Ellipsis in Contact: VPE and Sluicing in Spanish Heritage Speakers

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Roadmap

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Introduction

- Heritage Speakers (HSs): Bilinguals with a particular acquisition history (Polinsky & Montrul 2021):
  - L1 = Heritage Language (HL), acquired naturalistically from early childhood
  - Around school age, transition into the language of the region, which becomes their Dominant Language (DL)
  - Heterogenous group: Great variability in proficiency and language use/history

- Properties of HLs are informative with regard to (Lohndal et al., 2019):
  - The effects of quantity, type, and timing of input in ultimate attainment
  - The resilience of different grammatical properties
  - Patterns of transfer and change

Characteristics of HL grammars

- **Domains**: Compared to L1 Dominant Speakers (DSs):
  - Phonetics/Phonology is quite robust, especially in perception (Kim, 2024).
  - Morphosyntax and syntax-pragmatics interface is more variable (Benmamoun et al., 2013).

- **Processes**: Many report findings consistent with both majority language **transfer** (Montrul, 2022; cf. Polinksy, 2018; Romano, 2021) and "**simplification**" or erosion of constraints (Montrul, 2022; cf. Polinsky et al., 2024), e.g., HL Spanish - DL English
  - Gender (Montrul et al., 2008)
  - DOM (Montrul & Sánchez-Walker, 2013)
  - Subjunctive (Montrul, 2009)
  - Null subjects (Montrul, 2004)

HL grammars and the Silent Problem

- **Structures**: Many divergent structures in HL involve silence.
- The ***Silent Problem***: Even highly proficient HSs differ from their monolingual counterparts in their ability to produce and evaluate missing elements with discourse antecedents. (Laleko & Polinsky, 2017)
  - Null pronominals (Ivanova-Sullivan, 2014; Laleko & Polinsky, 2017; Montrul, 2004)
  - Object relativization gaps (O'Grady et al., 2001; Polinsky, 2011)
  - V-stranding Verb Phrase Ellipsis (HL Russian, DL English: Polinsky, 2016)
- **Our study** – Two ellipsis structures to inform (i) the Transfer vs. Simplification debate and (ii) the *Silent Problem* hypothesis:
  - Sluicing: Shared between Spanish and English
  - VPE: English represents a superset of structures allowed in Spanish

Ellipsis

- Ellipsis involves deletion under identity
- Assumptions:
  - There is complex **structure** in the ellipsis site
    - Empirical evidence from acquisition studies (Mateu & Hyams, 2021)
  - It is regulated by a universal **identity condition** (Merchant, 2019; Ranero, 2021)
  - There exists language-specific licensing of elliptical constructions:
    - [E]-feature on a functional head licenses ellipsis (Merchant, 2001)
    - This approach encodes variation straightforwardly, e.g.,
      - English has Aux-stranding VPE; relevant head can bear [E]
      - Spanish doesn't have Aux-stranding VPE; relevant head cannot bear [E] (Dagnac, 2010; Lopez, 2009)

Ellipsis type: Sluicing

- Clausal ellipsis with a *wh*-remnant (Ross, 1969)

  (1) *Someone knocked at the door, but I don't know who* _.

- **Spanish = English**

  (2) *Alguien tocó a la puerta, pero no sé quién* _
  someone knocked at the door but not know who
  'Someone knocked at the door, but I don't know who_.'

Ellipsis type: Verb Phrase Ellipsis (VPE)

- **Spanish**: **Auxiliaries** do not license VPE (*AuxVPE), only **Modals** (ModVPE) do.

  (3) **Marcos está estudiando y Pedro también está _.* *AuxVPE
  Marcos is studying and Pedro also is
  Intended: 'Marcos is studying, and Pedro is, too.'

  (4) *Marcos puede venir mañana y Pedro también puede _.*
  Marcos can come tomorrow and Pedro also can ModVPE
  'Marcos can come tomorrow, and Pedro can, too.'

- **English**: **Auxiliary-** and **Modal**-stranding (AuxVPE and ModVPE) are licensed.

  (5) *Marcos is studying, and Pedro is _ too.* AuxVPE

  (6) *Marcos can come tomorrow, and Pedro can _ too.* ModVPE

Our study

- **Contributions:**
  - A seldom examined contact scenario: **Spanish (HL) VPE** forms a **subset** of the options in English (DL) → potential for transfer/innovation (vs. loss)
  - A well-studied phenomenon (ellipsis) in a well-studied pair (English DL–Spanish HL) — but **never examined in this combination**
- **RQs:**
  1. Does the Silent Problem apply to all (aspects of) silent structures?
     Specifically, do HSs and DSs differ in their judgments of Sluicing and/or VPE?
  2. Are HSs' judgments shaped by proficiency or language use history?

