

LEXICAL STRESS IN LANGUAGE CONTACT: THE INTERPLAY OF ACOUSTIC CORRELATES

Natália B. Guzzo (Saint Mary's University) & Guilherme D. Garcia (Université Laval)

nataliaguzzo@me.com • guilherme.garcia@lli.ulaval.ca

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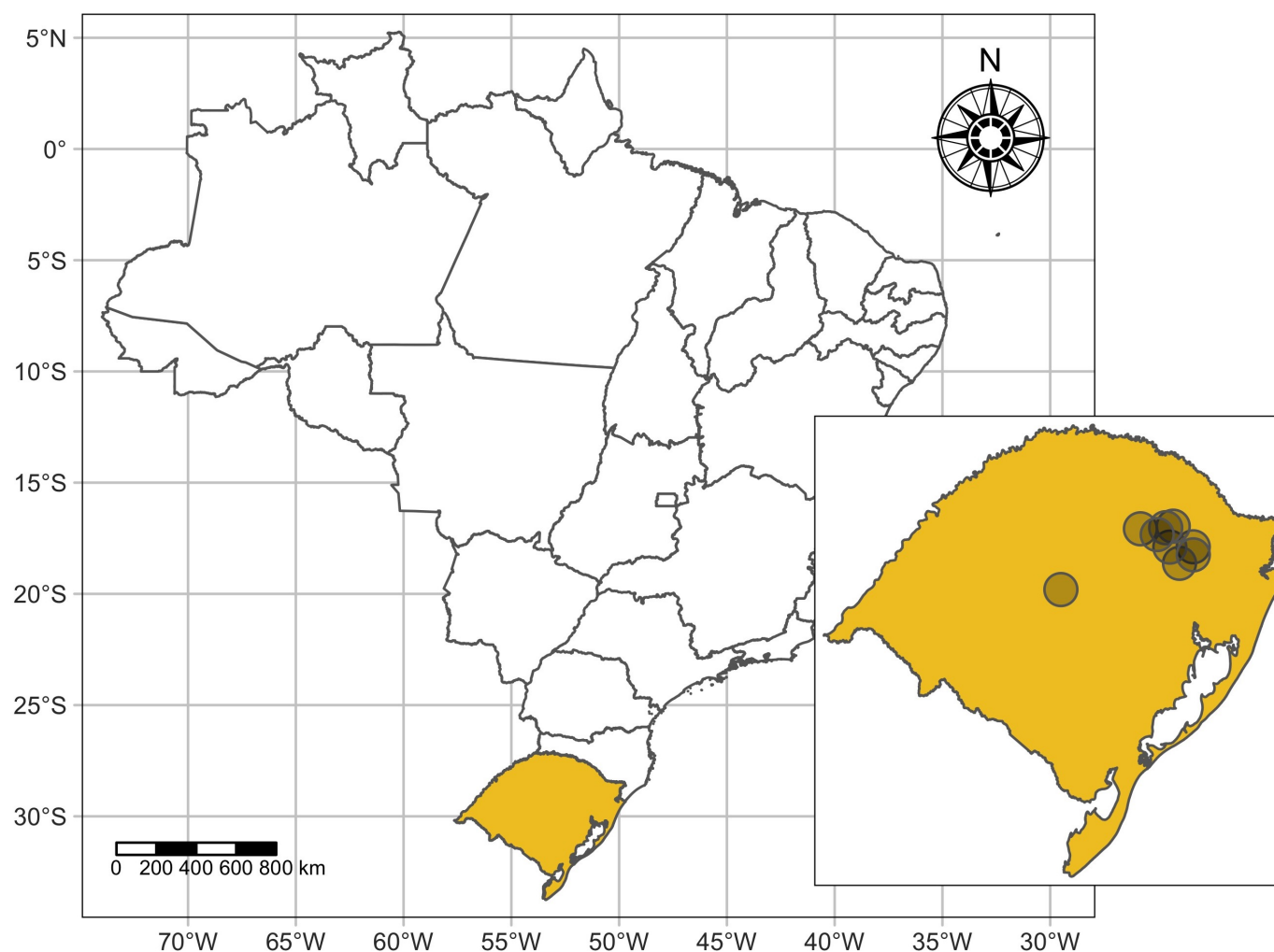


