

Syntactic island effects in Spanish: Experimental evidence

Background: Long-distance dependencies in natural language are generally unbounded in linear and hierarchical distance, yet they are also constrained in certain domains, known as *islands*. For example, in (1) the long-distance extraction of the object from the embedded clause is licit, but a superficially similar extraction out of a nominal complement is not (2):

- (1) What homework did you hear that Mateo copied ___?
- (2) * What homework did you hear the rumor that Mateo copied ___ ?

Islands have been intensely researched, yet many puzzles remain, and one key question concerns cross-linguistic variation: some islands appear to be universal, while others vary by language. Spanish is noteworthy because it is claimed not to be sensitive to certain island restrictions. For instance, English *whether* is an island (3), but Torrego (1984) claims the Spanish equivalent *si* (4) is not. Similarly, extraction over a wh-argument (like *qué/quién* ‘what/who’) has been claimed to be possible when the extracted argument is a subject, but not when it is an object, and extraction over a wh-adjunct (like *por qué* ‘why’) is claimed to always be possible.

- (3) *Who don’t you know whether ___ read a book?
- (4) ¿Quién no sabes si ___ leyó un libro?

However, the evidence is mixed. Recent experimental work on islands in Spanish has found unexpected island effects with *si* ‘whether’ and wh-adjuncts (Ortega-Santos et al., 2018; Pañeda et al., 2020; Pañeda & Kush, 2021). We contribute new evidence to these debates, extending the empirical coverage of previous studies by testing a wider range of extraction sites and island types and by including sentences designed to facilitate extraction.

Method: We tested four island types: complex NP (as in 2), *si* ‘whether’ (as in 4), wh-argument, and wh-adjunct. Each was tested using a 3x2 factorial design (following Sprouse et al., 2016), which isolates island effects by crossing extraction site (matrix clause/embedded subject/embedded object) with island structure (island/non-island). To provide the fairest test of theoretical predictions that Spanish would fail to show island effects for some island types, we designed items with features to facilitate extraction, including making extracted arguments D-linked (*which book* rather than *what*) and avoiding rogative verbs (like *preguntar* ‘ask,’ which some previous experiments use, but Suñer (1994) argues bar extraction for independent reasons).

Native speakers of Spanish born and residing in Mexico ($n = 36$ thus far; data collection ongoing) completed a written acceptability judgment experiment, judging sentences individually on a seven-point scale. Sentences were pseudo-randomized by participant (along with fillers in a 2:1 ratio of fillers to target). Ratings were z-score transformed, and a linear mixed model was fit to the data for each type of island. A significant interaction between extraction site and island structure indicates extraction from the island decreases acceptability more than the structure or the extraction alone do (i.e., there is an island effect). Results presented below are significant ($p < .05$) tests of fixed effects.

Results: For complex NP islands (Fig. 1), extraction of both subjects and objects produced a significant interaction (i.e., an island effect), as expected. Regarding *si* ‘whether’ islands (Fig. 2), while we find a significant interaction, extraction over *si* is rated at the midpoint of the scale, higher than extractions over the other islands, and higher than ratings for *whether* islands in

English (e.g., Sprouse et al., 2016). Pañeda and Kush (2021) found similar results for *si* islands in Peninsular Spanish and Almeida (2014) for Brazilian Portuguese, suggesting that there may indeed be a cross-linguistic difference for this island type, as Torrego (1984) claimed. Perhaps such island violations are not ungrammatical in Spanish but merely receive reduced ratings for other reasons (as suggested by Keshev & Meltzer-Asscher, 2019 for Hebrew wh-islands). For wh-argument islands (Fig. 3), we found island effects whether the subject or the object was extracted. This contrasts with predictions in the theoretical literature for subject extraction, which had not previously been tested experimentally. Wh-adjunct islands (Fig. 4) also demonstrated an island effect, *contra* theoretical claims but in line with existing experimental work (Ortega-Santos et al., 2018; Pañeda & Kush, 2021).

Our results support a growing body of experimental evidence suggesting stronger island effects in Spanish than generally assumed, including in structures not previously tested experimentally. At the same time, we observe a quantitative difference for *si* ‘whether’ islands, suggesting they may indeed be unlike other islands and may differ in strength across languages.



References

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