Possible outcomes

1. There's a difference between HSs and DSs with **both VPE and Sluicing**
    - In line with the Silent Problem, i.e., particular variability with all silence that arises from a general processing/representational burden
2. There's a difference between HSs and DSs **only with VPE**
    - DL transfer results in innovation in HL (AuxVPE in En → Sp)
3. There are **no differences** between groups
    - The *Silent Problem* becomes suspect
    - Transfer is not as prevalent among HSs as traditionally proposed (Polinsky, 2018; Romano, 2021)

Methods: Participants and procedure

- 33 L1-dominant Spanish speakers (DSs)
- 40 Heritage Speakers (HSs) of Spanish
- One web-based session (~30 min):
  - Linguistic profile questionnaire
  - Proficiency task: LexTale-Esp (Izura et al., 2014; Lozano-Argüelles & Gatti, 2025)
  - Experiment (PC Ibex, Zehr & Schwarz, 2018)

Table 1. Lexical Proficiency and Spanish Use.

	DSs (*n* = 33)	**HSs (*n* = 40)**
Current Sp Use (range)	79.85% (10-100%)	24.74% (0-70%)
Childhood Sp Use (range)	98.94% (80-100%)	67.38%% (10-100%)
LexTale (range)	48.39/60 (29-60)	24.8/60 (0-58)

Materials

- Acceptability Judgment Task (AJT) - 72 sentences
  - Simultaneous written/aural presentation
- Likert scale 1-7
- Materials:
  - Training items: Trained participants to employ high end vs. low end of scale (3 items)
  - Test items: Ellipsis (48 items)
    - ModVPE: *deber* ‘must’*, poder* ‘can’
    - *AuxVPE: *haber* ‘have’, *estar* ‘be’
    - VoiceMatch Sluices: active-active, passive-passive
    - *VoiceMismatch Sluices: active-passive, passive-active
  - Controls: Preposition/*Missing Preposition (12 items) >50% accuracy required
  - Fillers: Proclitics/*Enclitics (12 items)

Materials

(7a) *María* ***puede*** ***bailar*** *salsa bien, y* *Patricia también* ***puede****.* *ModVPE*
María can dance salsa well, and Patricia also can *poder*
'María can dance salsa well, and Patricia can, too.'

(7b) **Laura* ***está*** ***estudiando*** *lingüística este semestre, y* *Evelyn también* ***está****.* **AuxVPE*
Laura is studying linguistics this semester and Evelyn also is *estar*
Intended: 'Laura is studying linguistics this semester, and Evelyn is, too.

(8a) *Alguien escribió esta evaluación recientemente, pero Miguel no sabe* ***quién****.* *VoiceMatch*
Someone wrote this evaluation recently but Miguel not knows who *active-active*
'Someone wrote this evaluation recently, Miguel doesn't know who.'

(8b) **Un jardinero plantó las flores cuidadosamente, pero el dueño no sabe* ***por cuál.*** **VoiceMismatch*
a gardener planted the flowers carefully but the owner not knows by which *active-passive*
Intended: 'A gardener planted these flowers carefully, but the owner doesn't know by which one.'

N.b. Independent evidence from Mauffray (2024) that HSs maintain periphrastic passives.

