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Subject-predicate code-switching: Testing the need of a matrix language through embedding

Outline


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Code-switching

Bilingual phenomenon commonly defined as the fluid alternation between languages during conversation (Poplack, 1980)

- Today's talk focuses on intrasentential code-switching (CS)

Common findings from CS research:

- Not bilingual deficiency or language detrition
- Rule-governed phenomenon

(1) a. ***Ese hombre*** ordered a glass of water.

b. * ***Él*** ordered a glass of water.

Code-switching

Continued debate on what determines such rules

- Two prominent proposals:
  - Matrix Language Frame (MLF) Model (Myers-Scotton, 1993, 2002)
  - Minimalist approach to CS (MacSwan, 1999, 2014)
- Diverge drastically with regard to the notion of a matrix language

Is it essential to differentiate between the languages involved in CS, i.e. matrix language vs. embedded language?

Matrix Language Frame Model

Restrictions on intrasentential CS are dictated by one of the two languages, i.e. the matrix language (Myers-Scotton, 1993, 2002)

- Status of the matrix language is dynamic, even within the same discourse
- Grammaticality stems from the distinction between content morphemes and system morphemes
  - Broadly speaking, system morphemes are the functional and inflectional material, whereas content morphemes are lexical
  - System morphemes need to be in the matrix language
  - Content morphemes can be from either language

Minimalist Approach

Restrictions on intrasentential CS is determined by the interaction of the two grammars in question (MacSwan, 1999, 2014)

- Irrespective of the identification of a matrix (or embedded) language
- Follows contemporary Chomskyian syntax
- One syntactic system combines elements from two lexicons
  - Elements can be merged from either language, but the feature checking between elements needs to be grammatical
- Considered a “no third grammar” approach

Pronouns in Code-switching

Restriction against a pronoun switched with a finite verb has been known for quite some time (Gumperz, 1977; Lipski, 1978; Timm, 1975; among others)

- Contrasts sharply with that of a lexical subject switch

(1) a. ***Ese hombre*** ordered a glass of water.

b. * ***Él*** ordered a glass of water.

Analyses of Pronouns in Code-switching

Jake (1994) provides an MLF analysis

- Matrix language can be assumed to be English
  - Based on a "frequency based criterion" (Myers-Scotton 1993:68)
- Lexical subjects are content morphemes (and can switch)
- Pronouns can be either content or system morphemes
  - As an explicit Spanish personal pronoun, *él* is a system morpheme from the embedded language (and can't switch)

Analyses of Pronouns in Code-switching

van Gelderen and MacSwan (2008) provide a Minimalist account based on subject D-to-T movement

- Subject pronouns, such as *él*, are Determiner (D) heads and internally merge with Tense (T)
  - Results in a complex D-T head, which crashes due to the PF Disjunction Theorem (MacSwan, 1999)
- Lexical subjects checks its features in SpecTP
  - Does not result in a complex head (which is why a switch is fine)

Analyses of Pronouns in Code-switching

Koronkiewicz (2014) adopts a Minimalist approach based on pronoun type (Cardinaletti & Starke, 1999)

- Not specific to subject position
- Strong pronouns (e.g., coordination, modification, prosodic stress) are syntactically akin to lexical subjects
- Weak pronouns, such as *él* (as is), lack a DP shell

(2) a. * ***Él*** ordered a gin and tonic.

b. ***Él*** *con el pelo negro* ordered a gin and tonic.

c. ***Él*** *y Alberto* ordered a gin and tonic.

d. *Ella pidió una cerveza, pero* ***ÉL*** ordered a gin and tonic.

Analyses of Pronouns in Code-switching

Regardless of the particular analysis, the data in question are not particularly insightful regarding the importance of a matrix language

- Despite their differences, their predictions with regard to (1) are the same

(3) a. *La mesera no recordó si* ***ese hombre*** ordered a glass of water.

b. *La mesera no recordó si* ***él*** ordered a glass of water.

Embedded Pronouns in Code-switching

Under a Minimalist approach, the predictions would remain constant

- Derivation of the switches in (1) is directly parallel to that of (3)
  - Pronoun switch would still be ungrammatical
  - Lexical subject switch would be fine

As before, the prediction is that the two types of switches would conflict

Embedded Pronouns in Code-switching

Under an MLF approach, the status of the prediction is less clear

What is the matrix language?

