The L3 Acquisition of Quebec French Phonological Prominence

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INTRODUCTION

This research project investigates the acquisition of Quebec French phonological prominence by L1 Mandarin/L2 English speakers. The study has so far shown a greater accuracy in word-final accent than word-initial accent.

Background

L3 prosody is relatively understudied (see Archibald, 2022; Deng & Archibald, 2023; Domene Moreno & Kabak, 2023; Wiener & Goss, 2019). Colantoni et al. (2015) have looked at the L2 acquisition of Quebec French (QF) in a production task.

Linguistic Properties – Prosody

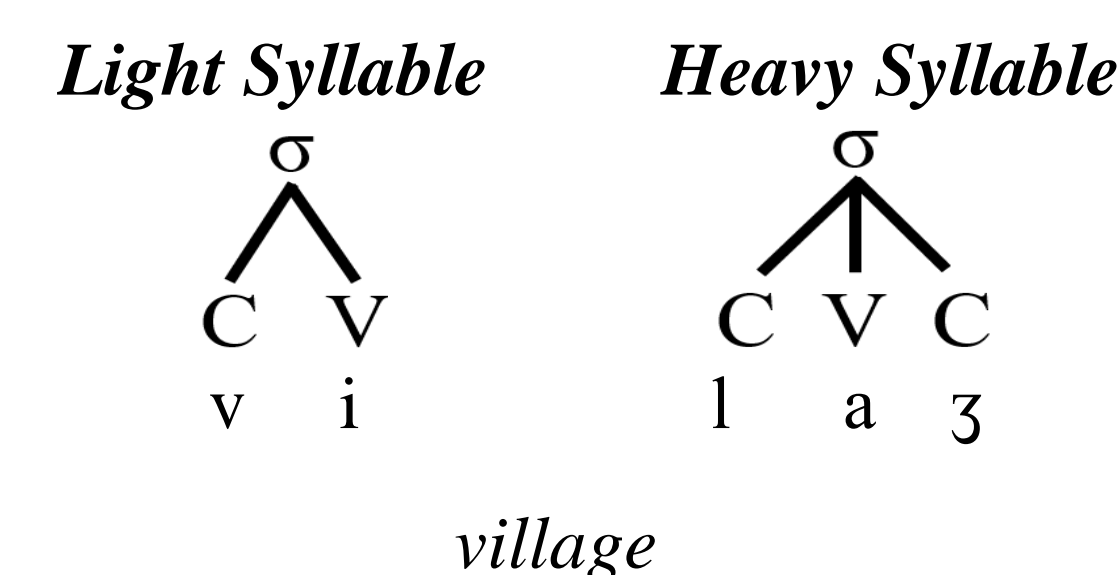|	
MANDARIN	Assigns tone sandhi with **weight-sensitive** trochaic feet (Qu, 2013) drawing on bimoraic Tone1, Tone2, Tone4 with monomoraic Tone3. Stress is a word-level property, implemented primarily by **duration**.
ENGLISH	Assigns stress with **weight-sensitive** trochaic feet (Dresher & Kaye, 1990).
FRENCH	Feet or no feet? Iambic or trochaic? Word stress?

What Is to Be Acquired

The analyses of prominence in French in general and QF in particular are quite varied (Ulfsbjorninn, 2023). There is little debate on French prominence being final with respect to some phonological domain. Some argue that it has iambic feet (Hammond, 1995; Scullen, 1997) while others say it has no feet at all (Özçelik, 2017). One broad analysis is that it is phrase final (Jun & Fougeron, 1995).

Andreassen & Eychenne (2013) make the point that part of this variation derives from the stance taken on final schwas; people who consider them say stress is trochaic while people who ignore them say stress is iambic.

The analysis that we adopt here is that of Lamontagne and Goad (2022) who argue that QF is a pitch accent language in which heavy syllables *probabilistically* attract prominence. Other dialects show prominence shift too (Parisian, Midi, Swiss, and Belgian; see Lamontagne & Goad, 2022).

Light Syllable   **Heavy Syllable**

σ   σ
| |
C V   C V C
v i   l a ʒ

village

"L1 Mandarin speakers learning Quebec French showed significantly greater accuracy in identifying *final-accented* than *initial-accented* forms."

Prominence in QF in Lamontagne and Goad (2022)

PROMINENCE ASSIGNMENT	
General rule: Assign a H* to the rightmost heavy syllable.	
FINAL PROMINENCE L H* sequence at the right edge in an Accentual Phrase (AP)	**PROMINENCE RETRACTION** H* L sequence – prominence shifting to the left

The prominence assignment rule would then most likely yield these forms based on the relative weight of their syllables:

Non-final accent:	*sortie* 'exit'	Final accent:	*déteste* 'hates'
	H*		H*
	[s ɔ μ ʁ μ .tsi]		[de.t ɛ μ s μ t]

However, vowel weight likely influences prominence assignment as well (Lamontagne & Goad, 2022).

