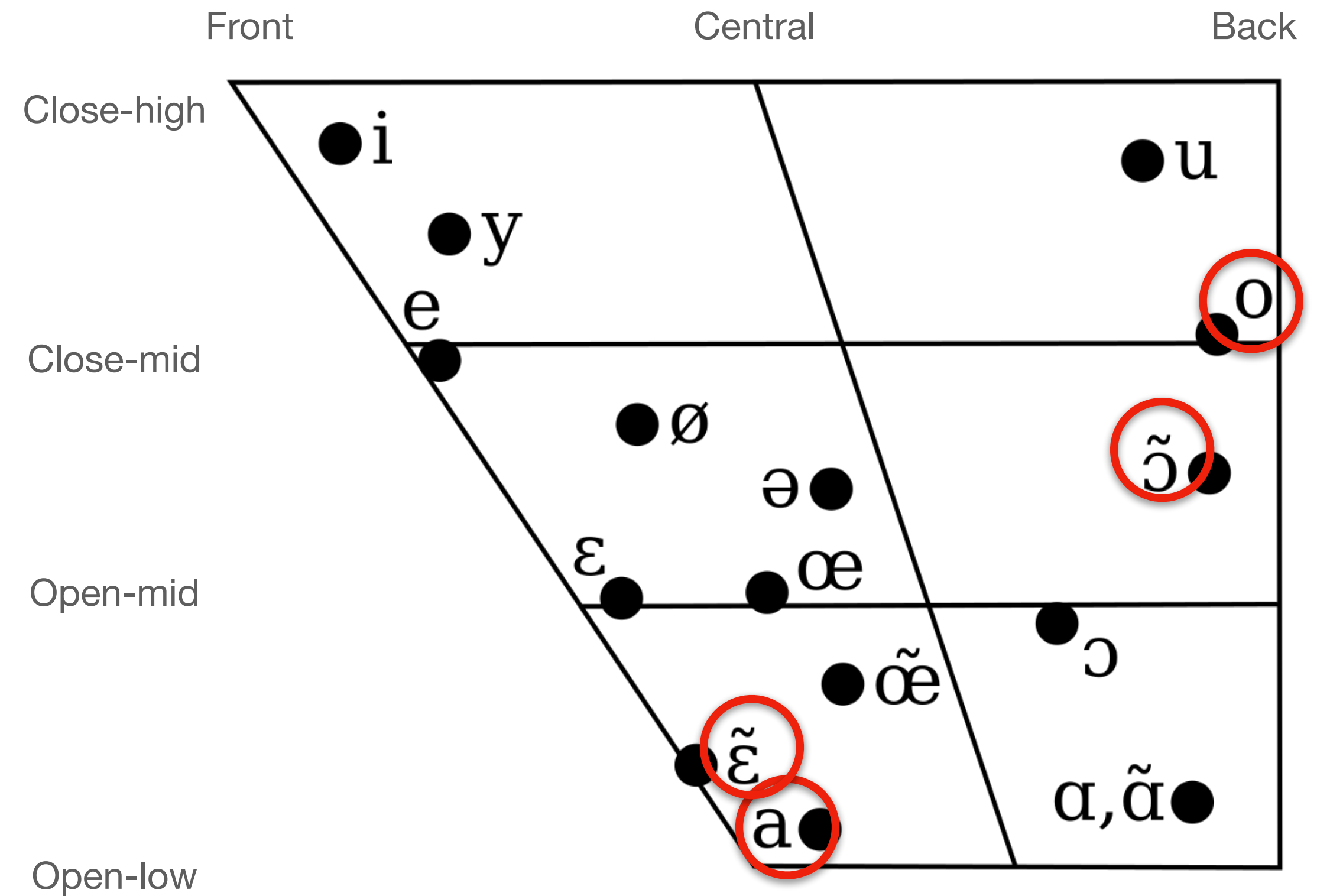
Design Experiment 1 - Consonantic final segments

Phonetic categories	Experimental conditions		Examples
Plosive	Bilabial plosive	/p/ -pe	<i>Nabope</i>
Approximant	Palatal approximant	/j/ -ye or -ï	<i>Naboï</i>
Alveolar fricative	Alveolar fricative	/s/ -sse	<i>Nabosse</i>
Other fricative	Post-alveolar fricative	/ʃ/ -che	<i>Naboche</i>
<i>Other segment</i>	Bilabial Nasal	/m/ -me	<i>Nabome</i>

Experiments

Design Experiment 2 - Vocalic nasal final segments

First syllable		Second syllable		Examples
Front	/a/	Front	/ɛ̃/	<i>Fapin</i>
Front	/a/	Back	/ɔ̃/	<i>Fapon</i>
Back	/o/	Front	/ɛ̃/	<i>Fopin</i>
Back	/o/	Back	/ɔ̃/	<i>Fopon</i>



- Backness score (Lohmann, 2017) : pairs FF = Low ; FB / BF = Medium ; BB = High

Experiments

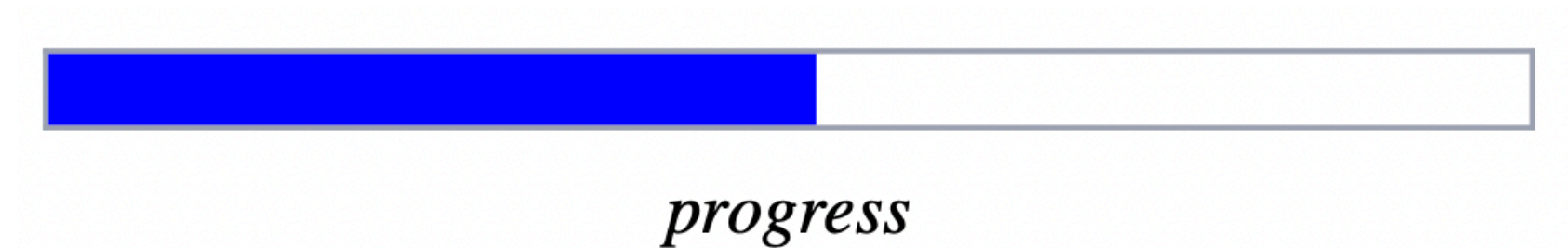
Overall Design

	Exp 1	Exp 2
Independent variables	5 conditions <i>consonantic final segments</i>	2 conditions <i>Front/Back</i> 2 factors <i>First syllable / Second syllable</i>
Dependent variables	4 categorically distributed nominal values <i>-ais, -ois, -éen, -ien</i>	

Experiments

Procedure

- Local installation at LLF on IBEX:
 - 24 Consonantic final segment trials (i.e. **Nabope**)
 - 15 Vocalic nasal final segment trials (i.e. **Joron**)
 - 11 Filler trials based on real-world toponyms (i.e. **Marseille**)
- Randomized conditions per trial



Comment appeler un habitant de Morin ?

1. **Morinois**
2. **Morinais**
3. **Morinien**
4. **Morinéen**

Experiments

Participants

- 71 participants from online academic (RISC CNRS) and social (Twitter) networks
- 2 bilingual/non-L1 French participants excluded
- 69 Participants

