The Emergent Prosodic System(s) of Bilbao-area Standard Basque

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ILLS 15

Presentation Roadmap

- Goal & Significance
- Research Questions
- Theoretical Grounding
- Production Tasks
- Results
- Discussion

Goal & Significance

- To provide quantitative data for Standard Basque speakers' prosodic operations
- To contribute to the larger body of research on Basque prosody

Research Questions

What are the acoustic correlates of accentual prominence in Standard Basque?

What factors, if any, influence these correlates both at the word and phrasal level?

Theoretical Background

Basque Prosody

- Northern Bizkaian Basque: Gernika, Lekeitio, Bermeo, & others
- NBB has four key characteristics:
  - Accented/Unaccented lexical distinctions
  - Single pitch type H*+L
  - Phrase-initial rise &LH-
  - Pitch is the sole correlate of acoustic prominence
- Local dialects are changing! Some dialects historically described as being pitch-accent are now patterning more similarly to stress-accent systems (Hualde et al. 2002 Irurtzun & Elordieta 2010; Irurtzun 2003; Hualde & Gaminde 2014).
  - Some of these changes depend on the language dominance of speakers' social networks & prior work has looked into what speakers might be doing to compensate for these changes/losses (Rodríguez-Ordóñez & Gillig 2018; Rodríguez-Ordóñez 2016, 2019; Lantto 2015, 2019).

Why Standard Basque?

- Most current research on Basque focuses on the Northern Bizkaian varieties (NBB), not the standard.
    - While there are a number of studies that look at dialect contact between the standard and other varieties, these focus more on what has been lost or changed in the non-standard varieties.
- Studies that *do* look at the standard are largely morphosyntactic analyses, not prosodic.
- The few studies that have looked at Standard Basque prosody only extracted data at the word level
    - Following Hualde & Beristain (2020), it is very likely that dialect contact has led to a spectrum of variation within the standard; the prosodic patterns found in one region or group of speakers may vary from those found in other regions or groups.

Basque Revitalization & Standardization

1968

Standard Basque is officially codified.

1979

Standard Basque is officialized within the BAC.

1982

The Law of Normalization is passed.

BUT...

no considerations for prosody

+

huge increase in speaker population

=

stress-accent rather than pitch-accent

Research Questions

What are the acoustic correlates of accentual prominence in Standard Basque?

What factors, if any, influence these correlates both at the word and phrasal level?

Production Tasks

Language Dominance		**Current Residence**		
Spanish	*Basque*	*Within BAC*	*Outside BAC*	
4	2	1	5	
Age of Basque Acquisition			**Sex**	
From birth	*Childhood / Adolescence*	*Adulthood*	*Male*	*Female*
2	3	1	2	4

Speaker Demographics

Task 1

SINGLE WORD ELICITATION

- Bisyllabic & trisyllabic words in three different forms: bare word forms, genitive singular and genitive plural postpositions
  - We expect to see stress falling on the second syllable from the left; stressed vowels will have longer duration/higher f0/greater intensity. For trisyllabic stimuli, pre-accent measures will be higher than post-accent measures.

Indefinite	**Genitive singular**	**Genitive plural**
txakur	txakurraren	txakurren
dog	*Of the dog*	*Of the dogs*

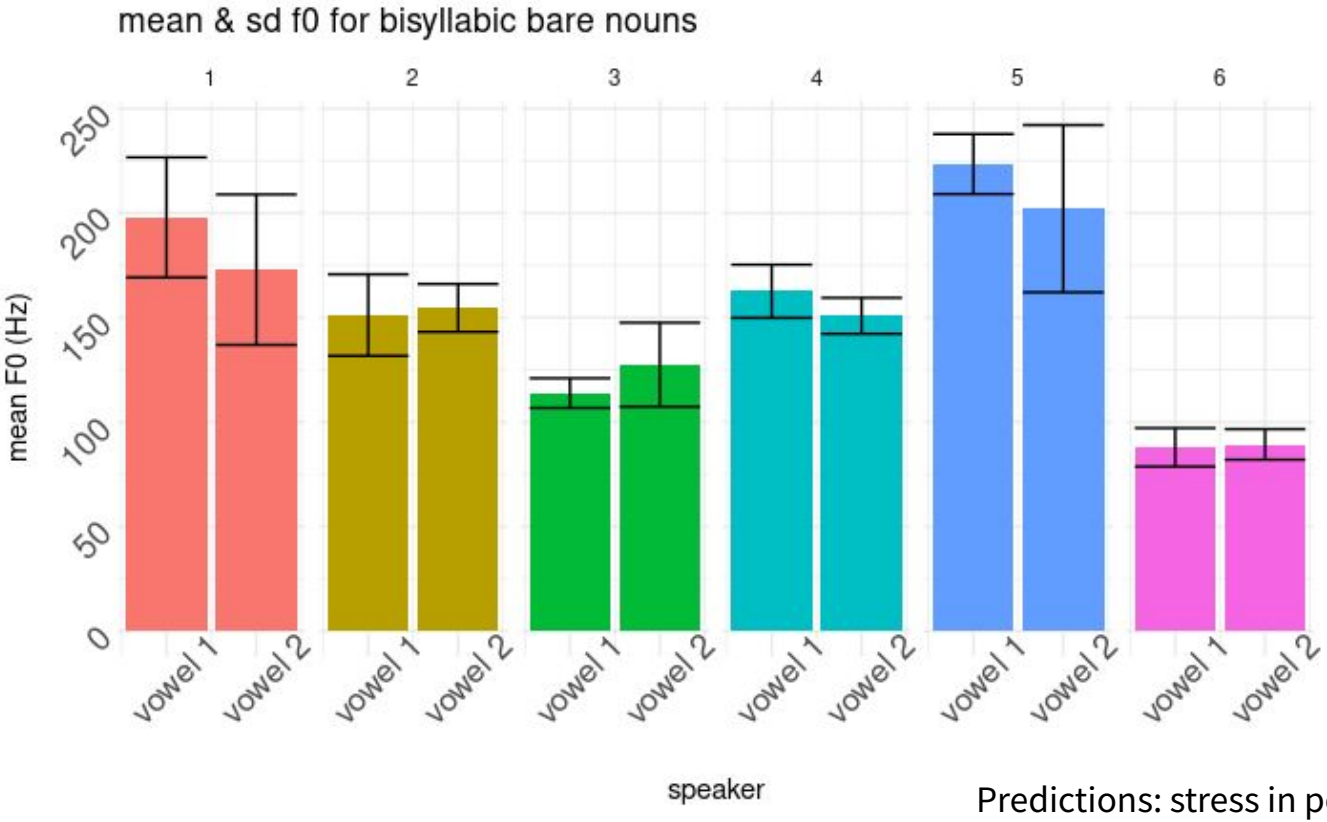
Task 2

NEUTRAL DECLARATIVES AND YES-NO QUESTIONS

- The same bisyllabic and trisyllabic words placed within identical carrier phrases, so that intonation is the only difference between a declarative and an interrogative
  - We expect to see downstep in declaratives and for interrogatives to fall into one of the four patterns noted by Eguskiza et al. (2019).

