

# Mouthing rates in Deaf Seniors' production of Quebec Sign Language (LSQ)

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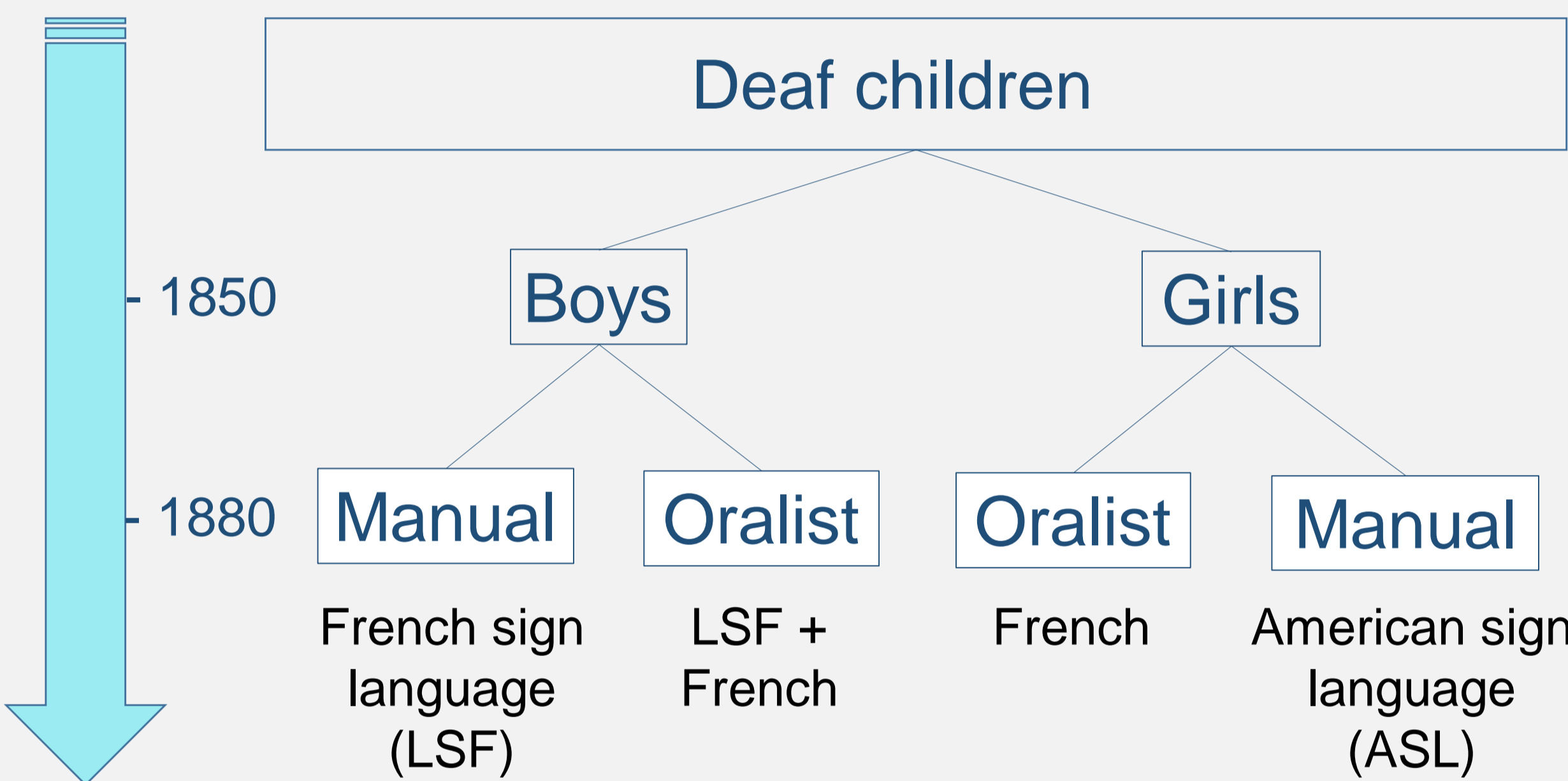
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## 1 Introduction

Prior to 1960, deaf girls and boys in the Canadian province of Quebec were educated separately in religious institutions which adopted different pedagogical approaches with regard to the medium of instruction (Perreault & Pelletier, 2010). Overall, girls had a greater exposure to spoken French than boys. However, there are differences amongst the boys: some had a little exposure to spoken French (manual group) while others were taught with some spoken French (oral group) but not as much as the girls.



Previous research on these signers focused on the effects of this contact on the lexicon, but whether there are other linguistic consequences, like on **mouthing**, is unknown.