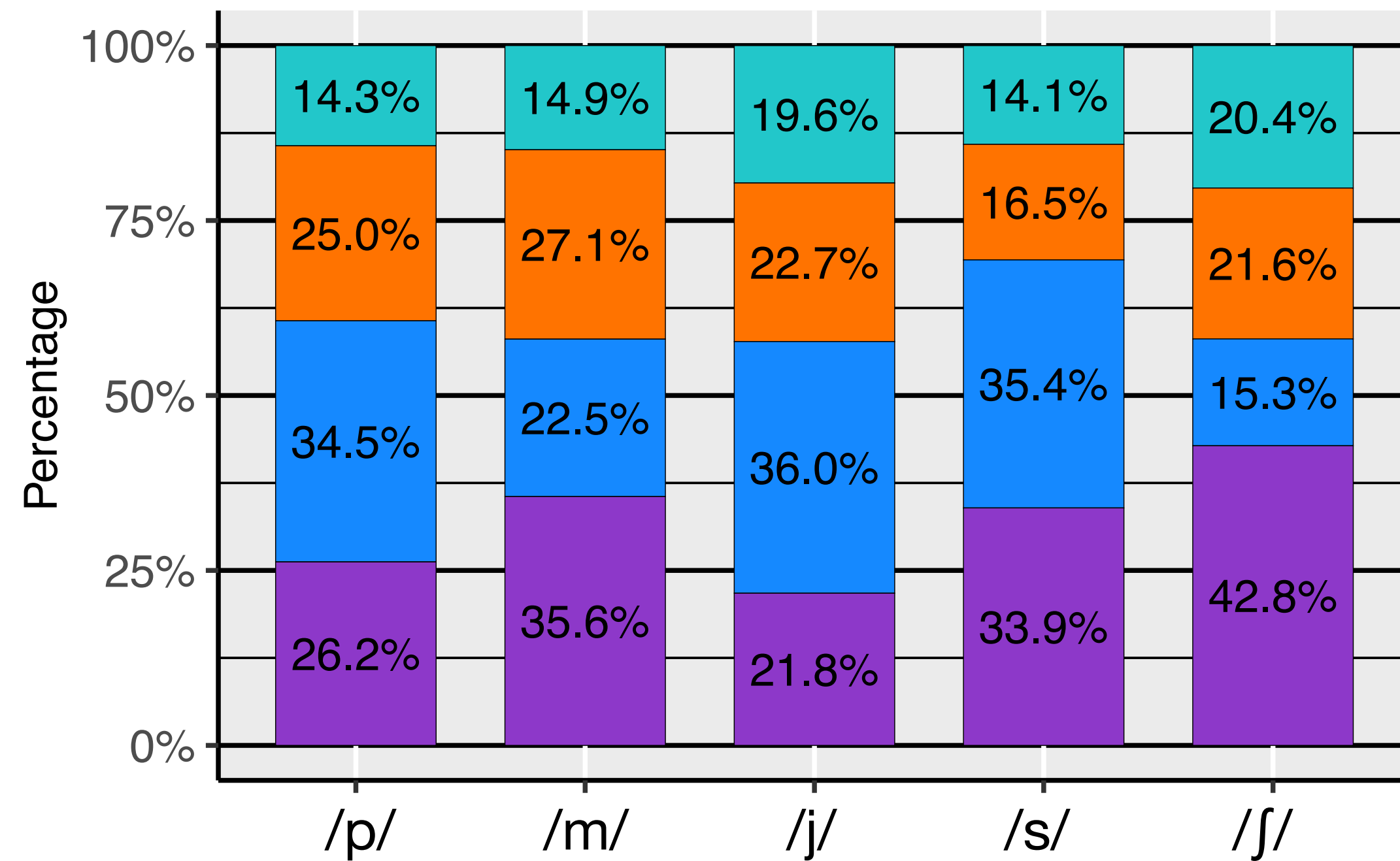
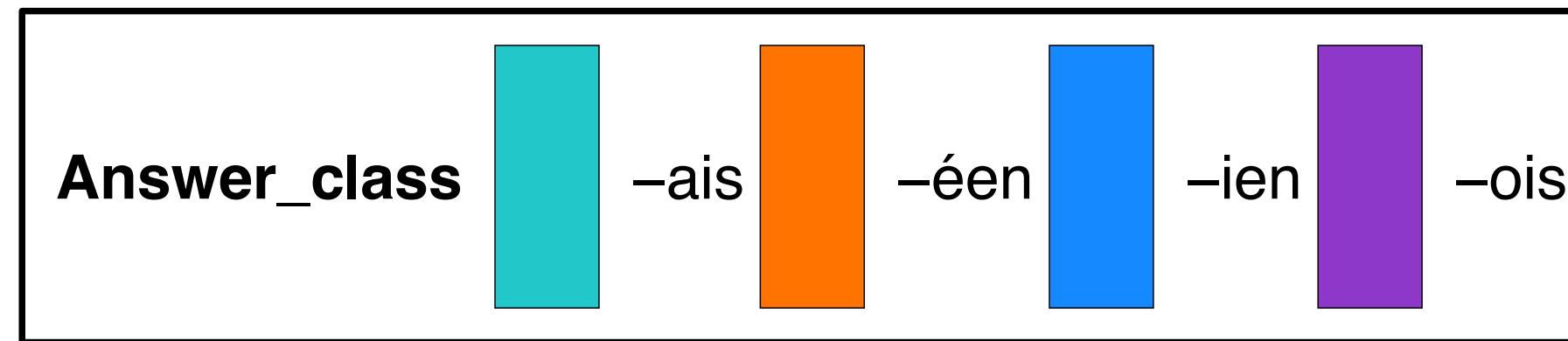
Experiment 1: Consonantics 24 items = 1656 observations

Experiment 2: Vocalic nasals 15 items = 1035 observations

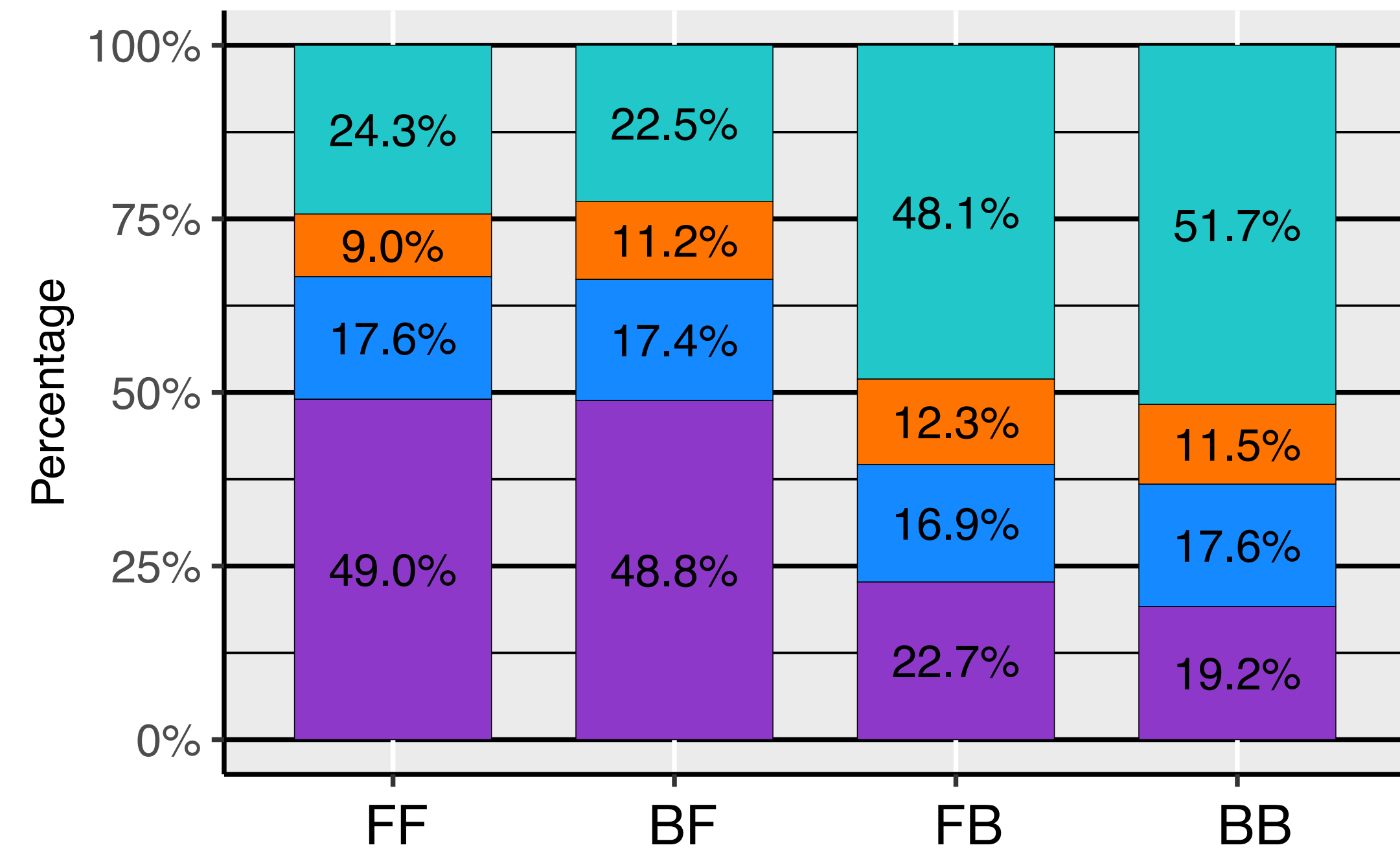
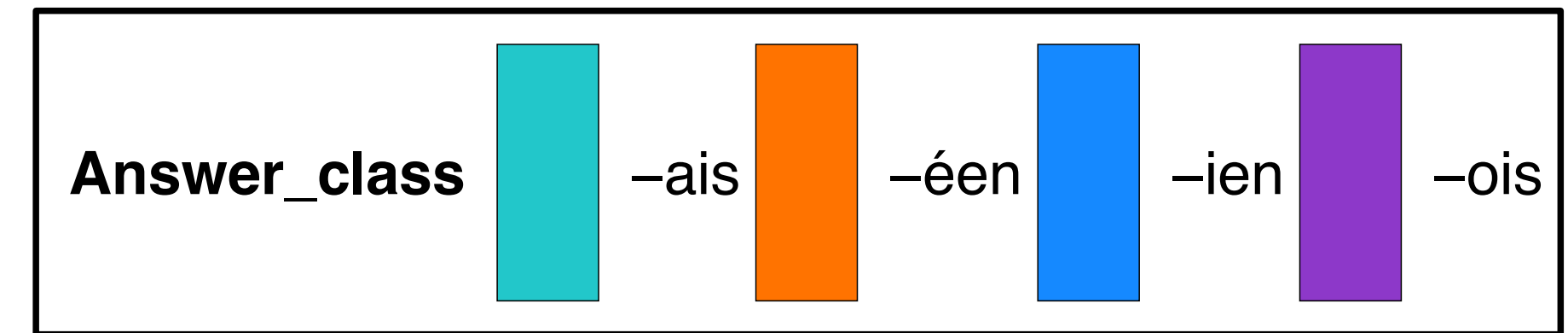
- **Analysis:**
Generalized linear mixed models (binomial family) with random intercepts for participants and item

