

## Null nouns can trigger intervention in Spanish relative clauses' comprehension

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**Introduction:** The asymmetry in the comprehension of subject (S) and object (O) relative clauses (RC) is well documented in literature and seems to be present in a wide range of languages, for example, in Spanish (e.g. Betancort et al., 2009), in French (e.g. Cohen y Mehler, 1996), in Italian (e.g. Contemori & Belletti, 2010), in German (Schriefers, Friederici & Kuhn, 1995), in English (e.g. Gibson, 1998). Since Friedmann, Belletti & Rizzi (2009), but also cf. Grillo (2009), it has been argued, within the featural Relativized Minimality framework (fRM; Rizzi, 2004), that the advantage for SRCs can be explained as an effect of syntactic intervention. As both the subject NP and the object NP are lexically restricted, i.e. they share the [+N] syntactic feature, the subject NP functions as an intervener when the object NP moves to the left periphery, hindering the establishment of the syntactic dependency. Moreover, it has been claimed that when this element is not present, the comprehension of ORCs is facilitated, as it is the case of free RCs in Hebrew (Friedmann, Belletti & Rizzi, 2009). In Spanish, while headed RCs are headed by a fully realized noun, false free RCs are headed by a null noun (Panagiotidis, 2003), which is silent but present in the syntactic structure (Giollo & Muñoz Pérez, 2013). This study aims to answer one main question: can a null noun, with a [+N] syntactic feature, in the object RC head of false free RCs in Spanish hinder the establishment of the syntactic dependency and trigger intervention effects during comprehension? Following the fRM proposal, intervention effects should arise in both types of ORCs, but not in the case of SRCs. **Design:** 33 subjects participated in an auditory sentence comprehension task. They were asked to listen to a sentence; then were showed an image and were prompted to judge whether the image they saw faithfully reflected the content of the sentence heard or not (see Fig. 1). The stimuli (n=20) consisted of both, headed (1) and false free (2), RCs (Type of Antecedent). We manipulated the Type of RC in each case: SRCs (1a and 2a) and ORCs (1b and 2b). The images selected were counterbalanced to make the sentences either true or false. Response accuracy and response times (RTs) were measured during the task. **Results:** on average, participants answered 86% (SE=1.4%) of the total stimuli correctly; Figs. 2 and 3 show mean correct answers and standard error, and mean RTs and standard error (only RTs of correct answers were considered) according to condition respectively. Linear mixed-effect models were fitted for data analysis. Results showed a main effect of Type of RC: ORCs, both headed and false free, were harder to comprehend ( $\beta=0.83$ , SE=0.18,  $z=4.54$ ,  $p<.001$ ) and showed longer latencies ( $\beta=-0.09$ , SE= 0.02,  $t=4.54$ ,  $p<.001$ ). A main effect of the variable Type of Antecedent was not found, neither in accuracy ( $\beta = -0.16$ , SE = 0.17,  $z = -0.90$ ,  $p = 0.37$ ) nor in RTs ( $\beta = 0.02$ , SE = 0.02,  $t = 1.26$ ,  $p = 0.21$ ). No interaction between both factors (Type of RC x Type of Antecedent) was found, neither in accuracy ( $\beta = -0.20$ , SE = 0.17,  $z = -1.18$ ,  $p = 0.24$ ) nor in RTs ( $\beta = 0.003$ , SE = 0.02,  $t = 0.45$ ,  $p = 0.66$ ). **Discussion:** Our results confirm the predictions of the fRM account: in both RCs, headed and false free, intervention effects arose for ORCs (3b and 4b) but not for SRCs (3a and 4a). Although silent, the presence of a noun bearing the [+N] feature triggered the intervention effects predicted in the comprehension of ORCs. Our data are compatible with the results obtained in a similar study carried out in French (Bentea, Durrleman & Rizzi, 2016) where the comprehension of RCs headed by the complex pronominal forms *celui-celle* was evaluated. **Conclusions:** ORCs in Spanish, either headed by a fully realized noun or a silent one, are more difficult to comprehend than SRCs. Our investigation points to a structure-dependent account of the RCs comprehension asymmetries and highlights the importance of studying the comprehension of sentences in a wide array of languages with diverse grammatical properties, showcasing different syntactic configurations.