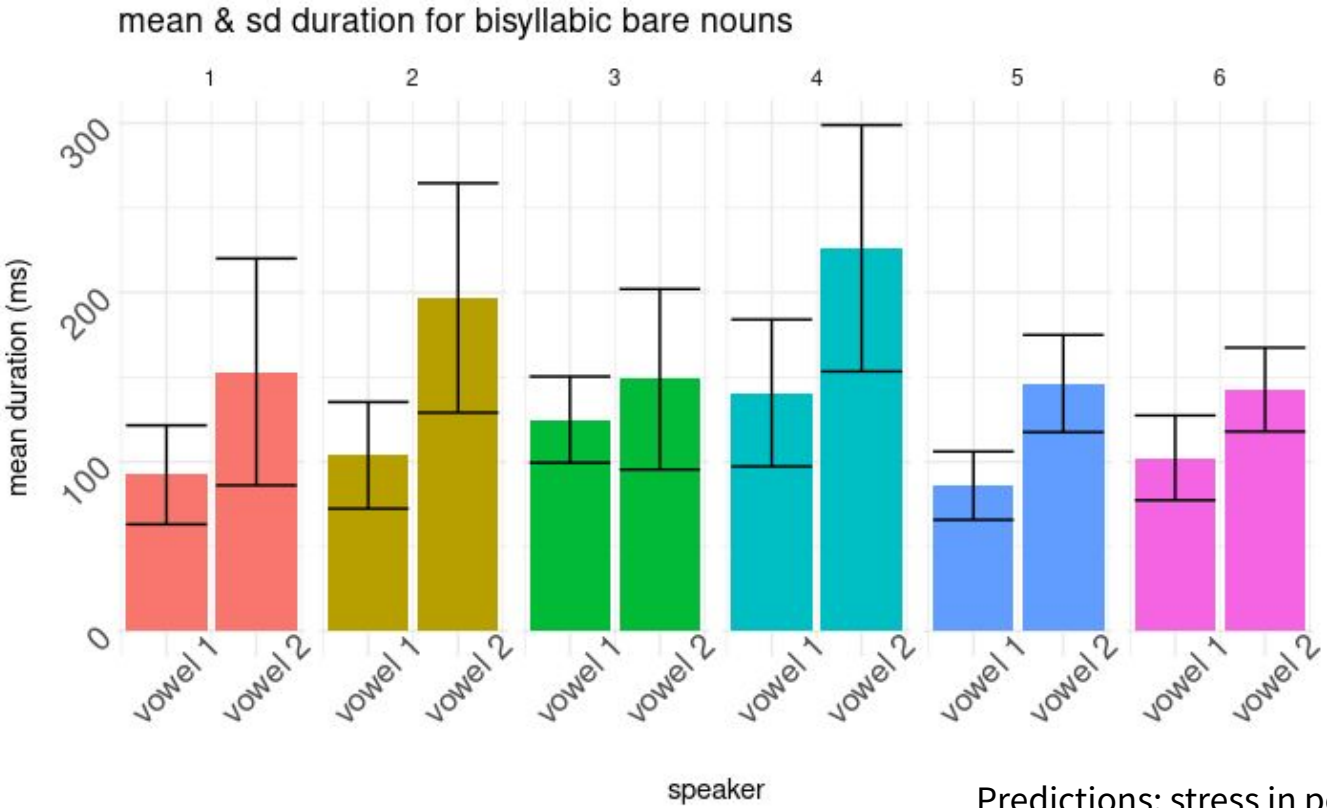
Declarative	**Yes-No**
Lagunaren alaba etorri da.	Lagunaren alaba etorri da?
The friend's daughter has arrived.	*Has the friend's daughter arrived?*