Results

Descriptive statistics



Experiment 1

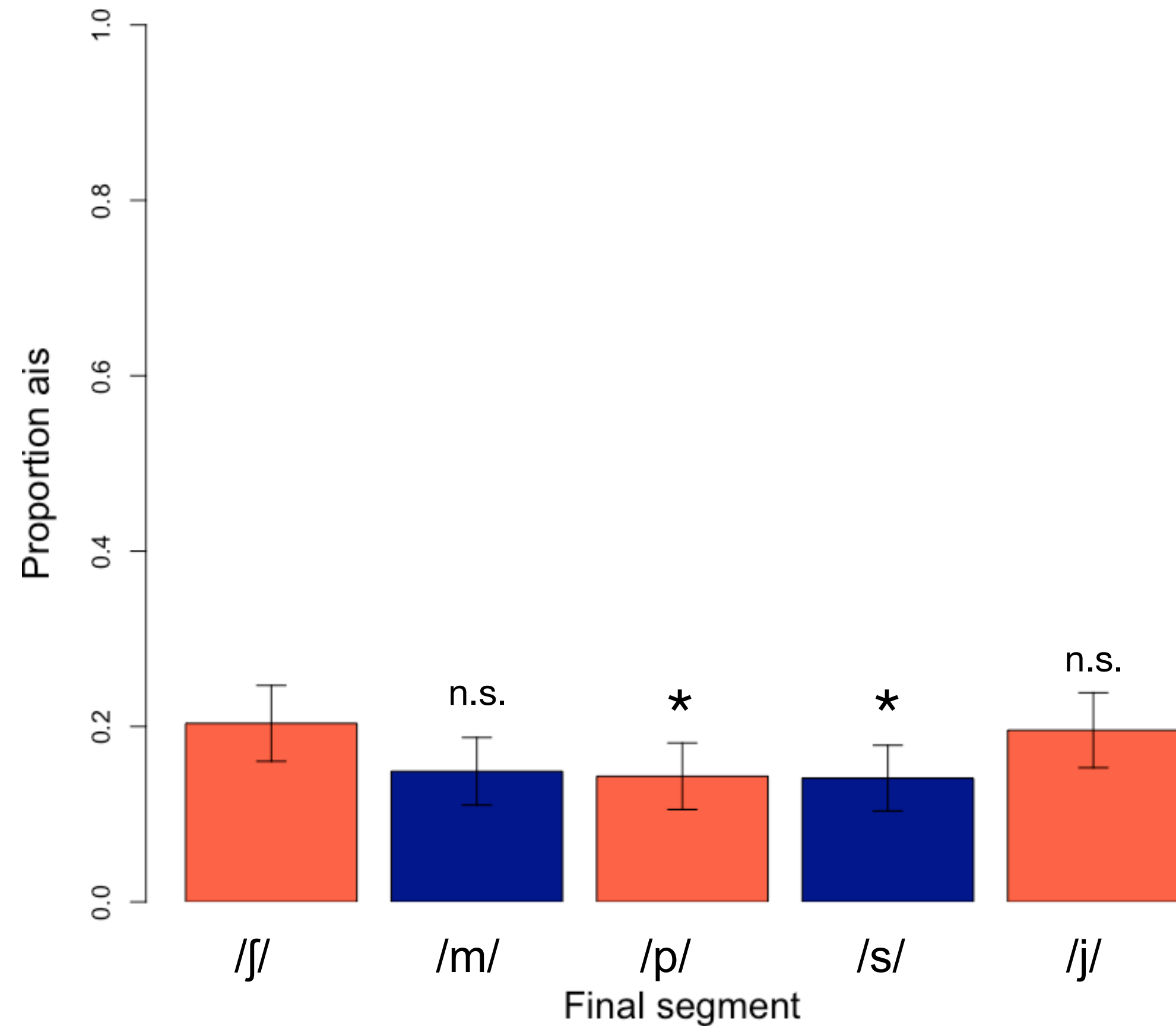


Experiment 2

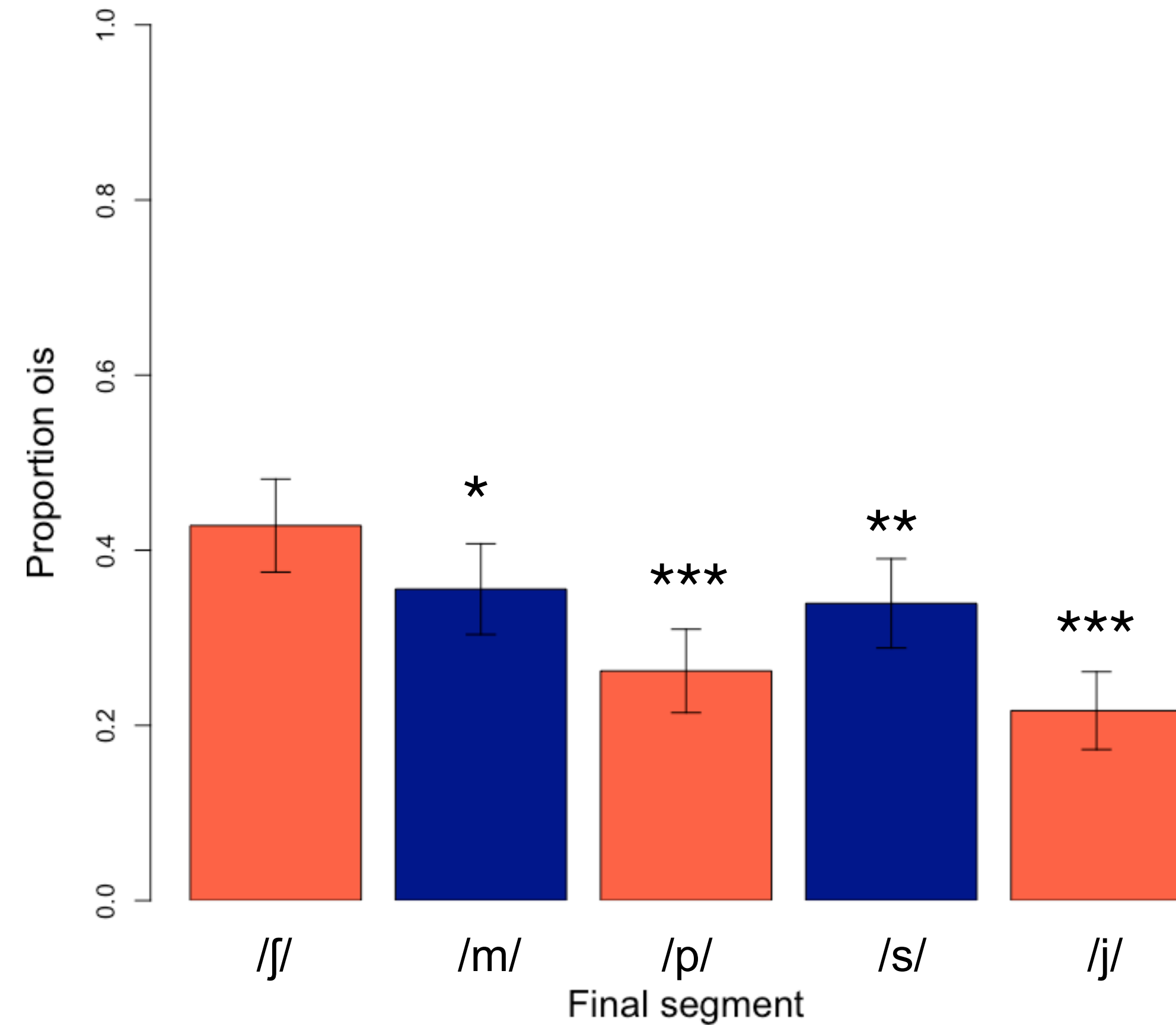
Results

Experiment 1 - Statistical models

Suffix *-ais*