## 3 Methods

### Participants

M-M	O-M	O-W	M-W
6	5	11	0
N=22			

- Profound deafness (only)
- Language use = LSQ
- 60 and over
- Born in Quebec
- Attended school for deaf

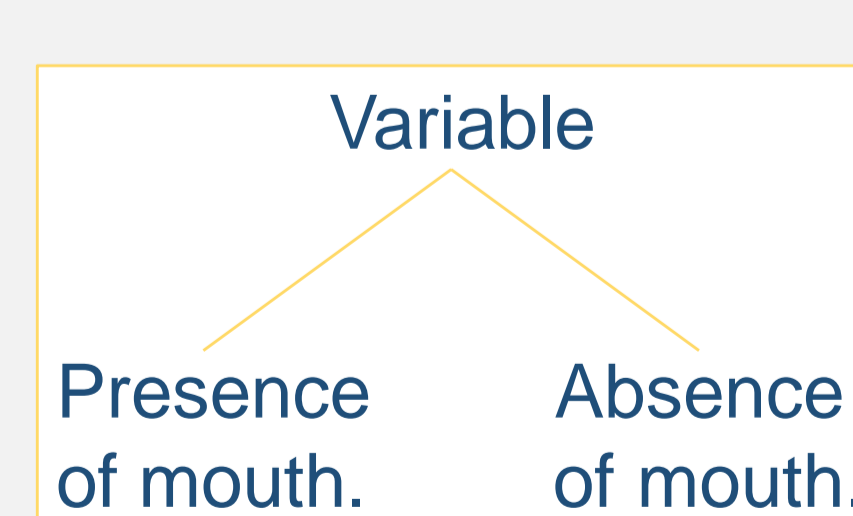
### Task

Elicitation based on a description of two short silent scenes

### Analysis

- Goldvarb X (Sankoff *et al.*, 2005)
- LSQ data
- 1526 tokens

**FS:** all tokens (N=1526)  
**FL:** only tokens with sign, no locution, no num. adj., no aspectual exp., no swearword (N=1439)



### Social factors

- Educational experience (oral-educated women, oral-educated men, and manual-educated men)
- Onset of deafness (native/non-native)
- Family environment (with/without deaf family members)

### Linguistic factor

- Grammatical category of the sign (verb, noun, adjective, adverb, functional category)

Is the variable production of mouthing rate in LSQ among older deaf people constrained by their previous educational experience?

## 2 Mouthing

Mouthing is the production of spoken language simultaneously with or without signing. Research on mouthing in several sign languages distinguish mouth gestures (i.e. gaping mouth, swollen cheeks, etc.) from mouthing (i.e. Crasborn *et al.*, 2008). This first category is considered as part of the grammar of sign languages, while the second is a loan from spoken languages (i.e. Sutton-Spence & Woll, 1999). Several studies support the inclusion of mouthing the linguistic system of sign languages (i.e. Johnston *et al.*, 2015). Thus, the association created by the co-articulation of a sign with mouthing forms a linguistic entity (Vinson *et al.*, 2010).

### Example

S: FEMMEa EMPLOYÉb 3a-DEMANDER-3b CHAUSSURE  
 M: ---file-----employé-----soulier-----rouge

Mouthing has been shown to be sensitive to the:

- grammatical category of the sign (i.e. Dubuisson *et al.*, 1992)
- degree of exposition to the spoken language and the knowledge of this language (Plaza-Pust et Morales-López, 2008).

The hypothesis is...

that the mouthing rate in oral-educated women would be higher than the manual-educated men and I expect the oral-educated men to be situated between the other two groups.

## 4 Results

### Social factors

- The oral-educated women favour the production of mouthing compared to manual-educated men and oral-educated men who both disfavour the production of mouthing.
- The family environment factor and the onset of deafness factor doesn't constrain mouthing.

Multivariate analysis: social factors on the presence of mouthing

	With sign	Without sign	Total
With mouth.	720	19	739
Without mouth.	787	---	787
<b>Total</b>	<b>1507</b>	<b>19</b>	<b>1526</b>

	Weight	%	N total
<b>Educational experience</b>			
Oral.-educated women	.59	58	828
Oral.-educated men	.41	39	281
Man.-educated men	.38	37	417
<i>Range</i>	21		

\*Non-significant factors: family environment, onset of deafness.

### Linguistic factor

- The adjective, noun and adverb categories favour mouthing.
- Verb differ from other lexical categories by a lower rate of mouthing.
- Functional elements (i.e. prepositions, pronouns, etc.) disfavour mouthing.

