

Now you hear it, now you don't:
Number mismatch in the comprehension of relative clauses in French
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The well-known asymmetry in children's comprehension of subject and object relative clauses (RCs) has been linked to intervention effects appearing in object RCs due to the sharing of features between the object and the subject DP [1]. Such effects can be modulated by featural mismatches between the two DPs [1,2], but these have a selective impact cross-linguistically depending on whether a feature is syntactically 'active' in a given language, i.e. functioning as an attractor for movement in that language by belonging to the feature set of the clausal inflectional head [3]. A pure feature-based approach would predict that an attracting feature remains an attractor for the whole paradigm even when it is not morphologically expressed in parts of the paradigm [3], and as such would still be relevant for intervention. French represents a good test case for this prediction, as number agreement between the subject and the verb is morphologically manifested in the inflectional head, but agreement is phonologically irregular (it can be silent or audible depending on the verb). French thus provides a way to investigate whether it is purely the overt phonological manifestation of number mismatch on the tensed verb that plays a role in the computation of intervention [4,5] or whether a mismatch in number has the same impact on RC comprehension both when audible and inaudible [3]. It also remains to be determined to what extent sensitivity to featural mismatches shows a developmental effect and whether young children with limited computational resources struggle more to capitalize on these mismatches than older ones. Some authors report that already very young children fare well with fine-grained featural distinctions. Other authors claim that children's performance shows a main effect of age [2], possibly because sensitivity to featural mismatches relates to memory span, whose capacity also increases with age [6,7]. According to this reasoning, the computation of fine-grained featural distinctions is arguably a complex operation so should be susceptible to developing later [1].

In order to address these lacunae in the literature, we assessed the comprehension of 70 French-speaking children (age range 4;7 – 8;9) on 14 subject and 14 object RCs, out of which half had a number match and half contained a number mismatch, via a character-selection task (figure 1). We fit a GLMM to the data with Sentence type, Number and Agreement as predictors. The analysis revealed that (i) children across all age groups find subject RCs easier to comprehend than object RCs ($p < .001$), (ii) only the older children perform better with object RCs in the number mismatch condition ($p < .05$), and (iii) the presence or absence of audible agreement has no impact on comprehension ($p > .05$).

Results thus confirm the subject-object asymmetry and also show that a featural mismatch in number improves performance in object RCs only, regardless of the morphological realization of this feature on the clausal head (figures 2 and 3). Critically, only the older age groups were sensitive to the effect of a number mismatch, suggesting that younger children have difficulties computing fine-grained featural mismatches.



Figure 1. Example of images paired with target sentences in the number match (A) and number mismatch (B) conditions

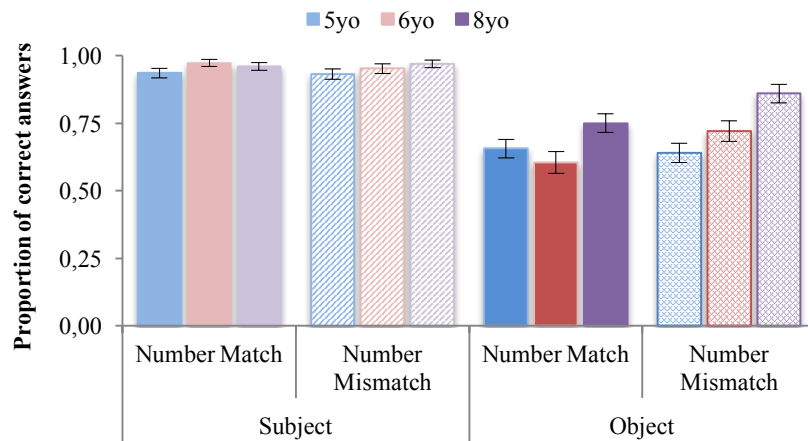


Figure 2. Overall results for subject and object RCs by number match/mismatch condition

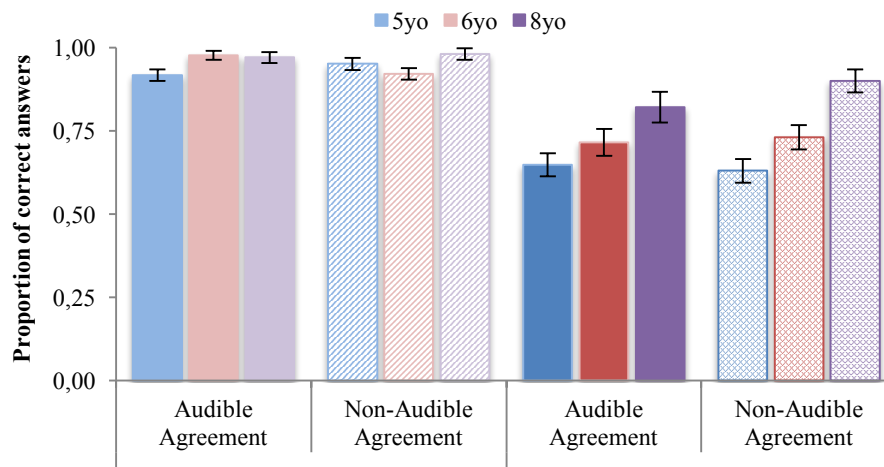


Figure 3. Overall results for subject and object RCs with a number mismatch by audible/non-audible agreement condition and by age group

References: [1] Friedmann et al. 2009. Relativized relatives: Types of intervention in the acquisition of A-bar dependencies. *Lingua* 119:67-88 [2] Adani et al. 2010. Grammatical feature dissimilarities make RCs easier: a comprehension study with Italian children. *Lingua* 120:2148–2166. [3] Belletti et al. 2012. Does gender make a difference? Comparing the effect of gender on children’s comprehension of relative clauses in Hebrew and Italian. *Lingua*. 122:1053-1069. [4] Bates & MacWhinney. 1987. Competition, variation, and language learning. In: MacWhinney, B. (Ed.), *Mechanisms of Language Acquisition*. Erlbaum, Hillsdale, NJ. [5] Bates. 1999. Processing complex sentences: a cross-linguistic study. *Language and Cognitive Processes* 14:69–123. [6] Arosio et al. 2010. Disambiguating Information and Memory Resources in Children’s Processing of Italian Relative Clauses, *Journal of Psycholinguistic Research* 40(2):137-54. [7] Arosio et al. 2012. Morphological Information and Memory Resources in children’s processing of relative clauses in German. *Language Learning and Development* 8:340-364.