Suffix *-ois*

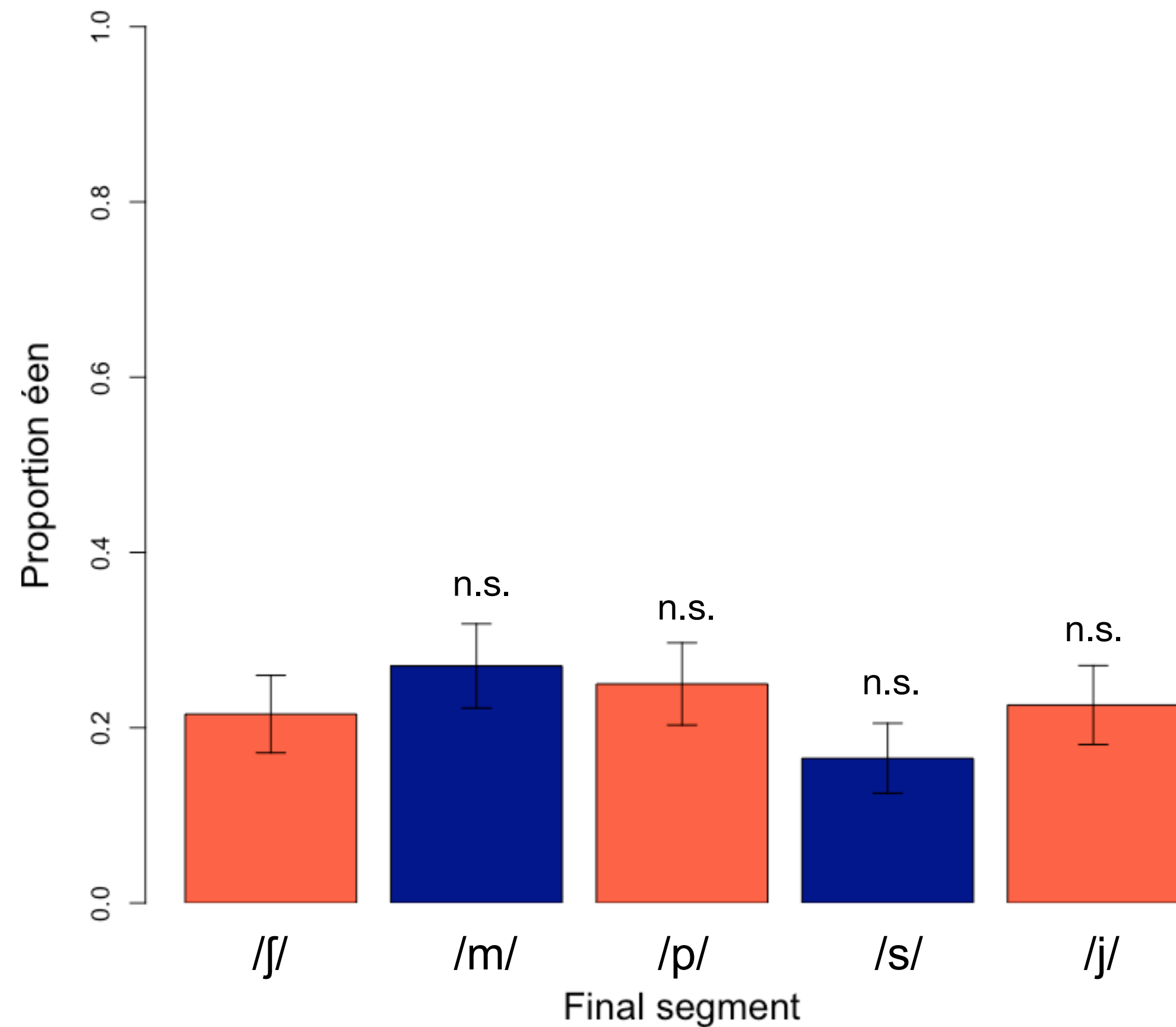


Post-alveolar fricative /f/ taken as reference category

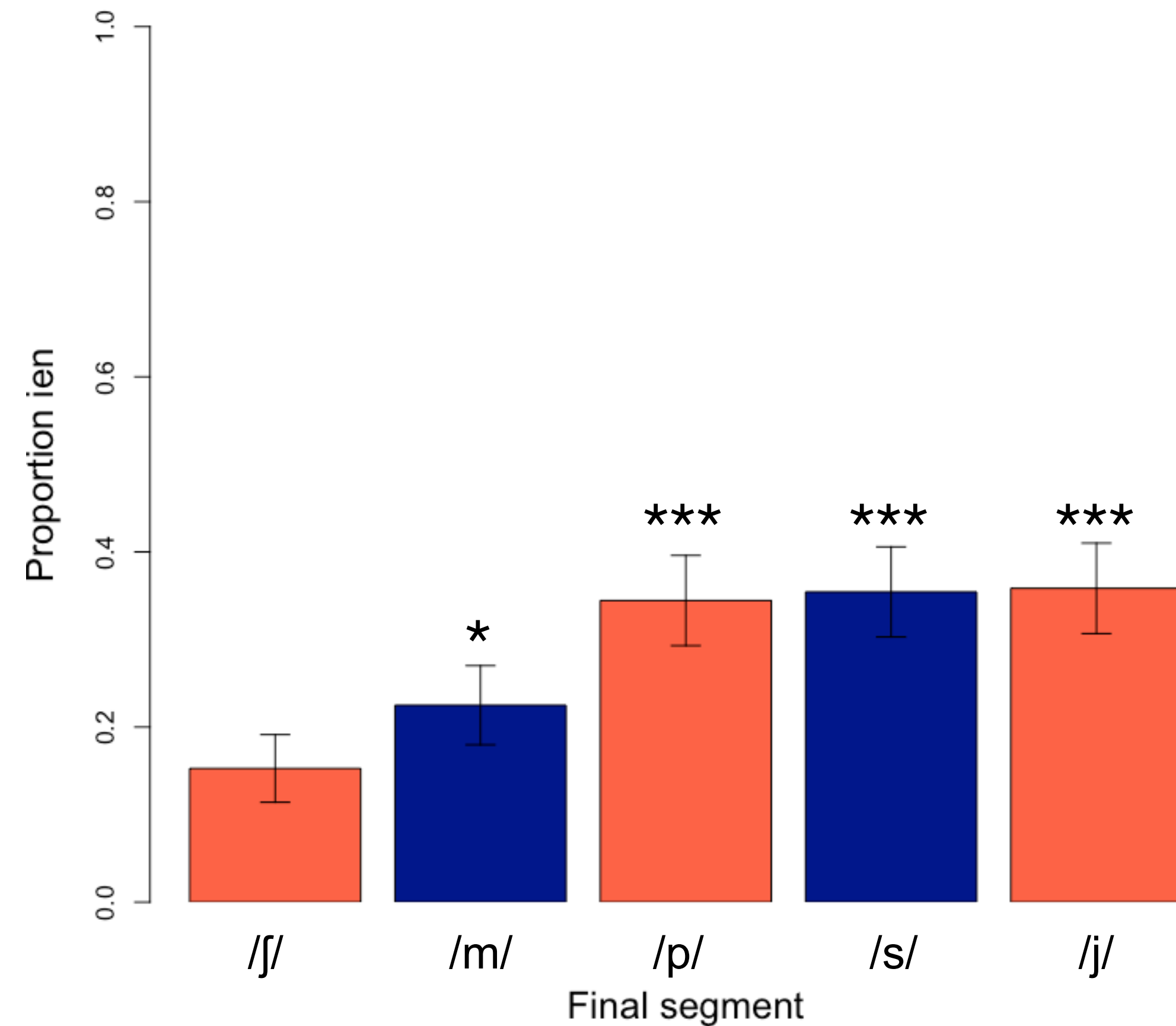
Results

Experiment 1 - Statistical models