Results



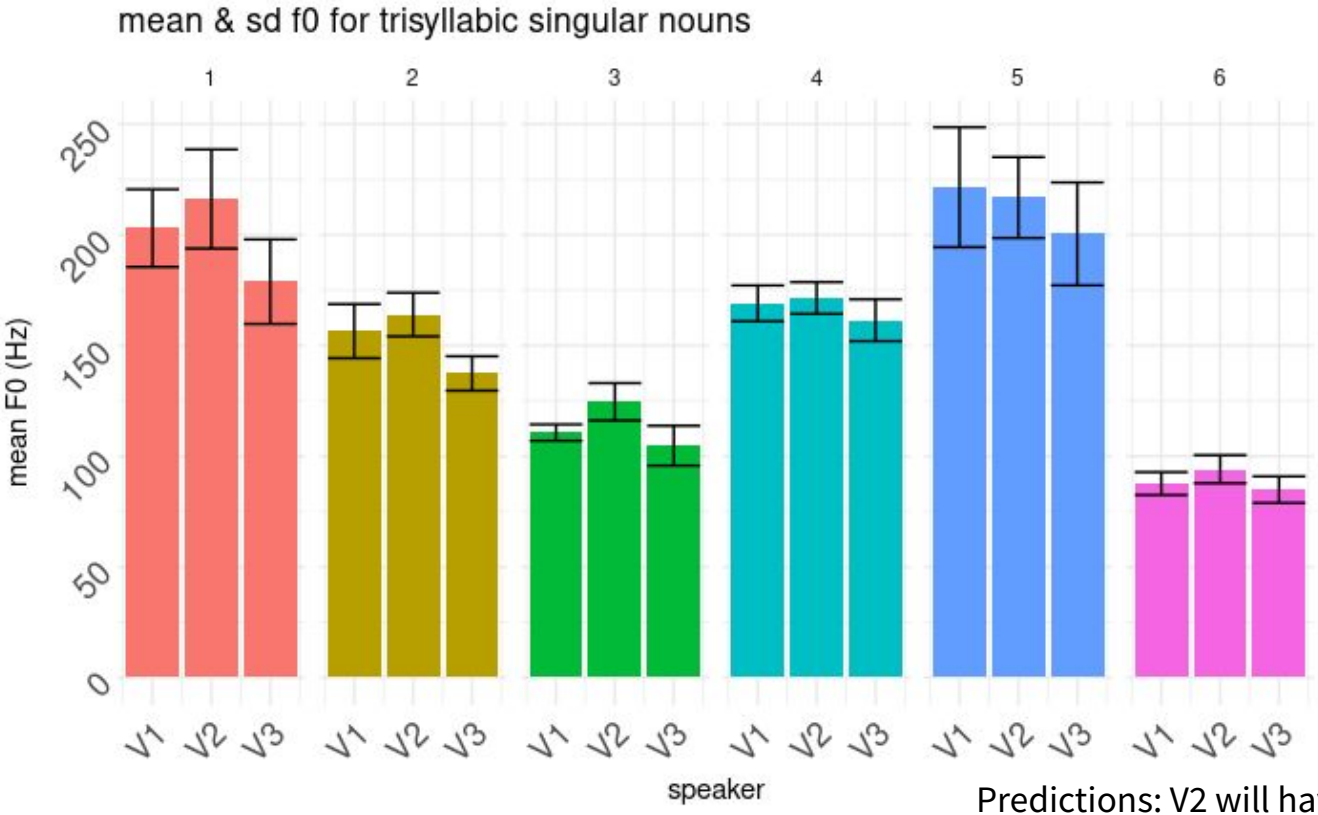
Bisyllabic bare nouns: F0

Predictions: stress in polysyllabic words is anchored on the second syllable from the left (Aurrekoetxea et al. 2015), and there will be multiple correlates of stress (Gandarias et al. 2015)



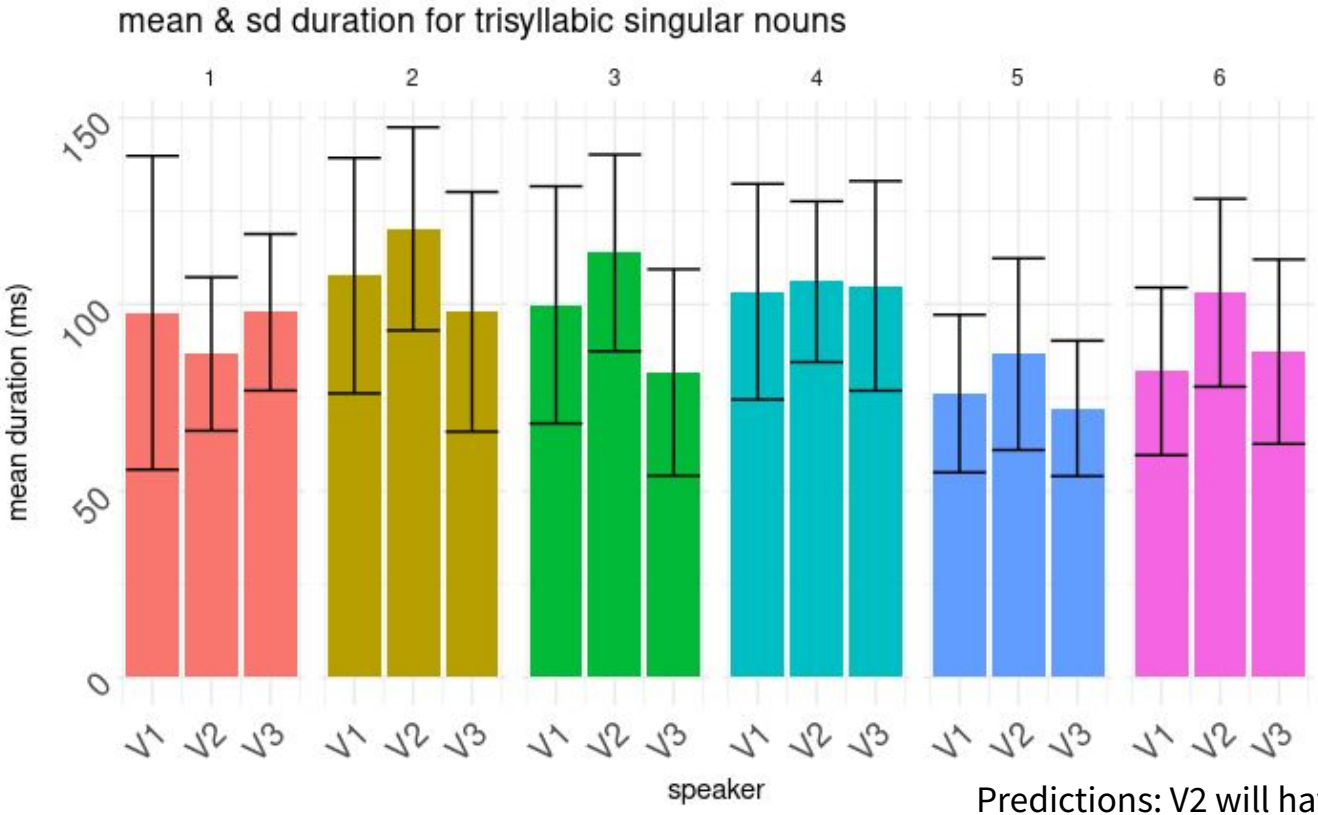
Bisyllabic bare nouns: Duration

Predictions: stress in polysyllabic words is anchored on the second syllable from the left (Aurrekoetxea et al. 2015), and there will be multiple correlates of stress (Gandarias et al. 2015)