Example stimulus: ModVPE

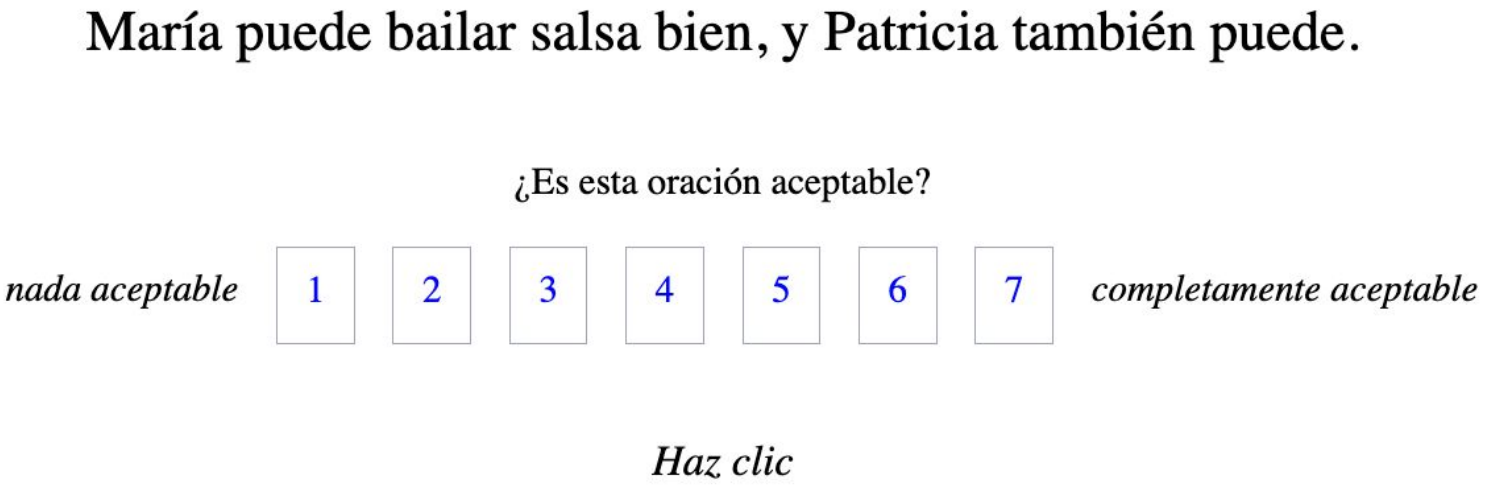

Figure 1. Example stimulus with ModVPE.

Example stimulus: *AuxVPE

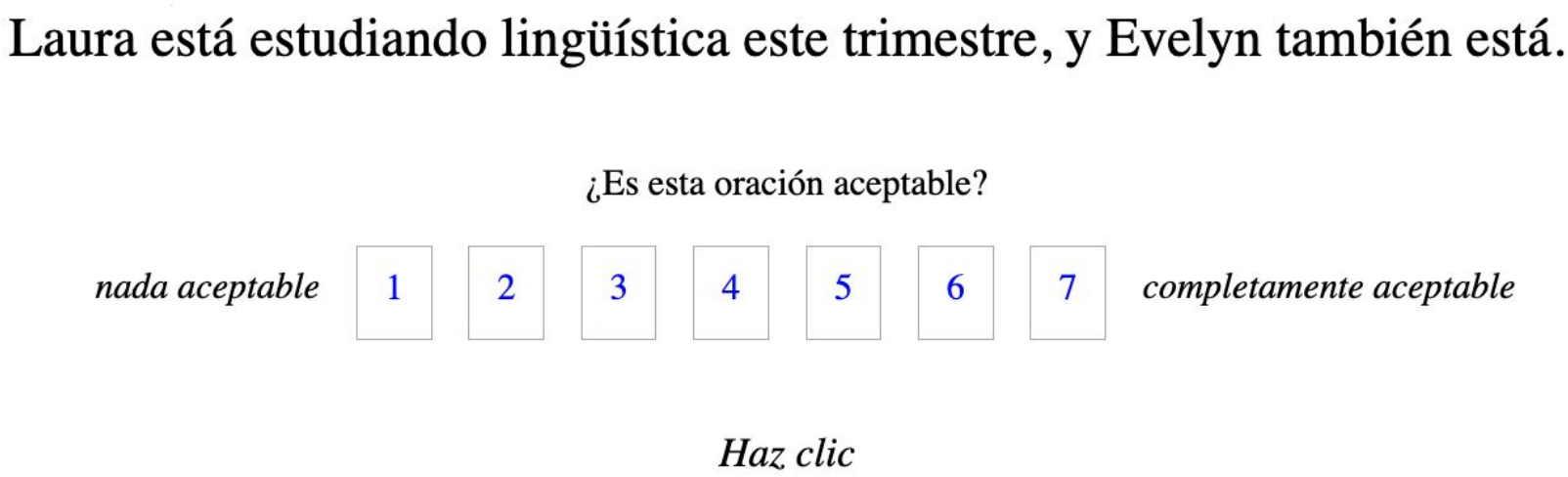

Figure 2. Example stimulus with *AuxVPE.