- English: Spanish complementizer *si*, as a system morpheme, would make any option ungrammatical
- Spanish: Any subject switch would be grammatical, as it can be either a content or system morpheme

Either way, the prediction is parallel for both lexical subject and pronoun switches

By embedding the subject-predicate switched sentences, the predictions of the two frameworks diverge.

Research Question

Will the (un)acceptability of embedded subject-predicate switches be parallel or distinct from that of matrix subject-predicate switches?

	Matrix Lexical	Matrix Pronoun	Embedded Lexical	Embedded Pronoun
MLF	✓ **YES**	* **NO**	Option 1: * **NO** Option 2: ✓ **YES**	Option 1: * **NO** Option 2: ✓ **YES**
Minimalist	✓ **YES**	* **NO**	✓ **YES**	* **NO**

Participants

Highly proficient US Spanish-English bilinguals ($N = 37$)

- Learned both languages from a young age
  - Between 0 and 7 years of age for both Spanish ($M = 0.5$) and English ($M = 3.5$)
- Between 18 and 31 years old ($M = 23.7$)
- Varied background
  - Primarily Mexican heritage ($N = 30$)
  - Colombian ($N = 3$), Costa Rican ($N = 1$), Cuban ($N = 1$), Honduran ($N = 1$), Venezuelan ($N = 1$)

Task

Written acceptability judgment

- Spanish-English code-switched sentences ($N = 55$)
- Monolingual blocks of Spanish ($N = 16$) and English ($N = 16$)
- 7-point Likert scale
  - 1 = 'completely unacceptable / completamente inaceptable'
  - 7 = 'completely acceptable / completamente aceptable'
- Completed online via Google Docs

Preceded by background questionnaire

Followed by language attitudes survey

Stimuli

2 x 2 design

- Subject type: Lexical vs. pronoun
- Switch location: Matrix vs. embedded

Matrix Lexical Switch	($N = 5$)
Matrix Pronoun Switch	($N = 5$)
Embedded Lexical DP Switch	($N = 8$)
Embedded Pronoun Switch	($N = 8$)

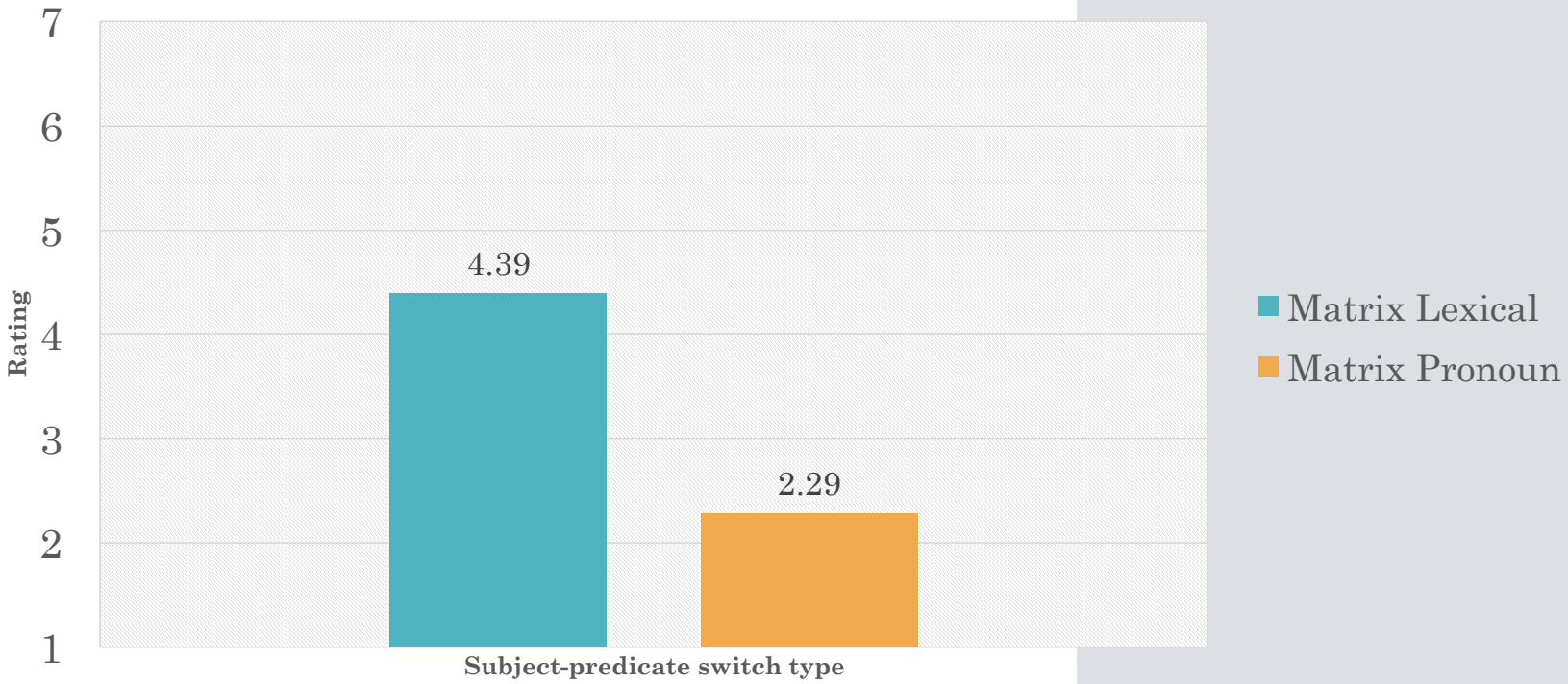
(1) a. ***Ese hombre*** ordered a glass of water.