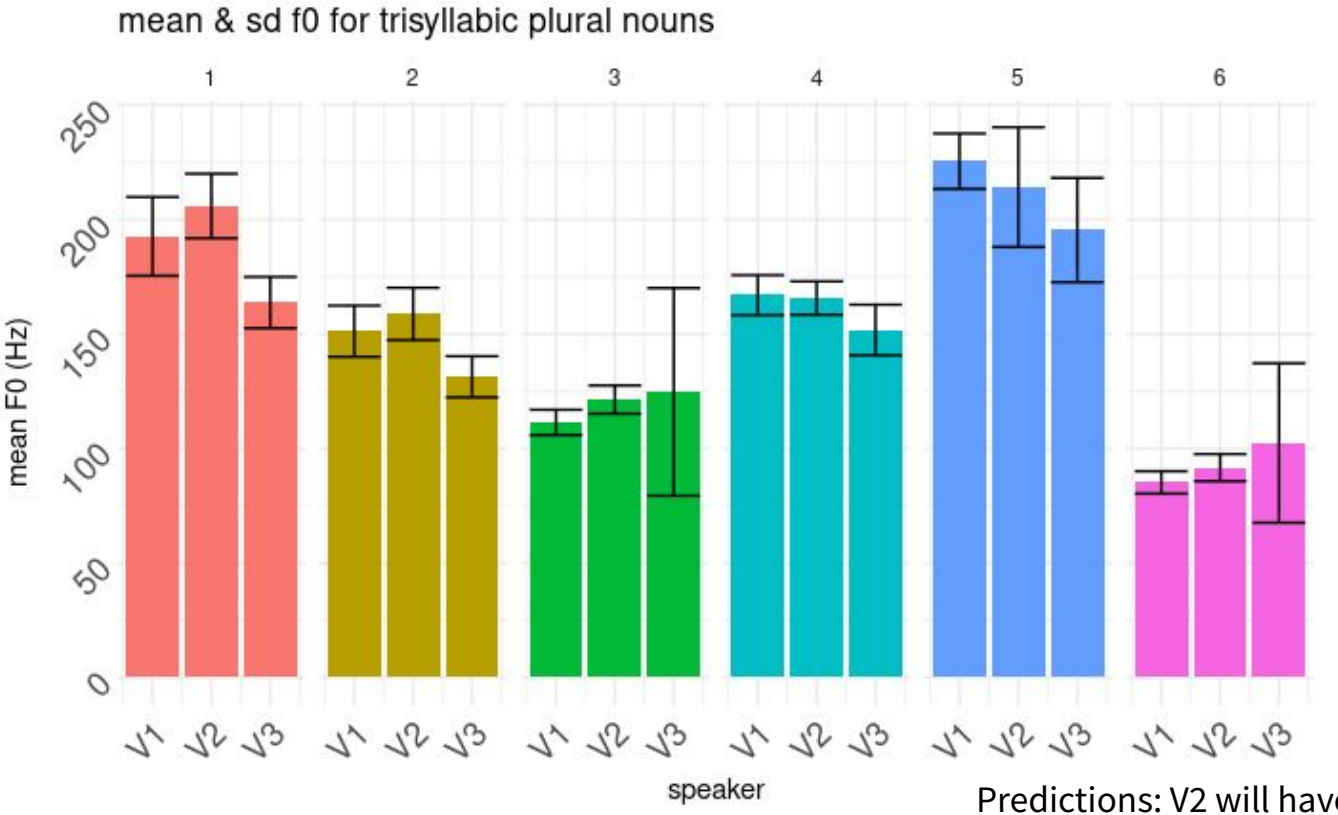
Trisyllabic singular nouns: F0

Predictions: V2 will have the highest values and pre-accent V1 will measure higher than post-accent V3 (Gandarias et al. 2015)