Heavy	[ɑ, e, ø, o, ɛ:, ɑ̃, ɛ̃, œ̃, ɔ̃]
Light	[a, ɛ, œ, ɔ, i, y, u]

Thus, a prominence retraction is more likely to occur in the word *série* 'series', where a heavy vowel is present in the penult, but not in the final syllable:

série   'series'
H*
[s e μ ʁ i]

METHODOLOGY

Participants engaged in an online ABX discrimination task. The task consisted of 128 trials divided into 8 rounds. Between each round, participants had the opportunity to pause. Each trial consisted of three randomly chosen stimuli with a 1500-millisecond inter-stimulus interval. The task typically lasted 20 minutes. To familiarize the participants with prominence, a short training phase of five triads was provided before the trials.

A: censure (H*) → B: tranquille (H*) → X: préparent (H*)
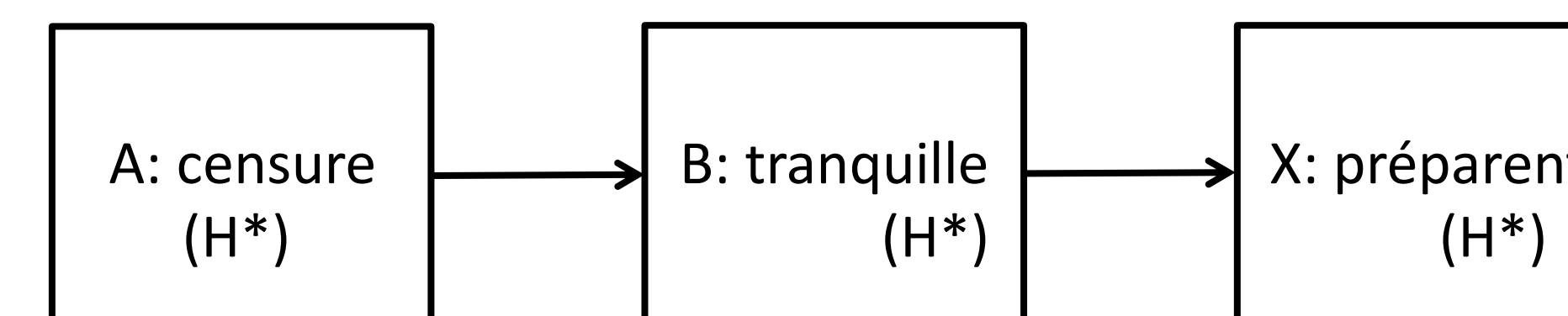
The task was created using PsychoPy and hosted on Pavlovia.org (2022.2.5). The task was accessed through a hyperlink sent by email after a background questionnaire and a signed consent form were received.

Stimuli

Thirty-two QF disyllabic words were selected based on their prominence patterns–half showed prominence initially (e.g., *sortie* 'exit') and the rest had final prominence (e.g., *déteste* 'hates'). Each stimulus was recorded by two native male speakers of QF in the carrier phrase *'je dis le mot x '* ('I say the word *x*'). Once spliced, the stimuli were each verified to ensure prominence (both duration and pitch) fell on the intended syllable.

Participants

EXPERIMENTAL GROUP	CONTROL GROUP
L1 Mandarin L2 English	L1 French L2 English
n = 18	*n* = 8
Recruited in Victoria, BC	Recruited online Reside in the province of Quebec
L3 Quebec French Proficiency intermediate – advanced	

L3 learners (L1 Mandarin-L2 English-L3 QF French) had intermediate to advanced proficiency levels of Quebec French measured by a self-rated background questionnaire (course level, instructional hours). Their L2 English proficiency level was measured by IELTS scores. (average score 7.0). Participants were compensated for their time with an online store gift card.