Suffix *-éen*



Suffix *-ien*

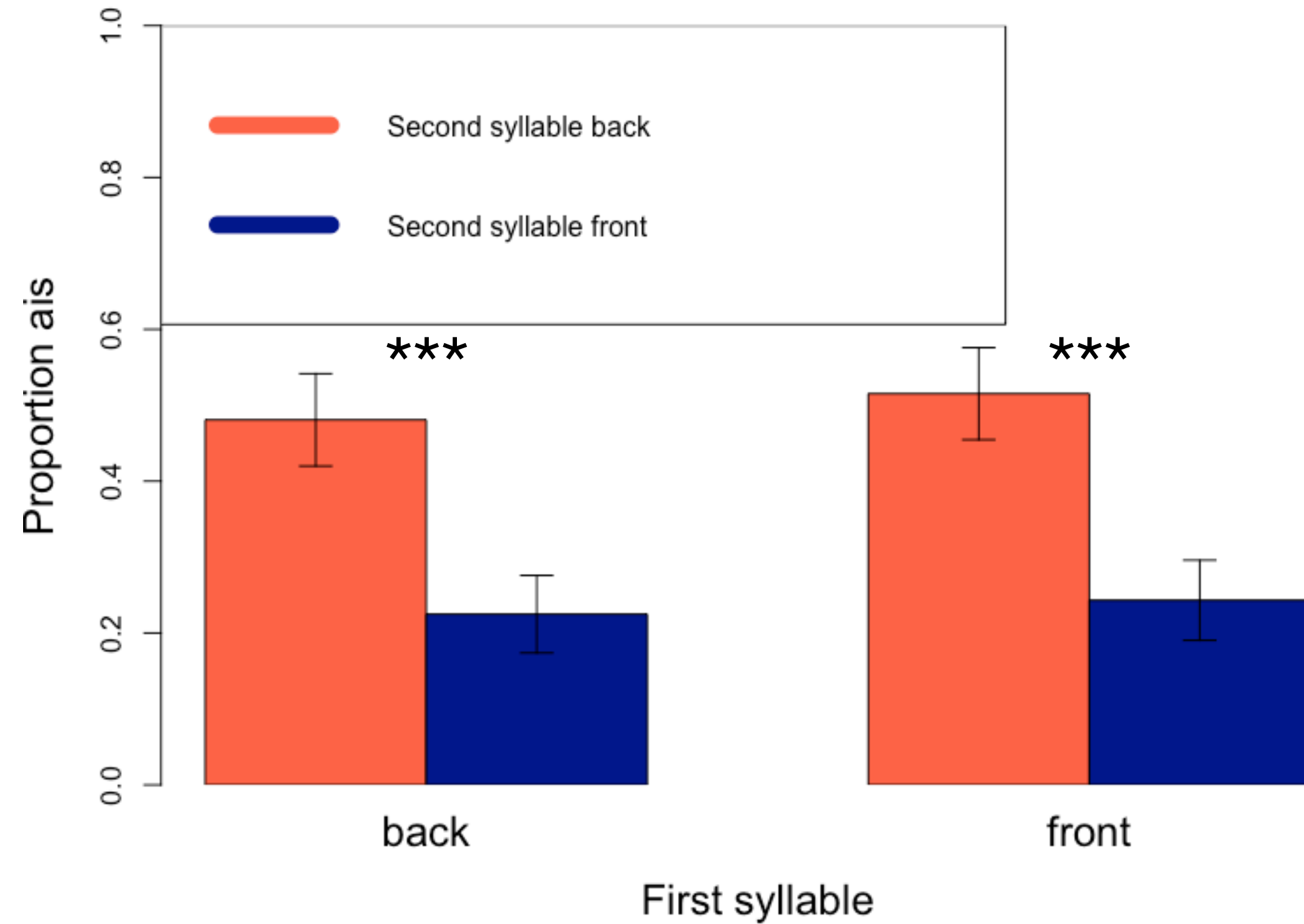


Post-alveolar fricative /f/ taken as reference category

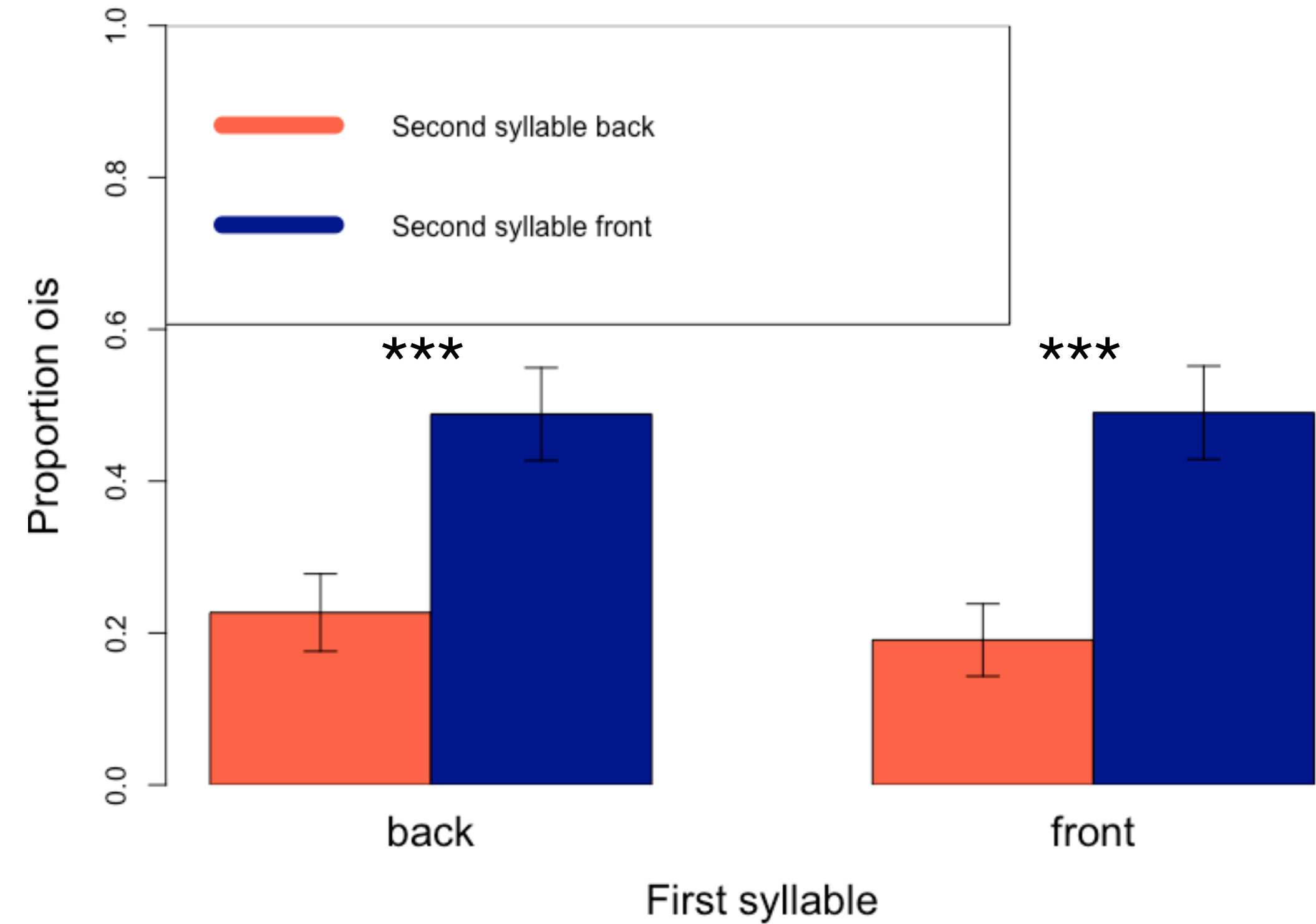
Results

Experiment 2 - Statistical models