Results: By condition I

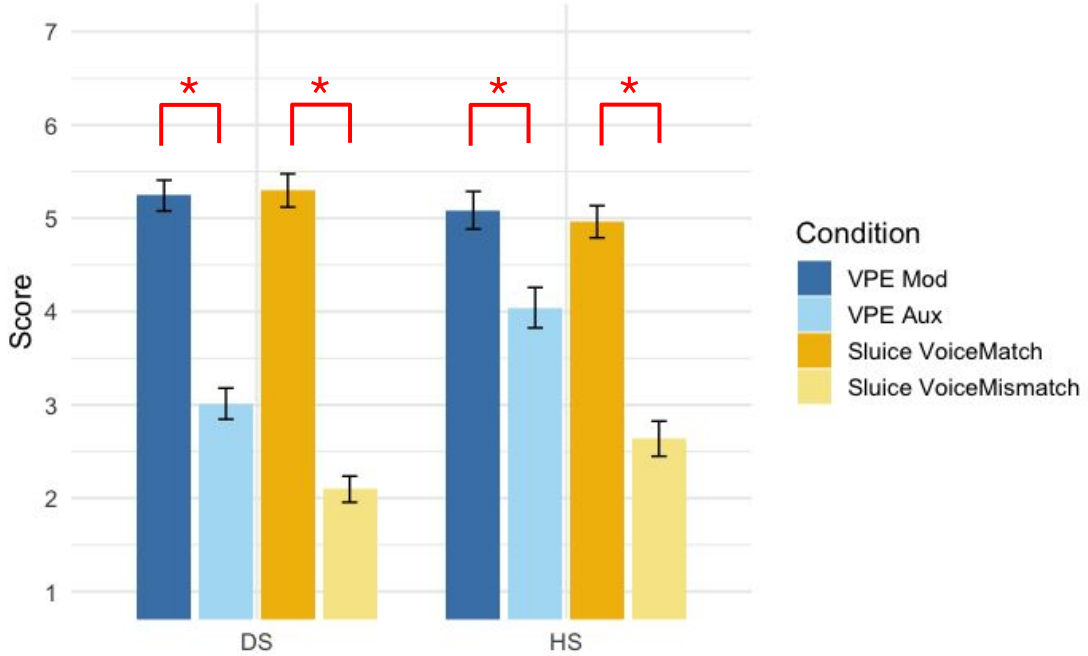

Figure 3. Mean results and SEs from AJT by group and condition.

Cumulative Link Mixed Model (`ordinal`) with post-hoc pairwise comparisons (`emmeans`) shows:

- VPE Mod > VPE Aux (*p*s < .001)
- Sluices with VoiceMatch > Sluices with VoiceMismatch (*p*s < .001)

