

Flexibility in Bilingual Grammar: Flexibility in Bilingual Grammar: Judgments and Production of Noun-Adjective Sequences in Spanish-English Speakers

Introduction. This study investigates the effects of second-language experience on first-language processing by exploring crosslinguistic syntactic differences between Spanish and English. In Spanish, adjectives are typically postnominal (e.g., *el estudiante responsable*), while in English, they are prenominal (e.g., *the responsible student*). Spanish also allows single adjectives to function as nouns (e.g., *el responsable*) — a feature typically not present in English. While linguistic analyses have examined the grammaticality of noun omission in Spanish [1], to our knowledge, there is no experimental research on this topic. Our initial aim was to conduct Study 1 to better understand how Spanish speakers rate noun omission structures (adjective-only). However, after reviewing the results of Study 1, we decided to run Study 2 to explore how speakers produce these sequences and whether production patterns align with the findings from Study 1. To this end, we conducted two experiments with Spanish-English bilinguals: heritage speakers and late bilinguals. Late bilinguals were raised in a Spanish-dominant environment in Mexico and learned English in their late teens, typically through formal education. Heritage speakers were simultaneous bilinguals, learning Spanish at home before age 5 and growing up in an English-dominant environment. Across two experiments, participants completed either an acceptability judgment task (Exp 1) or a picture-naming task (Exp 2). **Method.** In Exp 1, 96 heritage and 81 late bilinguals rated 40 Spanish sentences (adjective-noun, noun-adjective, adjective-only, or noun-only) on a 1–5 scale for acceptability. Participants also completed a language history questionnaire. In Exp 2, 48 heritage and 53 late bilinguals completed a picture-naming task designed to elicit noun-adjective and adjective-noun word strings in Spanish, adapted from a previous study [2]. This task included 30 experimental and 30 filler trials. Afterward, participants completed two language proficiency assessments: the LEAP-Q [3] and the MINT Sprint [4]. **Results and Discussion.** Exp 1 revealed that heritage speakers showed no significant preference between noun-adjective and adjective-noun orders, rating ungrammatical prenominal adjectives as acceptable. Interestingly, heritage speakers rated the adjective-only condition poorly, despite its grammaticality within the noun omission structure in Spanish. However, the key finding from Exp 1 was that heritage speakers did not differentiate significantly between the two adjective placement conditions—one deemed acceptable in English and the other in Spanish. This led us to conduct Exp 2 to explore whether heritage speakers, who rated both conditions as acceptable, would also produce both structures and display similar flexibility in production. Exp 2 treated language group (heritage vs. late bilingual) as a between-subjects variable and accuracy as the dependent measure. No main effect of group was observed. Across both tasks, heritage speakers rated ungrammatical structures as acceptable but produced them with minimal errors. This discrepancy between judgment and production suggests that daily exposure to both languages may foster flexibility in heritage bilinguals. **Future Directions.** To further explore these findings, we are conducting a self-paced reading experiment to examine real-time sentence processing in heritage bilinguals. By combining self-paced reading with tasks examining production and judgments, we aim to better understand how bilinguals' flexibility arises from proficiency and exposure to two languages. This work will deepen our understanding of bilingual processing across modalities.

References [1] Brucart & Gracia, 1986. *Rivista di Grammatica Generativa*. [2] Cuza & Perez-Tattam. 2016. *Bilingualism, Language & Cognition* [3] Marian et al. 2020. *Bilingualism, Language & Cognition* [4] Garcia & Gollan. 2022. *J Int Neuropsychol Soc*.

Figure 1: Example stimuli for Exp 1

Noun: La profesora encontro [al estudiante] frente de la pizarra blanca.

Noun + adjective: La profesora encontro [al estudiante responsable] frente de la pizarra blanca.

Adjective + noun: La profesora encontro [al responsable estudiante] frente de la pizarra blanca.

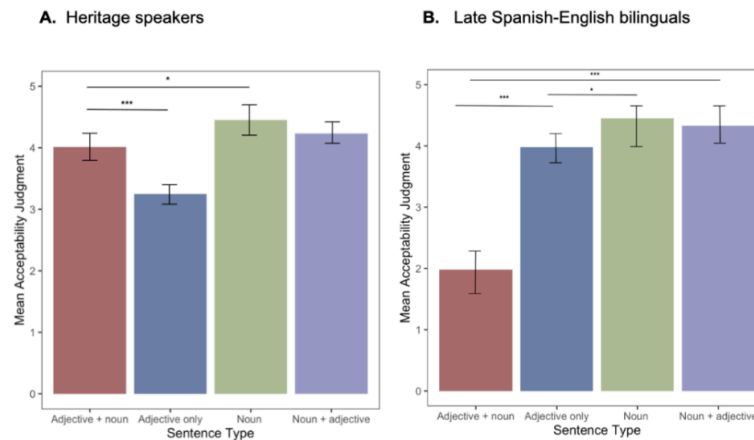
Adjective: La profesora encontro [al responsable] frente de la pizarra blanca.

Figure 2: Example stimuli for Exp 2



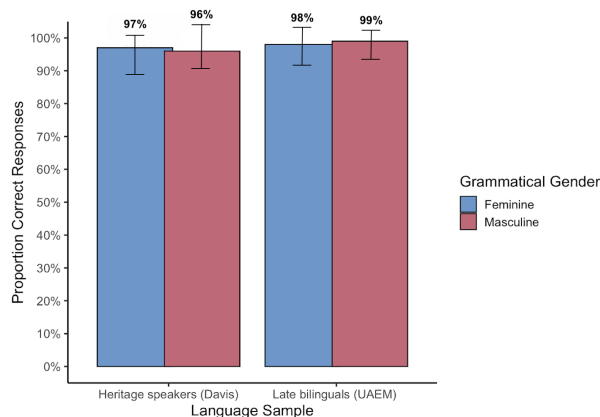
Que hay en el círculo?

Figure 3: Results from Exp 1



a. Acceptability judgment ratings of heritage speakers of Spanish. The heritage speakers did not show a preference toward a particular adjective placement. b. Acceptability judgment ratings of late Spanish-English bilinguals residing in Mexico at time of participation. The late-bilinguals showed a preference for noun + adjective, which is grammatical in Spanish.

Figure 4: Results from Exp 2



Picture naming task results. There was no significant difference between heritage speakers and late bilinguals. Language group (heritage speaker vs. late bilingual) was treated as a between-subjects variable, while the proportion of correct responses, specifically in terms of adjective placement, was treated as the dependent variable.