Suffix *-ais*



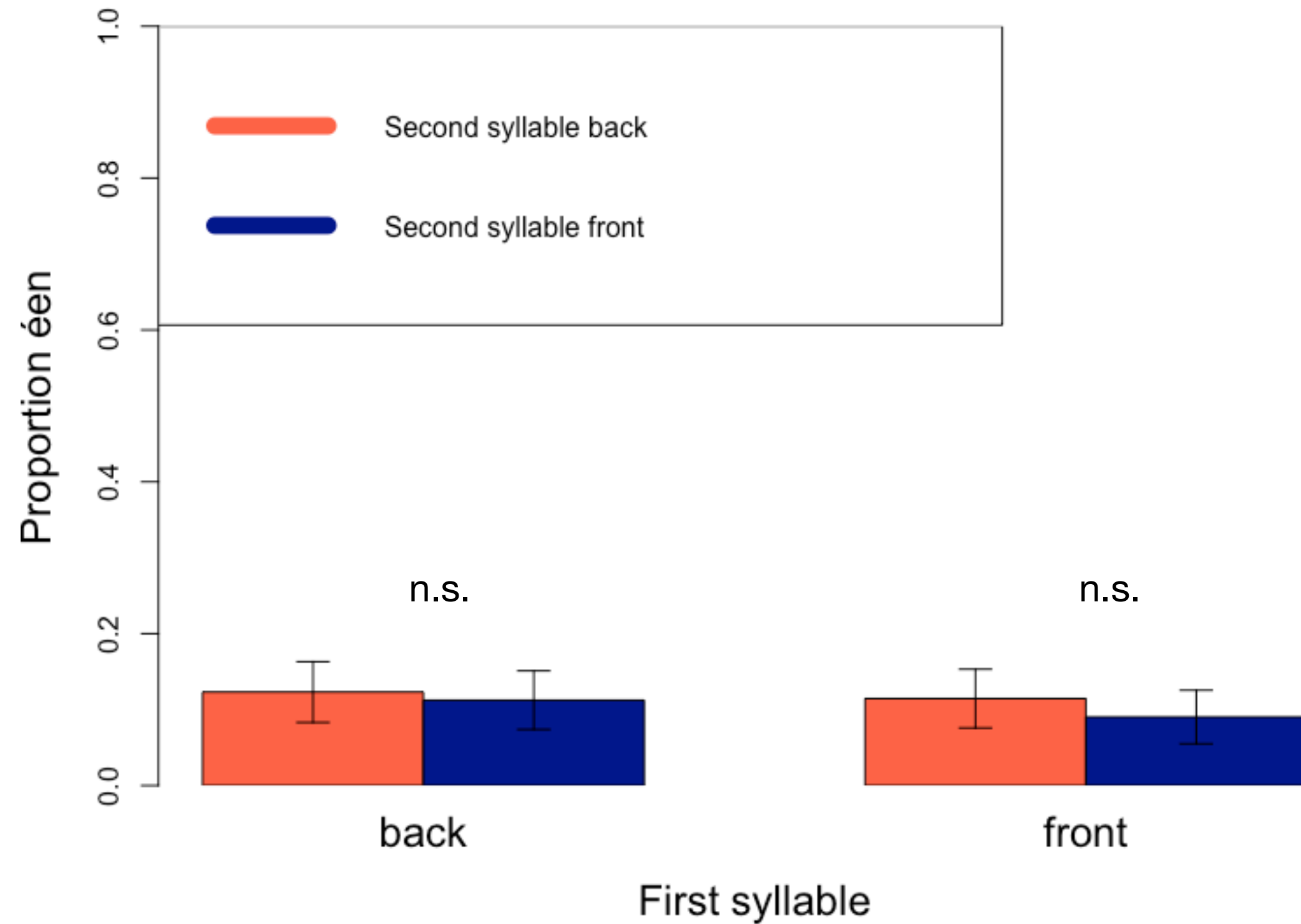
Suffix *-ois*



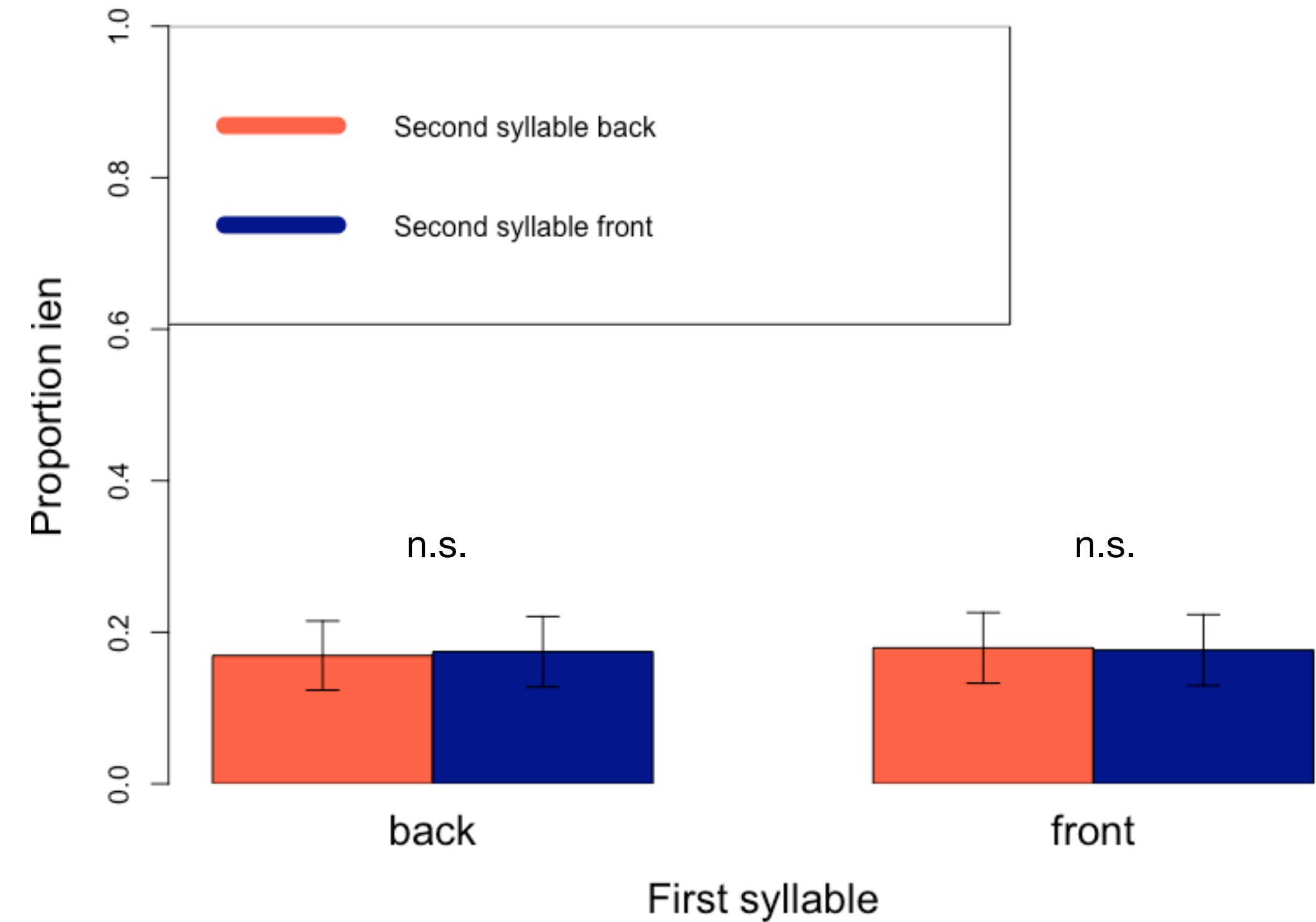
Results

Experiment 2 - Statistical models

Suffix *-éen*

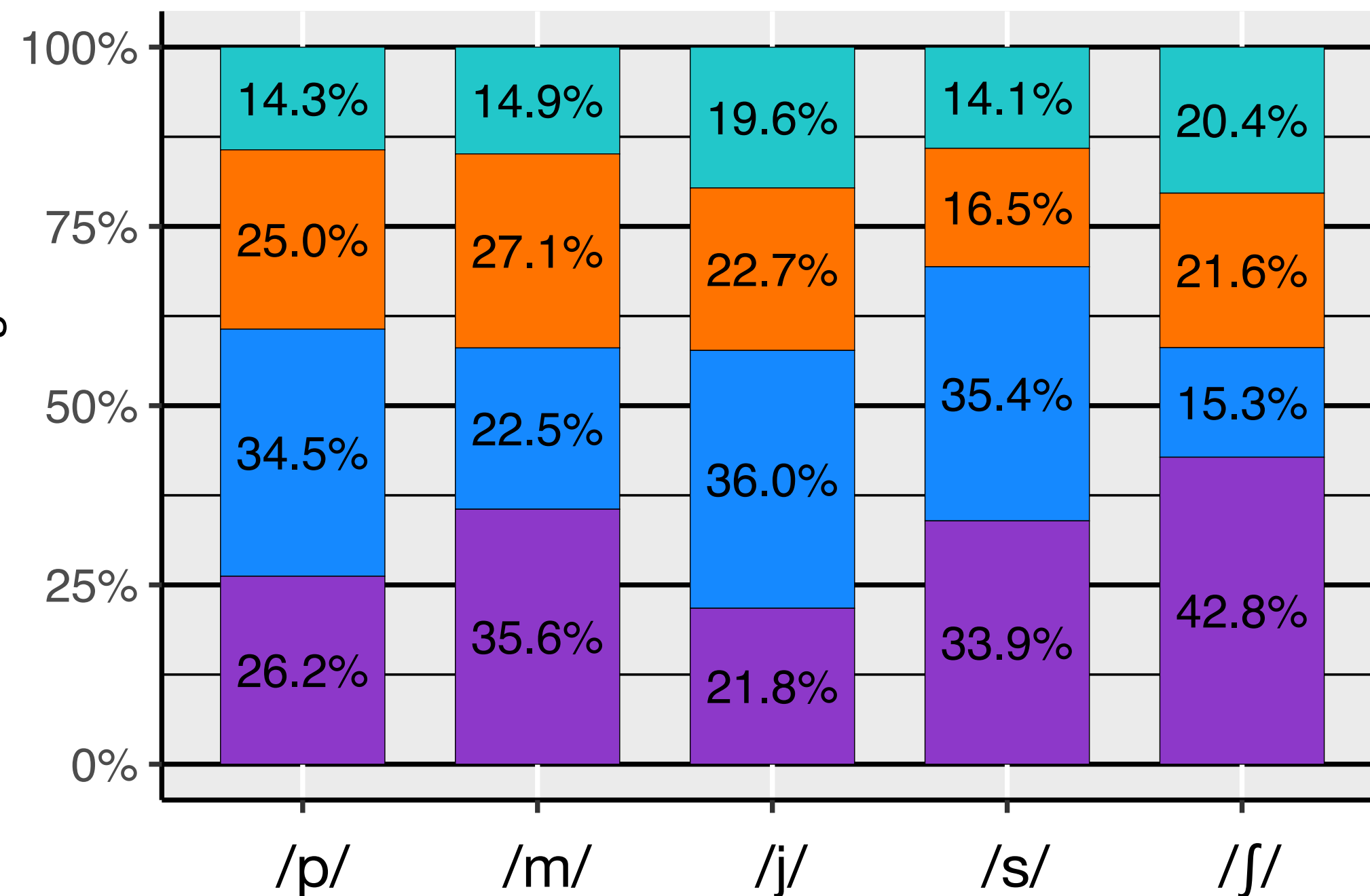