Results: By condition II

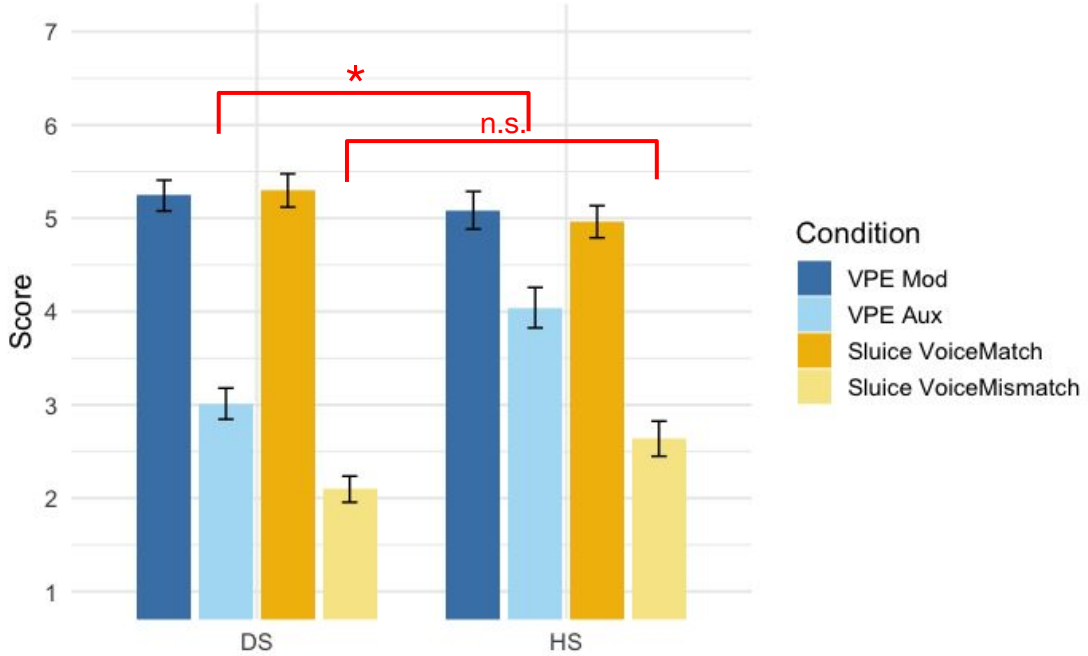

Figure 3. Mean results and SEs from AJT by group and condition.

BUT:

- HSs rate VPE Aux **higher** than DSs ($p < .001$)

In contrast:

- HSs do **not** rate Sluices with VoiceMismatch **higher** than DSs ($p = .288$)
- HSs also do **not** rate ungrammatical Control sentences **higher** than DSs ($p = .496$) → NOT a yes-bias

Results: AuxVPE - Individual variables

Within the HS group, **no individual variable** included in our study **predicted** their evaluation of AuxVPE:

- Proficiency (LexTale) (M = 24.8/60, range = 0-58, p = 0.218)
- Percent of Spanish use currently (M = 24.74%, range = 0-70%, p = 0.165)
- Percent of Spanish use during childhood (M = 67.38%, range = 10-100%, p = 0.935)

Discussion

- HSs discriminate between Modal vs. AuxVPE, and VoiceMatch vs. VoiceMismatch Sluicing.
- However, HSs overaccept AuxVPE, but *do not* overaccept VoiceMismatch Sluicing.
- The ***Silent Problem*** (Laleko & Polinsky, 2017) does not apply to all (properties of) silent structures.
  - Unproblematic:
    - Identity Condition, through Sluicing (this study)
  - Problematic:
    - Ellipsis licensing, through VPE (this study)
    - Null pronominal licensing (Ivanova-Sullivan, 2014; Laleko & Polinsky, 2017; Montrul, 2004)
    - Object-relativization gap dependencies (O'Grady et al., 2001; Polinsky, 2011)

Discussion

- **Sluicing**: No difference
  - The *Identity Condition* tested in sluices is **shared** between the HL and the DL
  - **Universal properties** are **less susceptible to change** (divergence or attrition) (Benmamoun et al., 2013; Polinsky, 2018; Scontras et al., 2015)
- **VPE**: Difference
  - **Transfer** as a source of divergence in HL (e.g., Montrul, 2010, 2023, cf. Polinksy, 2018; Romano, 2021)
  - Rare instance of **complexification** or **innovation** in terms of structural elaboration (Dahl, 2004; McWhorter, 2007), i.e., more features/structures available in HL
    - P-stranding in HL Spanish (DL English) (Pascual y Cabo & Soler, 2015)
    - Parasitic gaps in HL German (DL English) (Sewell & Salmon 2014)

Discussion

- **Factors** that modulate transfer of AuxVPE:
  - Neither **Proficiency** nor **Spanish input/output** (currently or during childhood) predicted HSs' acceptability of AuxVPE
  - Possible modulating factor: **Language activation** (*Language Activation Model*, Perez-Cortes et al., 2019; Putnam & Sanchez, 2013)
    - Reduced inhibition of DL English leads to **seeping** of [E]-feature onto Spanish Aux^0
      - This could lead to restructuring/reassembly of HL Sp Aux^0

Conclusions and Future Directions

- Spanish HSs discriminate between ModVPE and AuxVPE
- They behave like DSs with respect to Sluicing
  - Not all silent structures are difficult for HSs
- *But* they overaccept AuxVPE
  - Neither lexical proficiency nor Spanish use predicts performance
  - Reduced inhibition of the DL → transfer of [E]-feature from DL into HL

- **Future Directions:**
  - Further evaluating the *Language Activation Model* (Putnam & Sanchez, 2013; Differential Access Model, Perez-Cortes et al., 2019) by:
    - Testing production (they predict Aux VPE productions in HL Spanish)
    - Adding an independent measure of executive function/inhibition
  - Polarity-remnant ellipsis (are HSs showing transfer+*loss* too?)
  - Verb-stranding VPE or epistemic modal stranding VPE (are HSs showing overgeneralization of ellipsis?)

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