1 INTRODUCTION

- ▶ **Language contact:** Transfer of phonological properties often observed (e.g., [1, 2])
- ▶ Contact between heritage and dominant language → properties of HL will be affected by dominant language; dominant language may be immune [3]
- ☞ **THIS POSTER:** Contact situation where the dominant language is influenced by the HL
- ▶ **Contact situation:** Veneto-Portuguese in southern Brazil; **Property:** acoustic manifestation of stress

1.1 Brazilian Veneto

- ▶ Brazilian Veneto (BV; locally *Talian*): variety of Veneto (Romance) developed in Brazil after Italian immigration in 19th century
- ▶ In southern Brazil, Italian immigrants (mostly Veneto-speaking) settled in a relatively isolated area (= Italian Immigration Area, or IIA → cluster of points on map)
- ▶ This geographic isolation contributed to the development of a Veneto-based koine [4, 5]



1.2 Effects of BV on Portuguese

- ▶ BV = first language of many Veneto-Portuguese bilinguals (Portuguese = dominant)
- ▶ Result: Brazilian Portuguese (BP) variety in IIA regarded as highly accented [4]
- ▶ Previous literature describes BV-accented BP based on segmental phenomena
- ▶ BV accent more common in older, rural speakers, who use BV more regularly [6]

1.3 Stress in Veneto and Portuguese

- ▶ Many similarities between BV and BP **stress assignment:** (a) mostly penult; (b) final if final syllable is heavy; (c) possible in antepenult position; (d) cued (mostly) by duration [7–9]
- ▶ **Important distinction:** unstressed word-final mid vowels reduced in BP but **not** in BV

2 OBJECTIVES & QUESTION

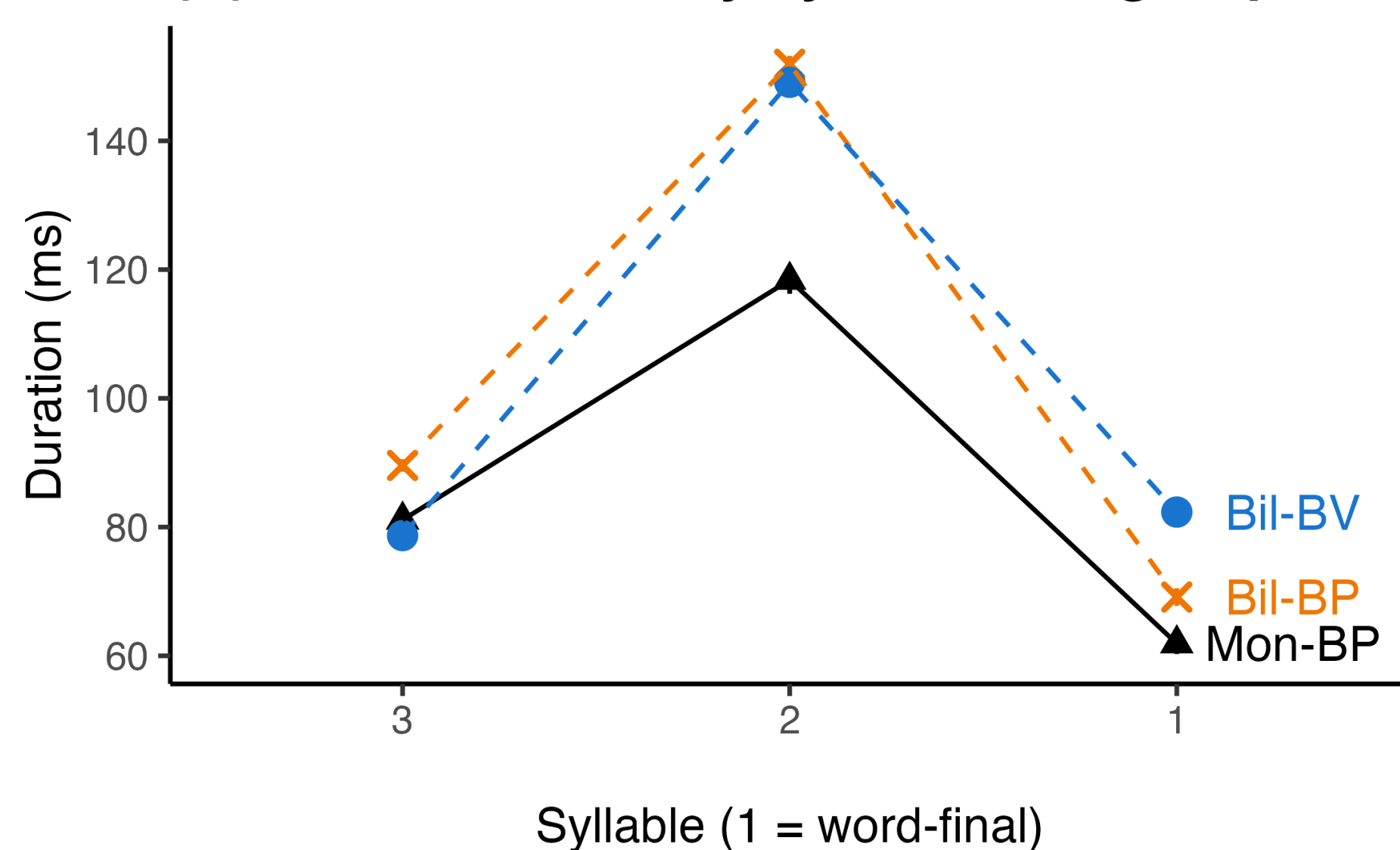
- ▶ **Objective:** to examine how stress is manifested in BV-BP contact
- ▶ **Motivation:** Perception of BV-accented BP may not be restricted to segmental phenomena, but may also be influenced by prosodic properties related to stress
- ▶ **Question & hypothesis:** Are stress-related acoustic properties transferred from BV into BP? Although stress is cued by duration in both languages, it's possible that BV and (mono) BP don't use this cue (and others) the same way – but some overlap is expected