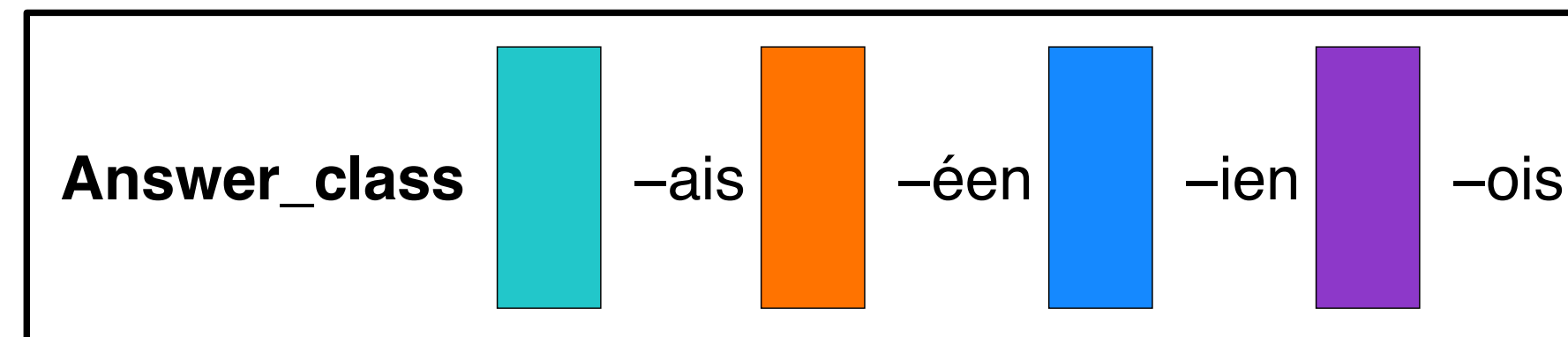


Suffix *-ien*



Discussion

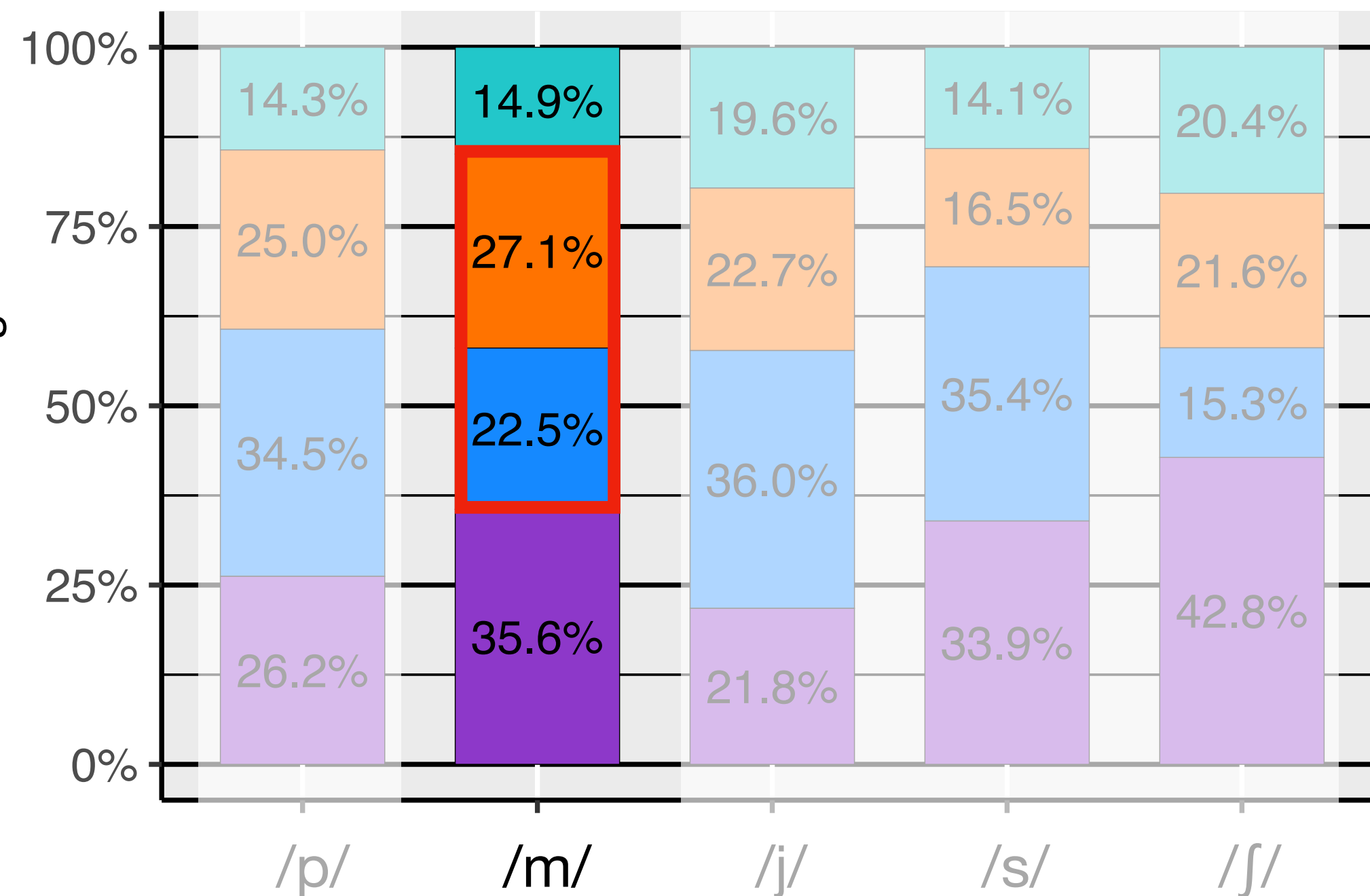
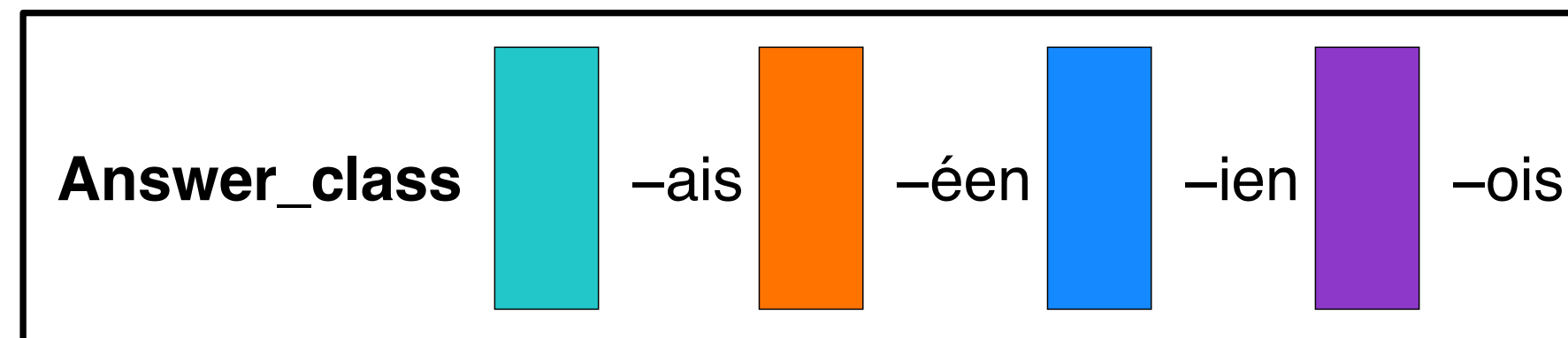
Experiment 1 - Consonantic final segments