b. ***Él*** ordered a glass of water.

(2) a. *La mesera no recordó si* **ese hombre** ordered a glass of water.

b. *La mesera no recordó si* **él** ordered a glass of water.

Mean rating by subject-predicate switch type



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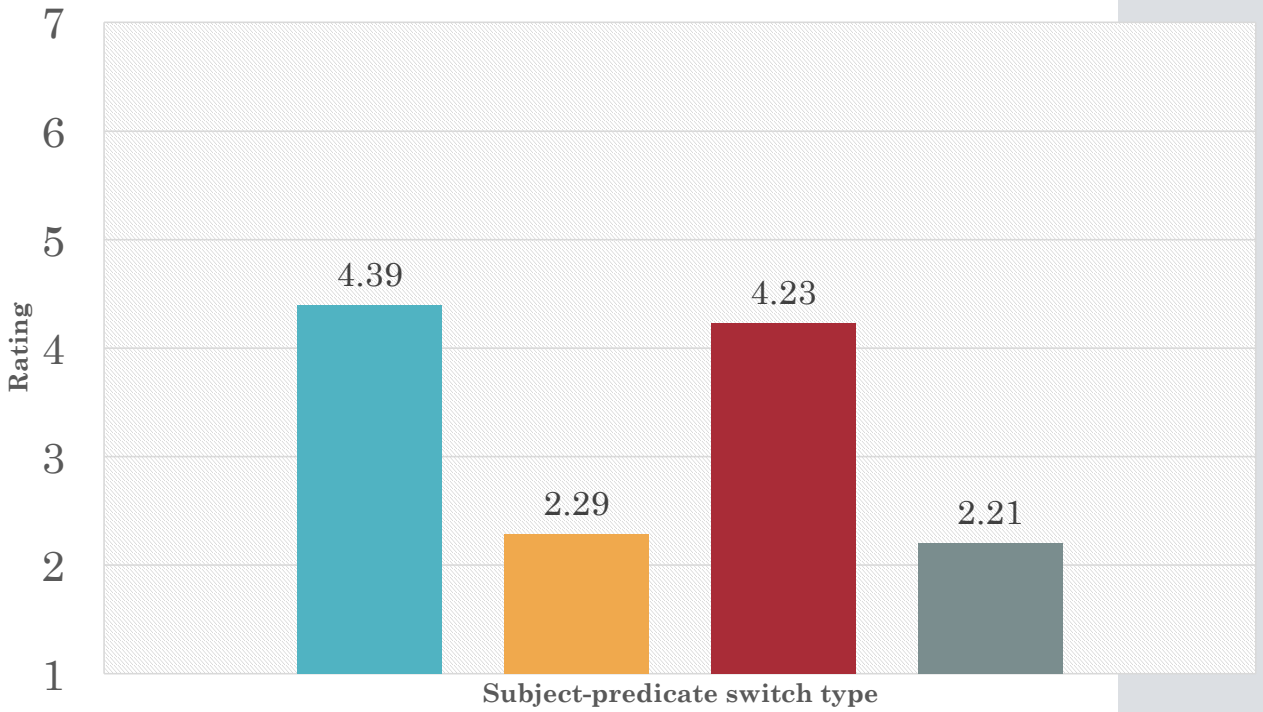
results