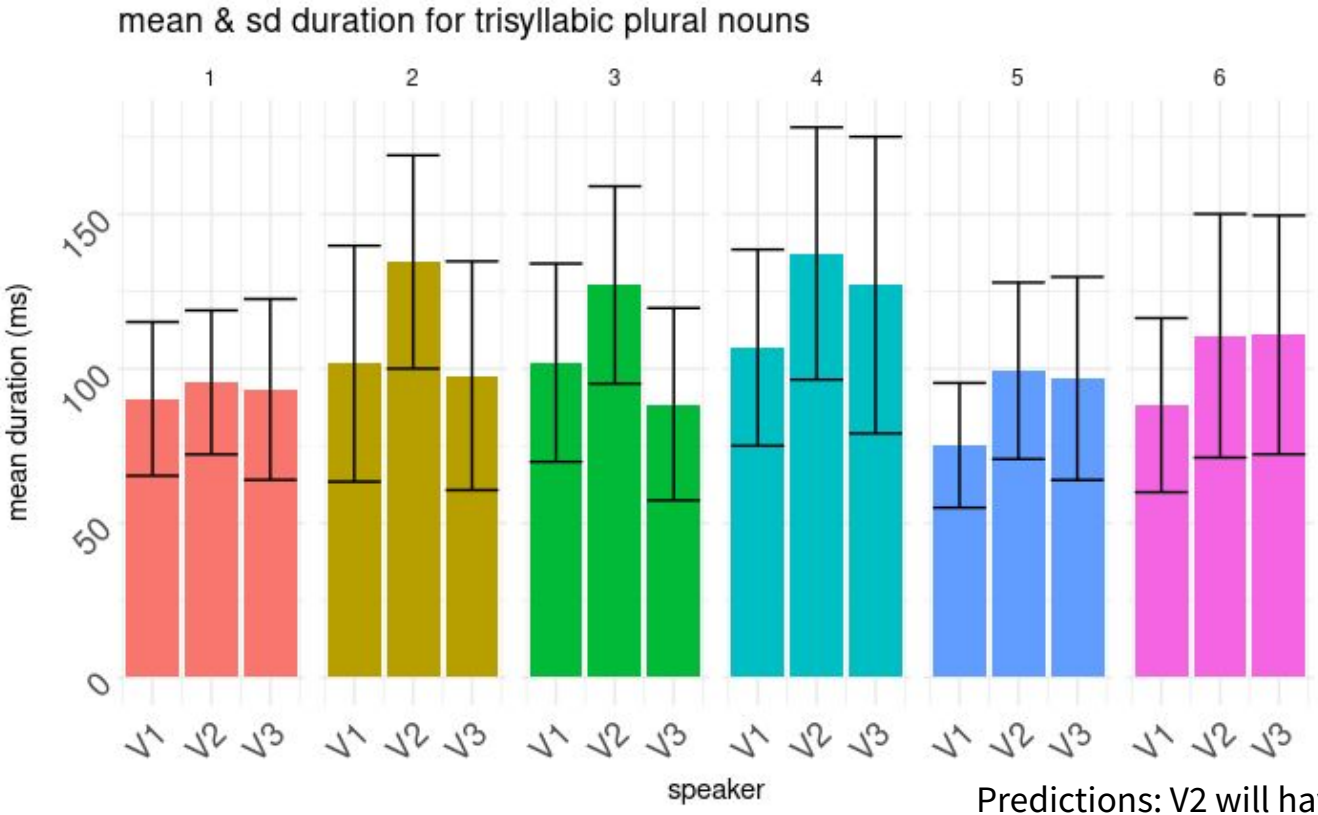
Trisyllabic singular nouns: Duration

Predictions: V2 will have the highest values and pre-accent V1 will measure higher than post-accent V3 (Gandarias et al. 2015)



Trisyllabic plural nouns: F0

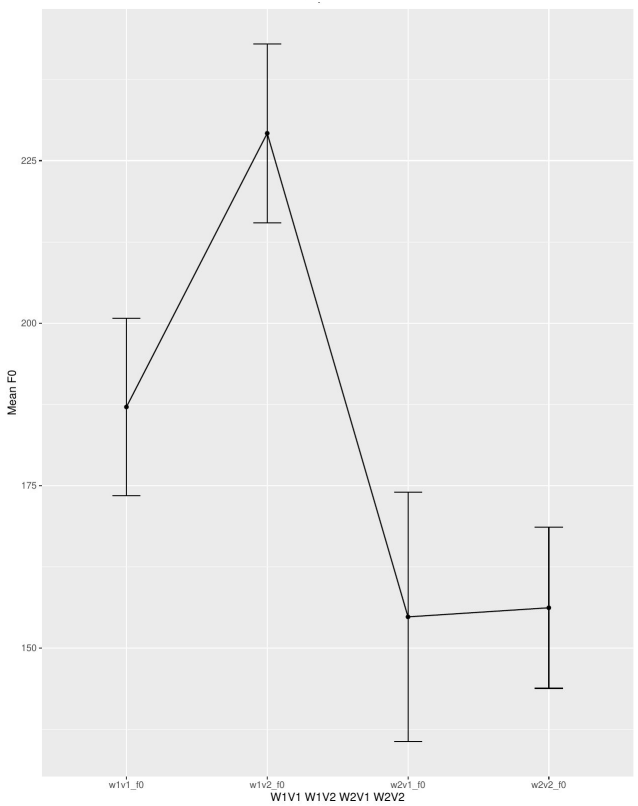
Predictions: V2 will have the highest values and pre-accent V1 will measure higher than post-accent V3 (Gandarias et al. 2015)



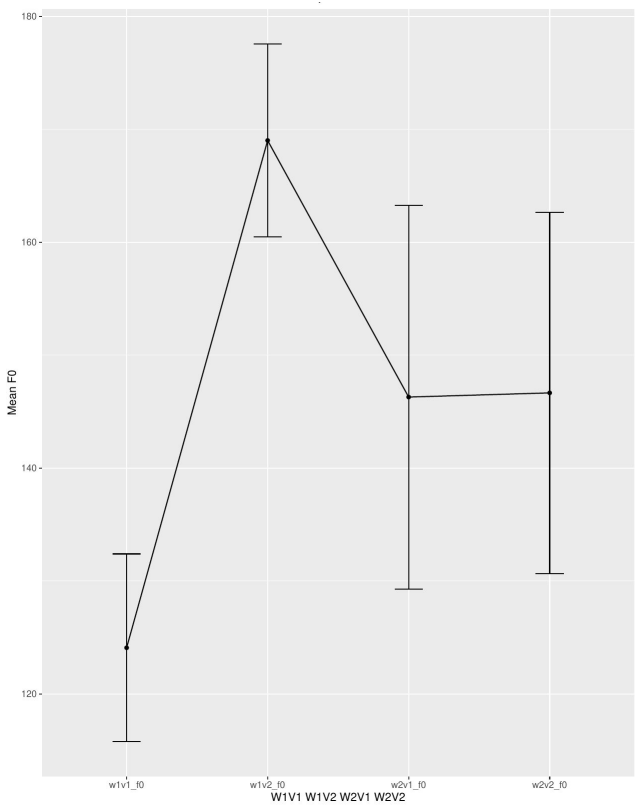
Trisyllabic plural nouns: Duration

Predictions: V2 will have the highest values and pre-accent V1 will measure higher than post-accent V3 (Gandarias et al. 2015)

