

Changing pronoun interpretations across-languages: discourse priming in Spanish-English bilingual speakers

Carla Contemori, Natalia I. Minjarez-Oppenheim

University of Texas at El Paso, Department of Languages and Linguistics

ccontemori@utep.edu, nminjarezo@miners.utep.edu

In English, pronouns often refer to a subject/first-mentioned referent, which is usually the most salient in the previous discourse:

(1) John_i met Paul while he_i was in high school

In Spanish, native speakers show a preference for interpreting the null pronoun as referring to the subject antecedent (i.e., John in (1)), while explicit pronouns are more likely to refer to a non-subject antecedent (i.e., an explicit pronoun is usually interpreted towards the preceding object in (1)).

Recent research has demonstrated that pronoun resolution biases are sensitive to immediate priming and adaptation in monolingual and bilingual individuals (e.g., Contemori, 2019). While pronoun interpretations can be primed in bilingual speakers using a single-language priming task, it is not clear if pronoun interpretation biases can be primed cross-linguistically. The goal of the present study is to understand if (i) bilingual speakers' statistics about likely referents are independent in the two languages or if (ii) probabilistic inference in tracking referents in one language (Spanish, the L1) can affect how referential expressions are resolved in the other language (English, the L2).

Here we used a sentence comprehension experiment that implements the priming technique, where unambiguous pronouns referring to the second mentioned-referent are presented in Spanish (2) with the aim of decreasing first noun phrase (NP1) interpretations in English (John in (1)) in sentences with an ambiguous pronoun like (3).

(2) Spanish priming: Ana invitó a Alvaro al cine porque él era un buen chavo.

Ana invited Alvaro to the movies because he was a good kid.

(3) Target English sentence/ambiguous pronoun: John met Paul while he was in high school

In a sentence comprehension task, sixty-three sequential Spanish-English bilinguals read thirty English sentences containing an ambiguous pronoun ((3) and answered comprehension questions (in (3), Who was in high school?). Fifteen of the sentences were preceded by a Spanish sentence that did not contain a pronoun (=baseline condition). Fifteen ambiguous stimuli were preceded by a Spanish sentence with an unambiguous pronoun referring to the second-mentioned entity ((2) NP2 priming).

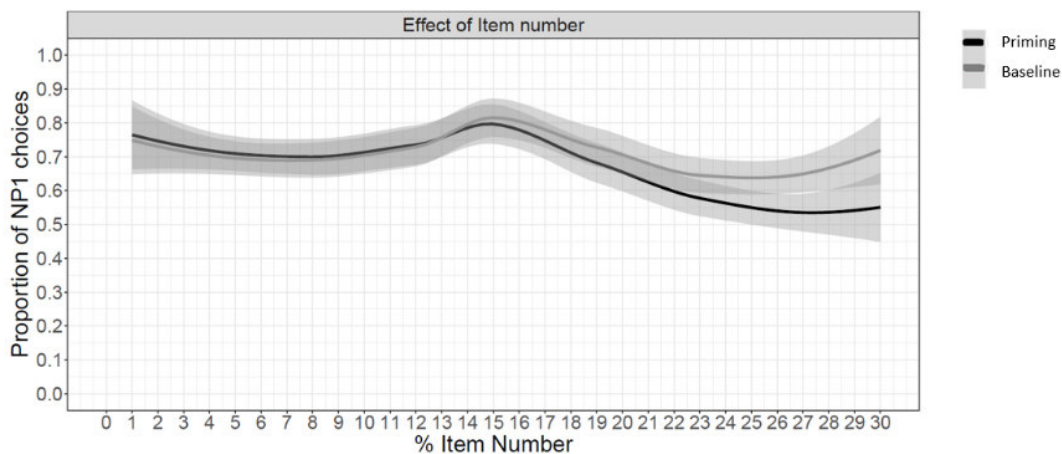
The results of the comprehension questions did not show a significant effect of immediate priming ($p=.1$). However, an interaction between Priming Condition and Order of the Items emerged ($p<0.02$), indicating that throughout the course of the experiment, bilinguals were adapting to the higher occurrence of Spanish NP2 interpretations when comprehending ambiguous English pronouns (Figure 1).

The results shows that English pronoun interpretation bias is susceptible to cross-linguistic priming, suggesting that Spanish-English bilinguals do not keep separate statistics about probability of pronominal forms interpretations occurring in the two linguistic environments. This result demonstrate that cross-linguistic influence may occur in pronoun comprehension in bilinguals, which may explain the well-known divergence between bilingual and monolingual's pronoun interpretation patterns (Sorace, 2011).

Table 1. Proportion of NP1 choices (he=John) for the English sentences with ambiguous pronouns by priming type (SD in parenthesis)

| | Spanish-English bilinguals |
|---------------------------|----------------------------|
| Baseline condition | 0.7 (0.45) |
| (NP2) Priming condition | 0.65 (0.47) |
| Total average NP1 choices | 0.67 (0.46) |

Figure 1. Effect of item number on priming condition



References

- Contemori C. (2019). Changing comprehenders' pronoun interpretations: immediate and cumulative priming at the discourse level in L2 and native speakers of English. *Second Language Research*. DOI: <https://doi.org/10.1177/0267658319886644>.
- Sorace, A. (2011). Pinning down the concept of "interface" in bilingualism. *Linguistic Approaches to Bilingualism*, 1(1), 1-33.