Mean rating by subject-predicate switch type

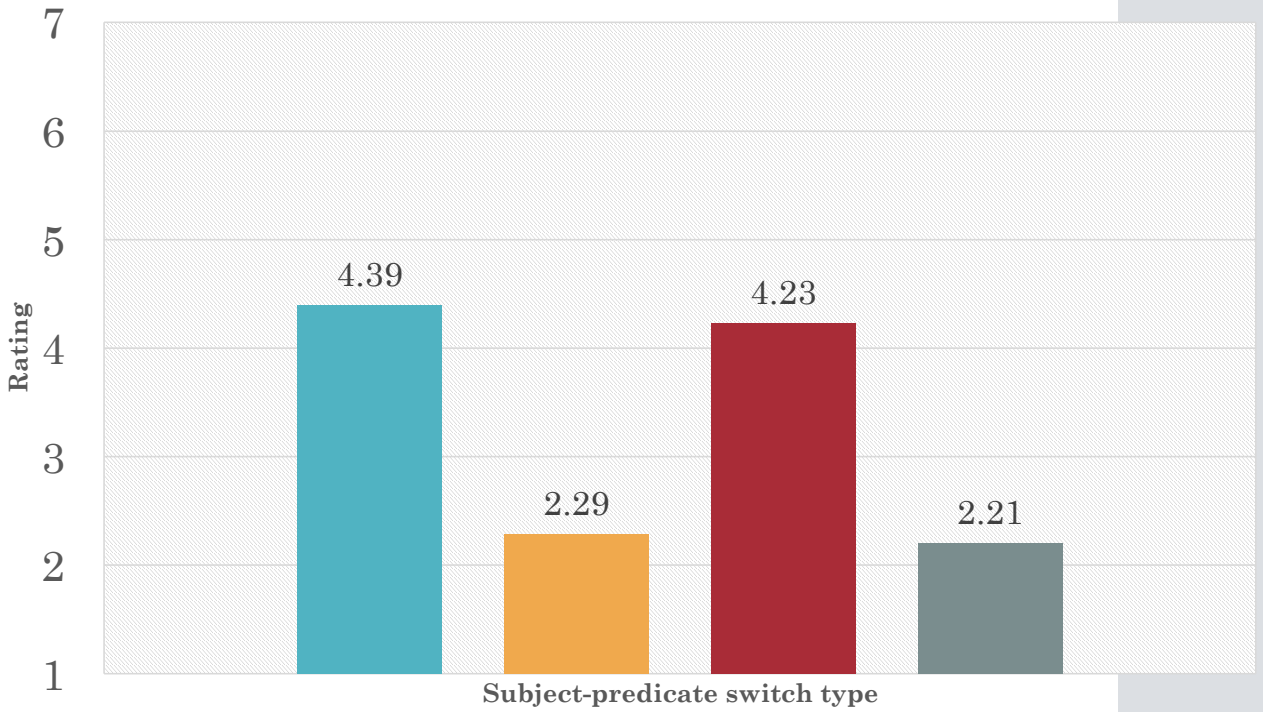


Statistical analysis

Two-way ANOVA

- Pronoun switches significantly lower than lexical subject switches, $F(1,958) = 228.120$, $p < .001$
- No significant difference between matrix and embedded contexts, $F(1,958) = 0.828$, $p = .363$
- No significant interaction, $F(1,958) = 0.103$, $p = .748$

Mean rating by subject-predicate switch type



Findings

Reported distinction between a lexical subject switch and a pronoun subject switch was confirmed

- Provides continued support of this long-held notion (Gumperz, 1977; Lipski, 1978; Timm, 1975; among others)

(Un)grammaticality of subject-predicate switching was not affected by a matrix or an embedded context

- Results were both descriptively and statistically identical

Research Question

Will the (un)acceptability of embedded subject-predicate switches be parallel or distinct from that of matrix subject-predicate switches?