Speaker 2



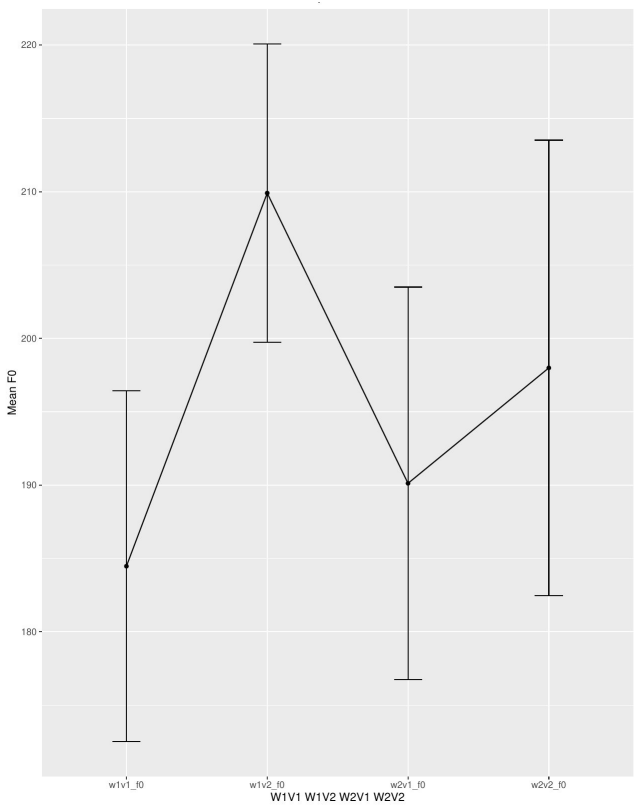
Speaker 3



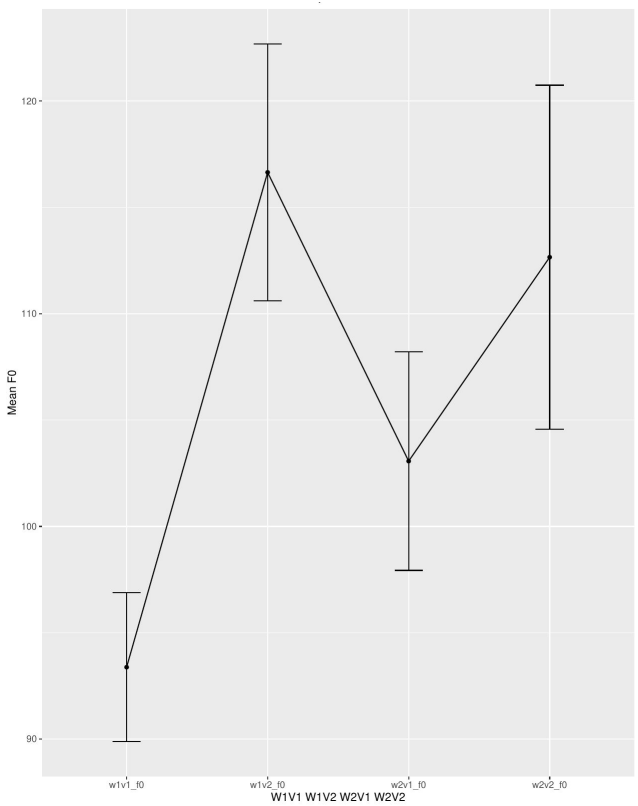
Declaratives: Speakers 2 & 3

Prediction: clear downstep (Hualde & Elordieta 2014)

Speaker 4



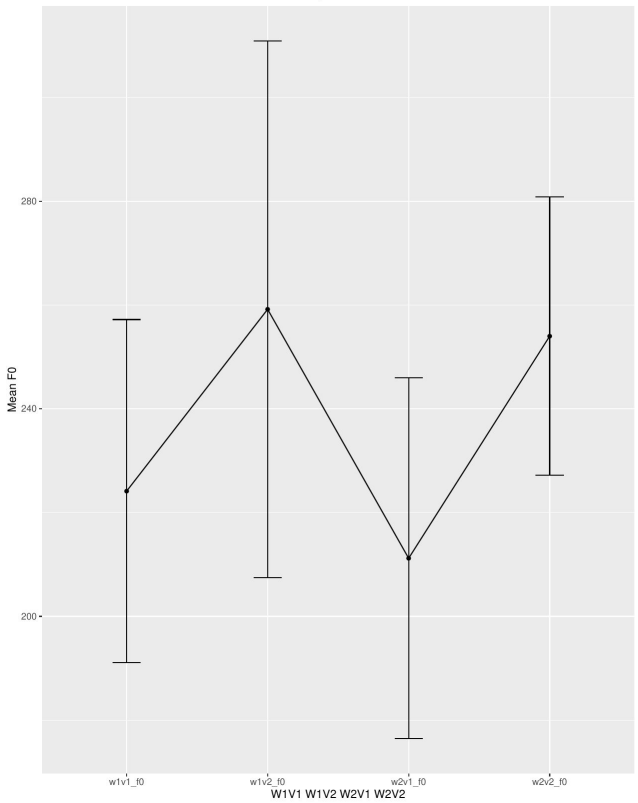
Speaker 6



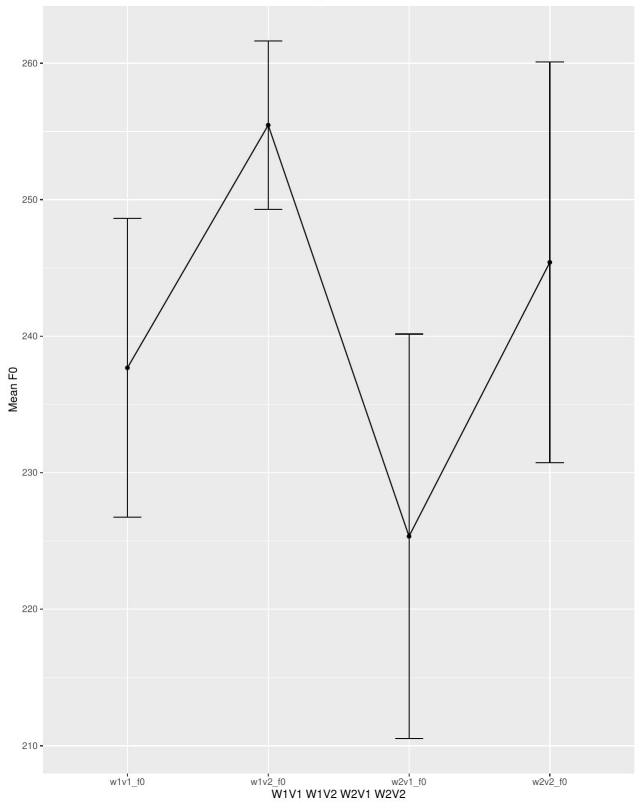
Declaratives: Speakers 4 & 6

Prediction: clear downstep (Hualde & Elordieta 2014)