3 METHODS

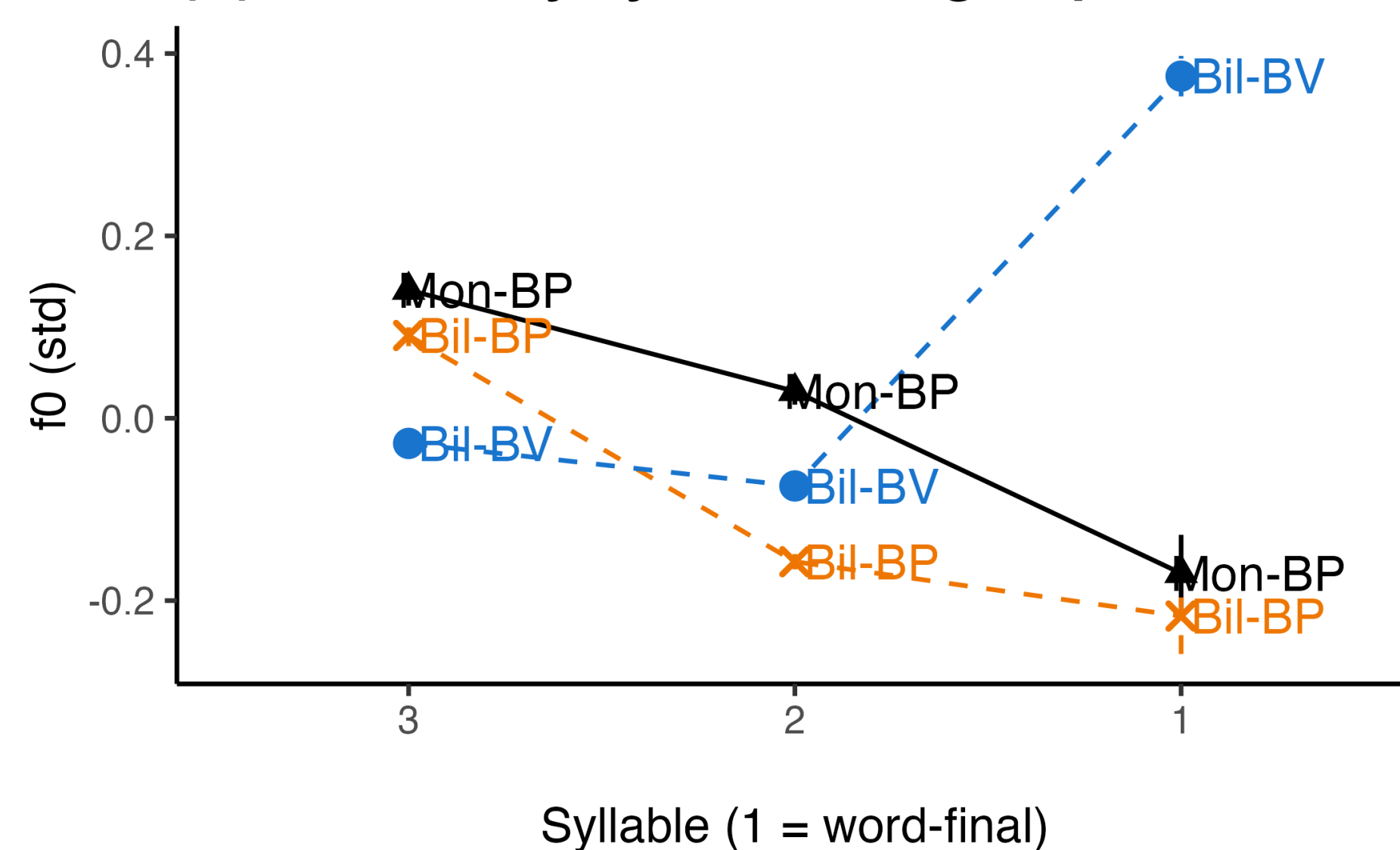
- ▶ Two **production experiments:** BV + BP
- ▶ Participants: BV-BP bilinguals from the IIA ($n = 21$; completed both experiments); BP monolinguals ($n = 9$)
- ▶ **Experiment:** naming task. Participants named figures (nouns) on screen using carrier sentences. 44 items in BV, 42 in BP
- ▶ **Target vowel:** /a/ in antepenult/penult/final positions. Stress always penult
- ☞ **Analysis:** Target vowels segmented in Praat [10] for duration, F1, F2, and f0 (three points + mean). Data analyzed with mixed-effects linear models, one per correlate (with by-speaker and by-item random intercepts). Durational ratios were also calculated between penult and unstressed syllables