	Matrix Lexical	Matrix Pronoun	Embedded Lexical	Embedded Pronoun
MLF	✓ YES	* NO	Option 1: * NO Option 2: ✓ YES	Option 1: * NO Option 2: ✓ YES
Minimalist	✓ YES	* NO	✓ YES	* NO

5 discussion

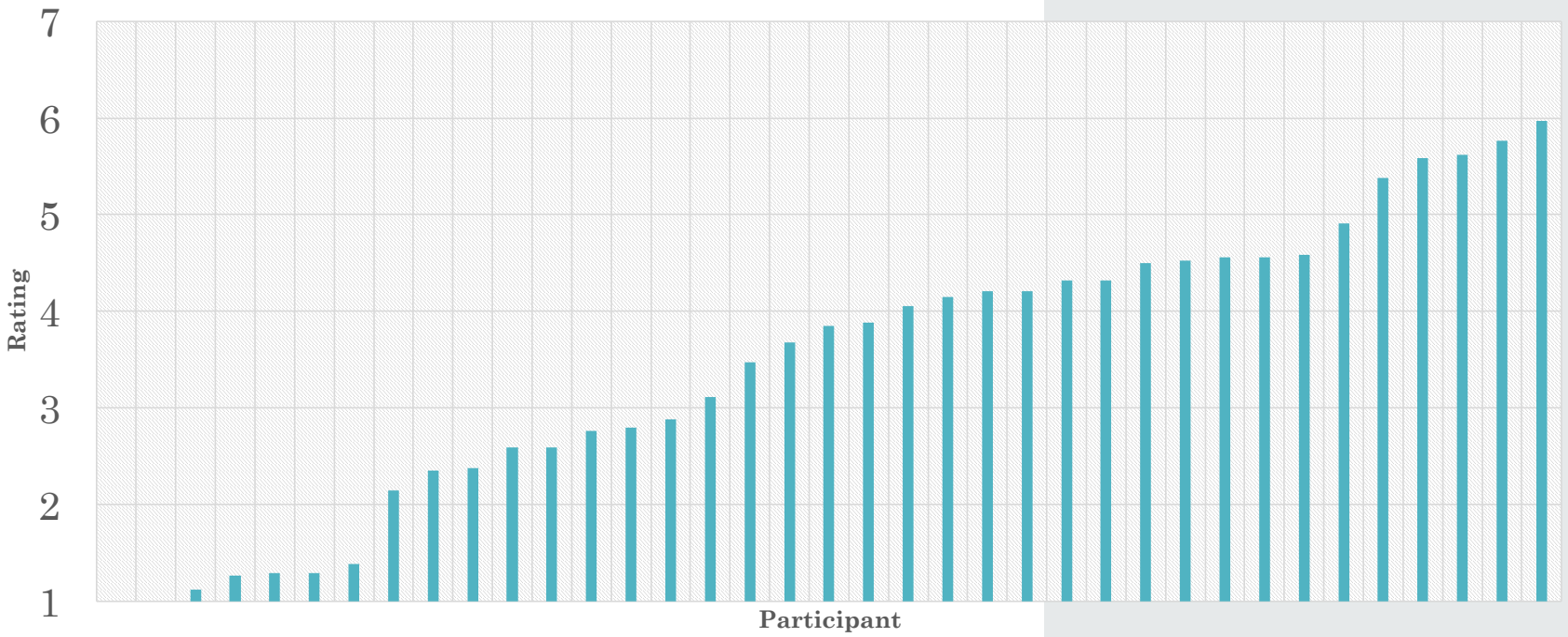
This study provides further evidence against the need to identify a matrix language when attempting to predict the grammaticality of CS.