Speaker 1



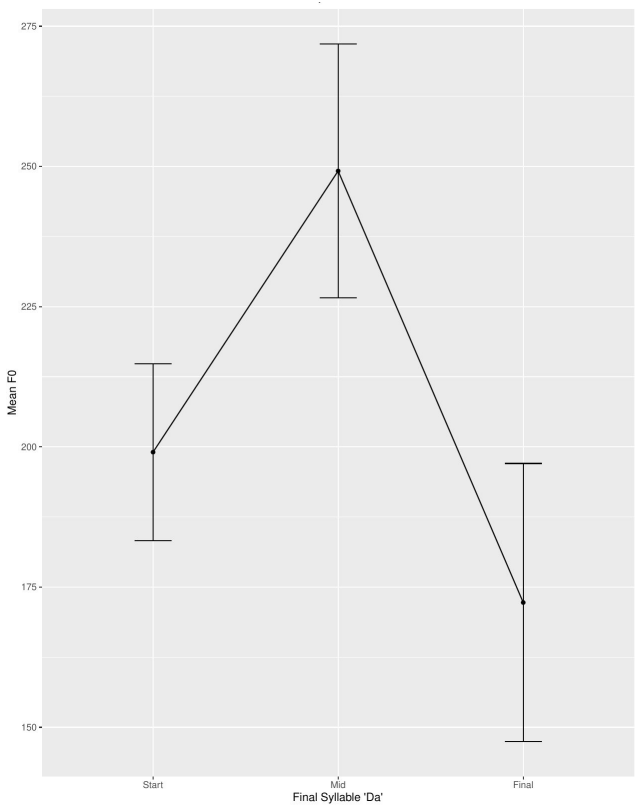
Speaker 5



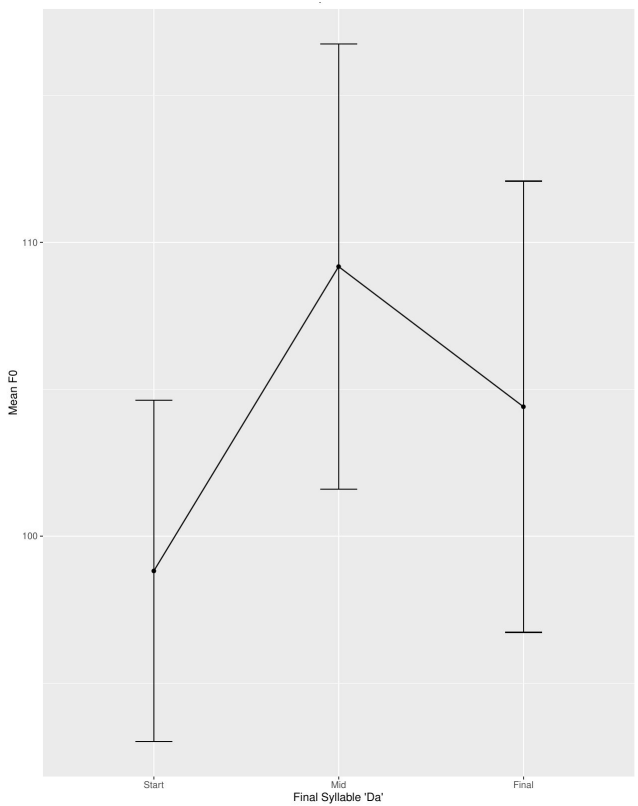
Declaratives: Speakers 1 & 5

Prediction: clear downstep (Hualde & Elordieta 2014)

Speaker 2



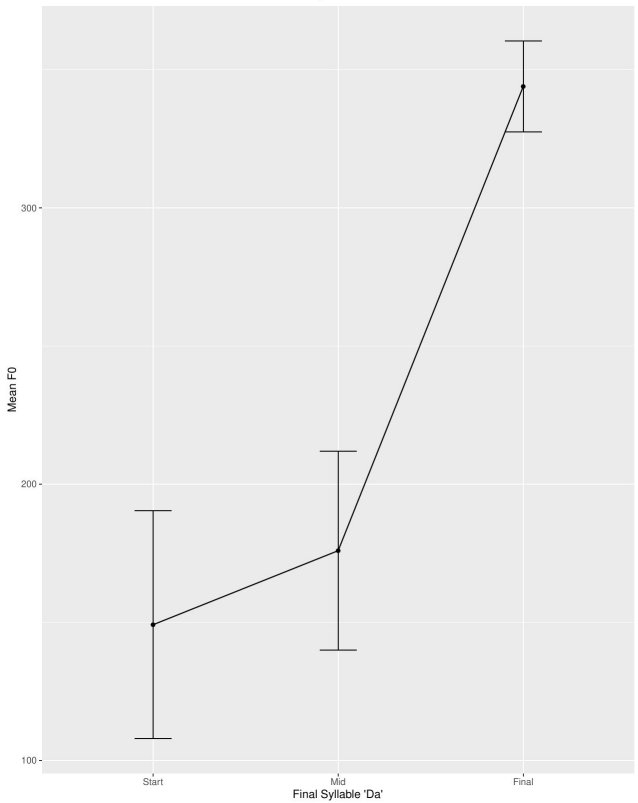
Speaker 6



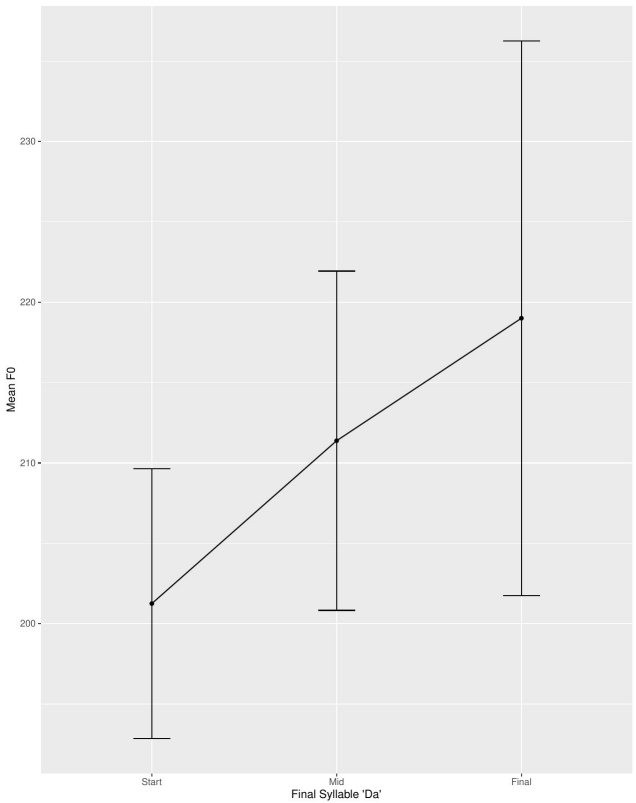
Interrogatives: LHL%

Prediction: HL% or LHL% for Basque dominance, H% or LH% for Spanish influence (Eguskiza et al 2019).