4 RESULTS & DISCUSSION

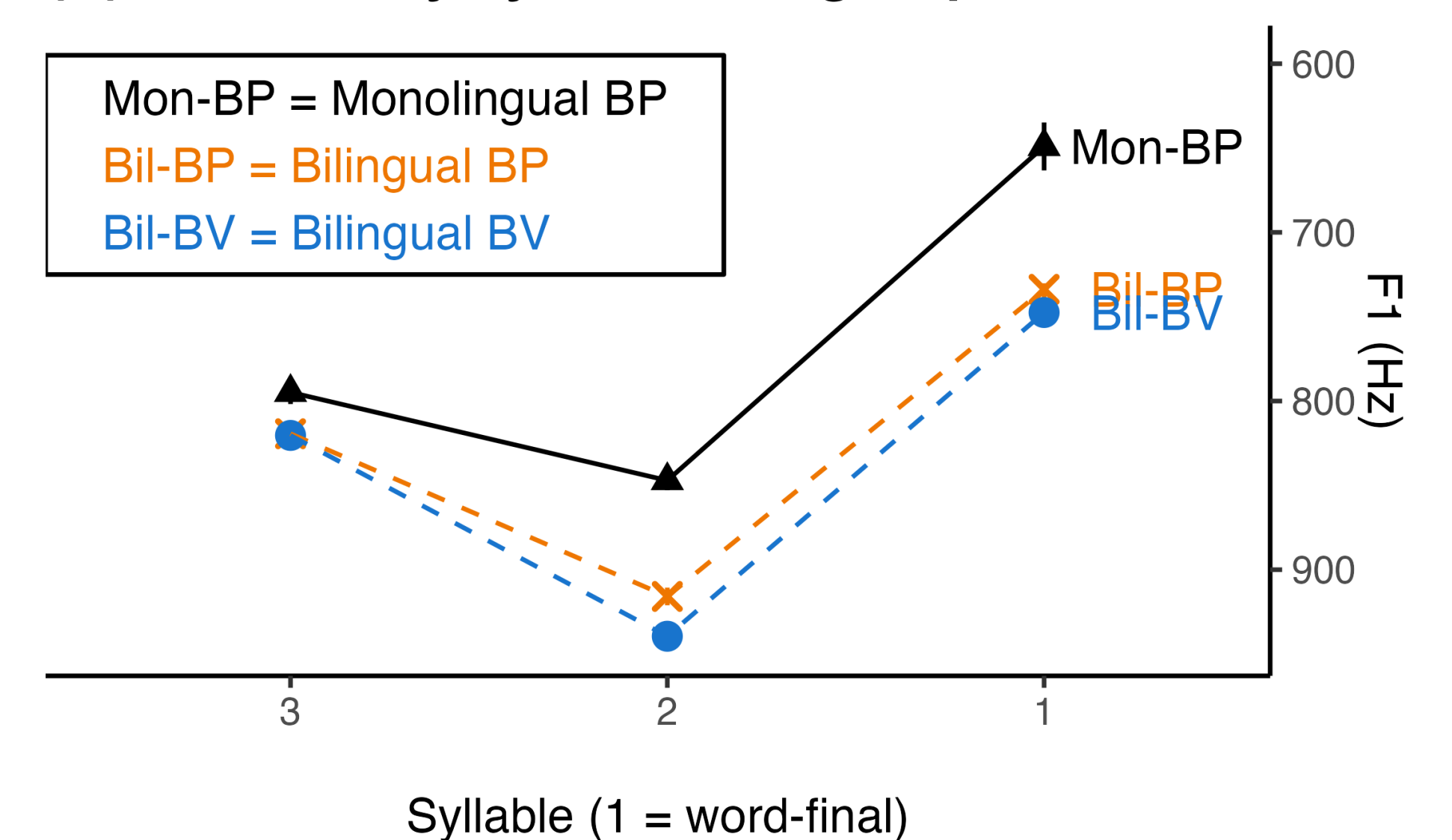
(A) Mean duration by syllable and group



(B) Mean f0 by syllable and group



(C) Mean F1 by syllable and group



Duration. Stressed vowels (/a/) have similar durations in Bil-BP and Bil-BV, but are significantly longer than those produced by monolinguals ($\hat{\beta} = 37.84, t = 6.15$; relative to Mon-BP in syllable 2)

- ▶ Word-final vowels were significantly longer in Bil-BV

Ratios. BV has symmetrical ratios ($\bar{x} \left[\frac{\text{pen}}{\text{ant}} \right] = 1.92$; $\bar{x} \left[\frac{\text{pen}}{\text{fin}} \right] = 1.97$)

- ▶ Mon-BP and Bil-BP have similar $\frac{\text{pen}}{\text{fin}}$ ratios: $\bar{x} = 2.55$ and $\bar{x} = 2.56$
- ▶ Mon-BP and Bil-BP have shorter $\frac{\text{pen}}{\text{ant}}$ ratios compared to Bil-BV: $\bar{x} = 1.43$ and $\bar{x} = 1.65$

f0. Bil-BV vowels had substantially higher f0 word-finally relative to both Bil-BP and Mon-BP ($\hat{\beta} = 61.55, t = 4.98$)

- ▶ Word-initially, f0 is higher in Mon-BP and Bil-BP

F1. For word-final /a/, F1 was significantly lower in Mon-BP than Bil-BV and Bil-BP (Bil-BV: $\hat{\beta} = 56.05, t = 3.95$; Bil-BP: $\hat{\beta} = 63.07, t = 3.95$), which patterned together, indicating more reduction in Mon-BP

☞ SUMMARY:

- ▶ Overlap in some of the cues used to signal stress in Bil-BP and Bil-BV, *as per* our hypothesis
 - These cues are **absolute duration** and **F1**
- ▶ However, **f0** is used differently in Bil-BP and Bil-BV, and **durational ratios** in Bil-BP are closer to Mon-BP than Bil-BV
 - **Bilinguals don't have the same acoustic specifications in the two languages**
- ▶ Contact promotes cue interaction in Bil-BP stress: systems **interdependent but not merged**
- ▶ Overlap in cues between Bil-BP and Bil-BV may contribute to perception of BV-accented BP (further research needed)

ACKNOWLEDGEMENTS & SELECTED REFERENCES

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