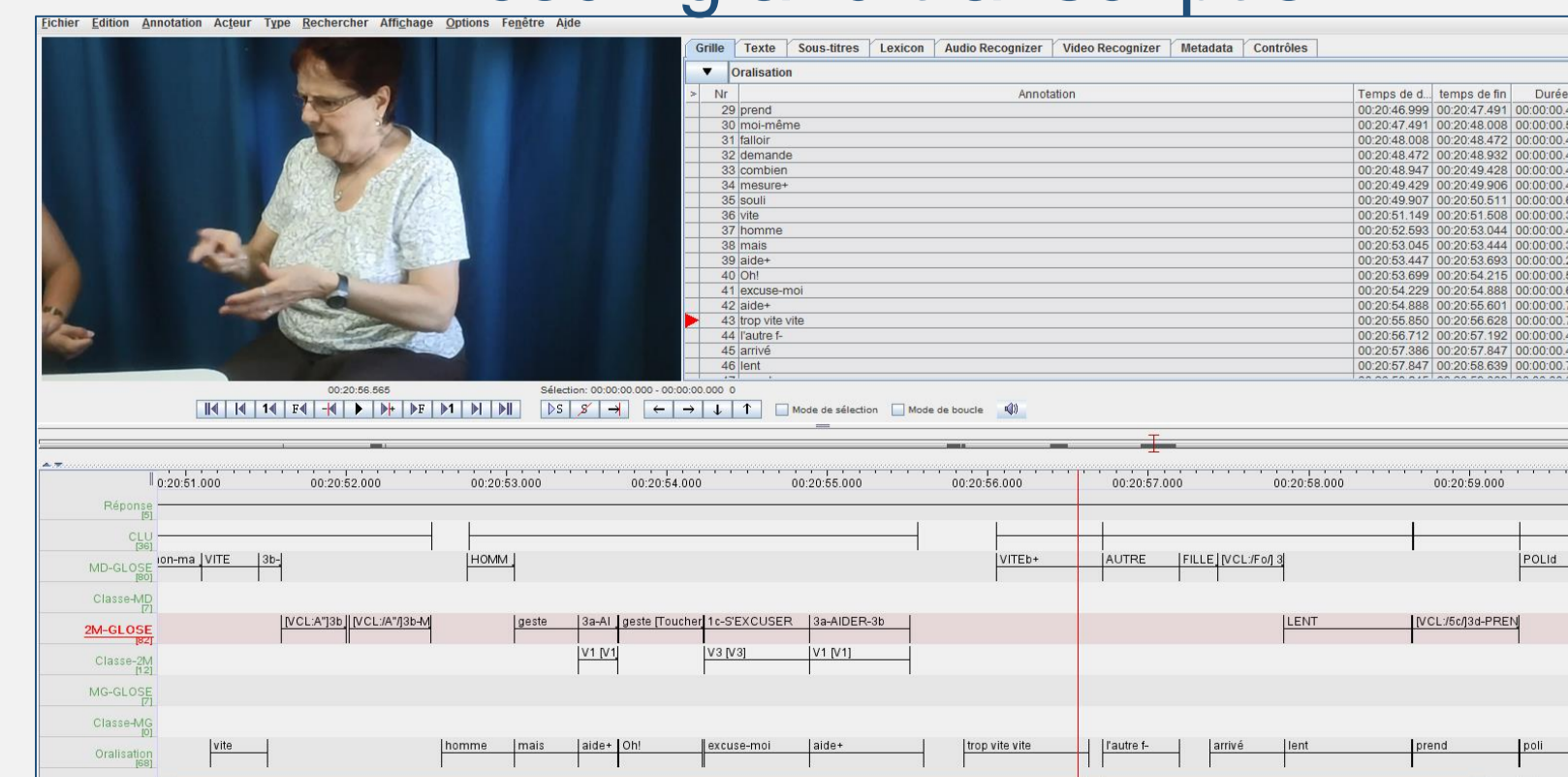
Univariate analysis: grammatical category of the sign on the presence of mouthing

	Weight	%	N total
<b>Grammatical cat. of the sign</b>			
Adjective	.69	66	134
Noun	.67	65	375
Adverb	.61	58	62
Verb	.45	42	652
Functional cat.	.26	23	247
<i>Range</i>	51		

	Weight	%	N total
Corrected mean			.47
Log likelihood			-912.80
Significance			p < 0,001 <sup>1</sup>
<b>Total N</b>			<b>1439</b>

<sup>1</sup> Calculated from a chi-square test ( $\chi^2=53,4$ ,  $ddl=4$ ,  $p<.001$ ).

### ELAN: coding and transcription



### References

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