RESULTS

L3 versus L1 Accuracy Rates

	L1 QF	L3 QF
Final accent	76%	81%
Initial accent	72%	76%
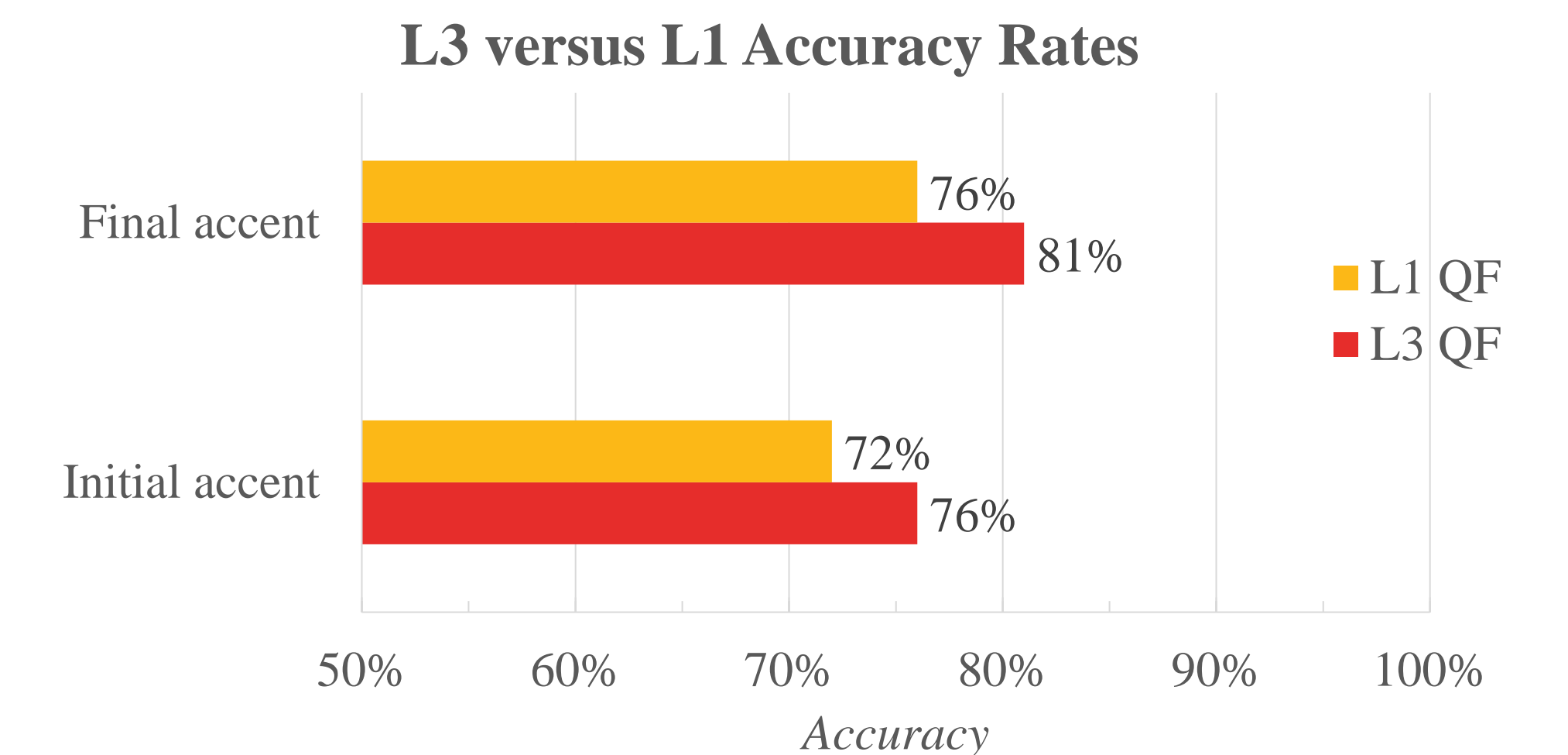
Accuracy

Statistical Analysis

We ran an lmer test for the L3 QF group, comparing initial- and final-accented forms. Because of differing numbers in groups and a smaller sample for the control group, we ran Mann-Whitney U tests on the accuracy scores across groups and within the L1 QF group.

	L3 QF	L1 QF	L3 QF - L1 QF	L3 QF - L1 QF
PROMINENCE	Initial/Final	Initial/Final	Initial	Final
TESTS	lmer	Mann-Whitney U	Mann-Whitney U	Mann-Whitney U
SIGNIFICANCE	$p < 0.001$*	$p = 0.2423$	$p = 0.5219$	$p = 0.521$

The L3 QF group was significantly more accurate when the match was on the final accent compared to initial accent matches. No other significant comparisons were found. It must be noted that the L3 QF group's results are not significantly different from the native QF group.

DISCUSSION

What could explain the significant difference in accuracy within the experimental group? Prominence retraction being probabilistic, initial-accented forms could be more difficult to identify than final-accented forms. The latter are likely easier due to being the 'default' prominence.

Next Steps

Recruitment for the control group is ongoing, as well as the L1 English/L2 French group. By having a larger sample, we hope this research will better inform our understanding of L3 acquisition in French prosody.

Scan this QR code for additional content, including references.