Lingering Issue

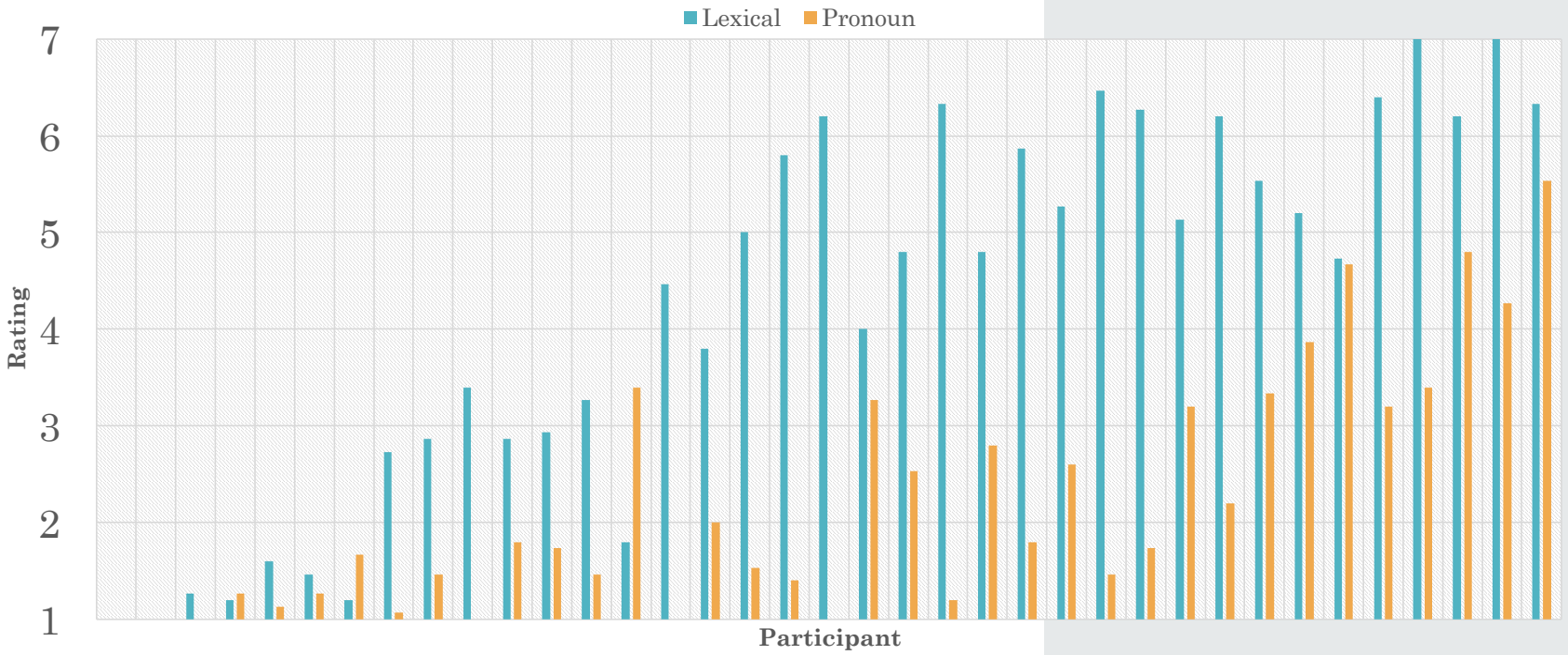
Recall that acceptability was measured on a 7-point Likert scale

- 7 = 'completely acceptable / completamente aceptable'
- Yet the more favorable lexical subject switch scored just above the halfway point
  - Why did the "acceptable" (and commonly attested) sentence type score so low?
- Likely a methodological issue related to bias against CS

Mean rating by participant



Mean rating by participant



Wrap-up

Intended as a project investigating a long-standing issue in CS research regarding theoretical frameworks

- Continues a line of work empirically testing theories of CS (Giancaspro, 2015; Herring, Deuchar, Parafita Couto, & Moro Quintanilla, 2010; McAlister, 2010; among others)
- Results support a "no-third grammar" approach

Contributes to the contemporary issue of a need for continued refinement of methods in CS research (González-Vilbazo et al. 2013; Gullberg, Indefrey, & Muysken, 2009; MacSwan & McAlister, 2010; Myers-Scotton, 2006; Toribio, 2001; among others)

¡Gracias!

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references