- *Results congruent with those of Thuilier et al.*
- Overall high proportion of *-ois*
- Similar results for alveolar and post-alveolar fricative conditions
 - Alveolar fricative condition /s/:
High proportion of *-ien* and *-ois* (in the corpora 49,6% and 37,6%)
 - Post-alveolar fricative condition /ʃ/:
-ois (42,8%) most favored, similar to 'other fricative' (69,5%)
- *Contrastive results*
 - Smaller proportion of *-ois* for bilabial plosive condition /p/:
26,2% vs 47,2% for 'plosives'
 - Reverse tendency for palatal approximant condition /j/:
-ien > *-ois* vs *-ois* (57,2%) > *-ien* (20,5%) for 'approximants'

Discussion

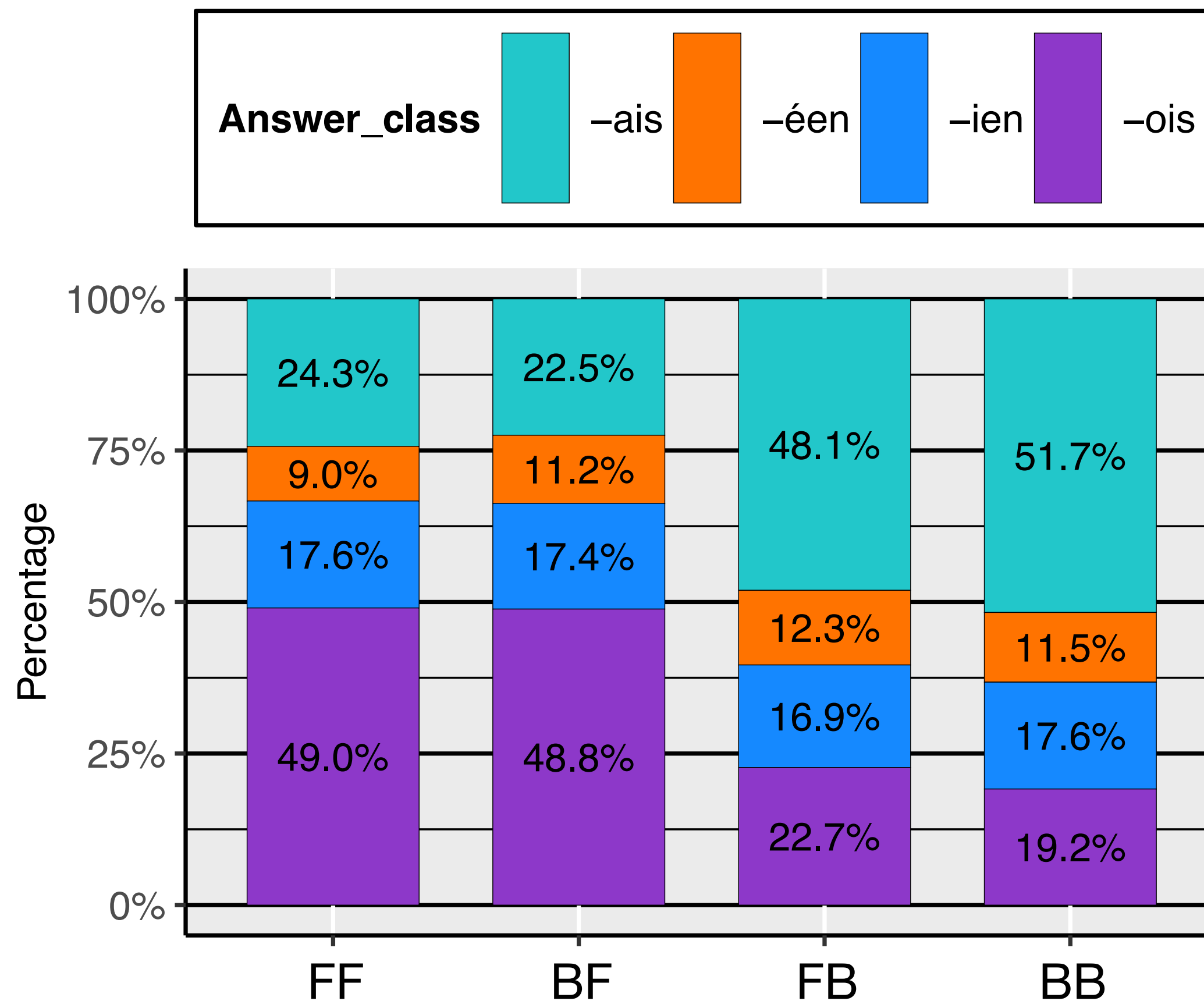
Experiment 1 - Consonantic nasal condition /m/



- *Results congruent with those of Thuilier et al.*
 - -ois favored after consonant nasals (48,4% in the corpora)
 - *Contrastive results*
 - Slight difference with 'Other segment' category (27,9%)
 - Half of the choices made up by -ien and -éen
- In the literature: Not favored after nasal segments due to dissimilative tendencies*

Discussion

Experiment 2 - Vocalic nasal final segments



- *Results congruent with those of Thuilier et al.*
 - Strong impact of nasality
 - Vocalic quality:
 - ais disfavored after front vowel last segment
 - ois disfavored after back vowel last segment

Take Home Message

Phonological constraints seem to play a distinct role for affix rivalry dynamics on French demonym formation

- Consonantic type of the final segment
- Strong impact of nasality
- Implications on backness score (albeit not in generalized fashion)

Findings relative to consonantic nasal category suggest a phonological motivation that has not been attested in the literature (*/m/ + éen, ien*)

- Non-linguistic factors might be also at play on discrepancies with the attestations

Importance of experimental methods that provide different insights on the phenomena, complementary to studies on the attested lexicon

Thank you for your attention

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