Speaker 1



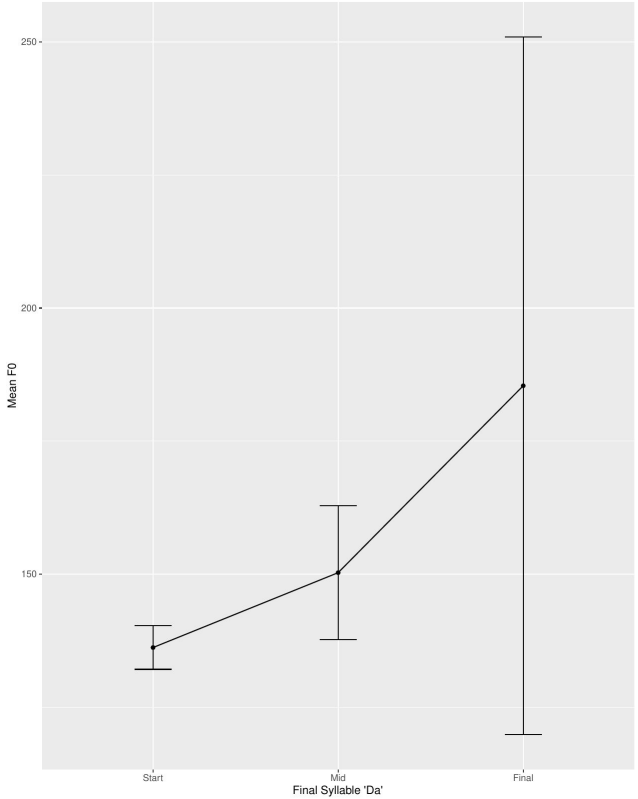
Speaker 3



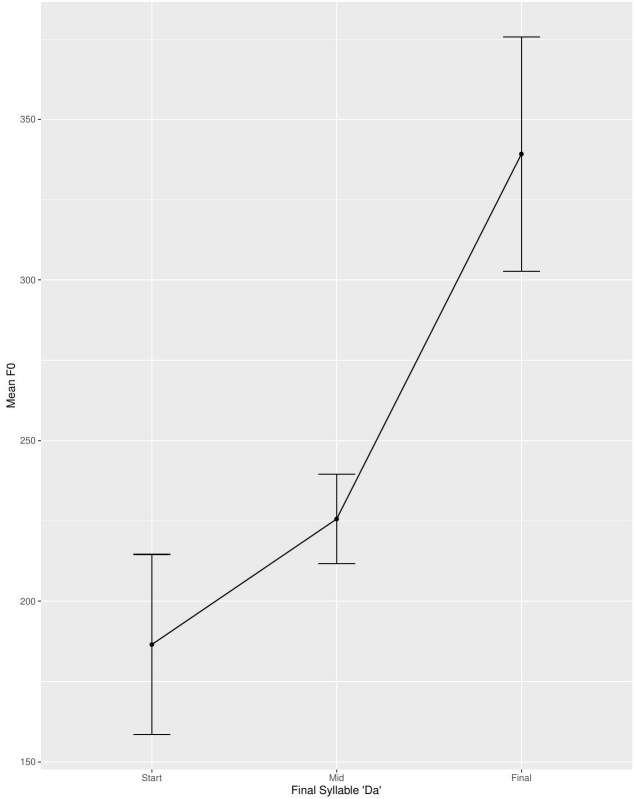
Interrogatives: H%

Prediction: HL% or LHL% for Basque dominance, H% or LH% for Spanish influence (Eguskiza et al 2019).

Speaker 4



Speaker 5



Interrogatives: LH%

Prediction: HL% or LHL% for Basque dominance, H% or LH% for Spanish influence (Eguskiza et al 2019).

Task 1				Task 2			
Bisyllabic stimuli		**Trisyllabic Stimuli**		**Declaratives**		**Interrogatives**	
Predictions	*Results*	*Prediction*	*Results*	*Prediction*	*Results*	*Prediction*	*Results*
Stress will be anchored on 2nd syllable from the left	Variation in stress placement for LL constructions	V2 will have the highest measurements	Speakers often measured highest in V1 or V3	Each word will have a stressed syllable & downstep will occur	Intensity & duration are in accordance but pitch is not employed equally across speakers	Speakers will produce one of four intonation patterns, providing insight into language dominance	Speakers produced 3 patterns, two of which are tied to Spanish language dominance
There will be multiple correlates of stress	All speakers produced V2 with longer duration regardless of f0	V1 will measure higher than V3	High variation for most speakers				

Conclusions & Discussion

Some key takeaways...

- In agreement with Rodríguez-Ordóñez (2019), we can see that not all speakers use all three acoustic properties (f0, duration, intensity) as indicators of stress.
- Syllable weight can and does affect stress placement!
- Extrametricality can be affected by morphological boundaries!
- There is a lot of fluctuation at both the inter- and intra-speaker level:
    - A number of speakers produced multiple contrastive patterns in the same recording
    - Speakers that did show prominent patterns display and maintain clear influence from contact with NBB varieties
- We found attestations of two of the same interrogative pitch contour patterns found in Eguskiza et al. (2019), supporting their finding of more—rather than less—variation.

Where do we go from here?

- Although results overlap with previously reported findings, they can’t be said to support them unilaterally; there’s a ton of speaker variation both within and across speakers
    - We need more data! There’s more to be said about language dominances, speaker perceptions of “nativeness”, speaker feelings towards the Standard vs the more traditional dialects.
    - Metalinguistic commentary can open up new paths of exploration with regards to typologization and the influence/consequences of language & dialect contact.

Thank You!

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Errata

Statistical Model Breakdown

Interaction between maximum f0 and light syllables

Interactions between f0 (max & mean) and V2

Interactions between f0 (max & mean) and V3

Interactions between duration and V2

Interactions between duration and V3

Intensity only saw significant interaction with V3

Individual speaker results hint that word form plays a role in the production of words in isolation; singular forms continually returned significant values. Extrametricality might be the result of truncation/elision processes that occur when adding postpositions.

These results could be the effect of contact with Spanish/Spanish dominance but it has also been found in previous studies that speakers of traditional dialects can lose pitch as a correlate and compensate with increased duration (Rodríguez-Ordóñez 2018, 2019).