# The production of Object Relative clauses in Italian-speaking children: a syntactic priming study

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For children, Object Relative (OR) clauses with two animate noun phrases are difficult to comprehend and to produce across a number of languages (1). One study investigated the priming of ORs in comprehension (Brandt et al., 2017), showing no priming effect in 6-year-old German-speaking children, and a robust priming effect in 9-year-olds, a result explained as a delayed development of abstract representations of ORs in the younger group.

In the present study, we designed a new production task to explore the effects of syntactic priming on the production of ORs, to test the claim of a lack of abstract representations for ORs in 6-year-olds. We aim at addressing the following research questions: (i) can ORs be successfully primed in production, a modality that has not yet being tested in previous syntactic priming studies for ORs? (ii) Do children younger than nine years-old have underlying representations for ORs with two animate noun phrases?

We created a novel picture description task in which pairs of pictures are presented to the participant, and one of the two pictures is described by the experimenter by using an OR. After hearing the prime sentence, the child is shown another pair of pictures and is prompted to describe the patient in one of the two pictures by starting the sentence with *This is* (Figures 1-2). One group of seventeen 6-year-old Italian-speaking children (age range=5;11-7;1; M=6.3 SD= 0.36) was primed with twelve ORs (OR-only condition, (1)) and was expected to describe a set of twelve target pictures with no lexical overlap with the primes.

A second group of seventeen 6-year-olds (age range=5;7-6;2; M=5.9; SD=0.2) heard twelve prime sentences, consisting of eight ORs (1) and four subject relative clauses (SRs) with a passive verb (2) presented in random order (OR-and-passive SR condition), and then described twelve target pictures. Passive SRs are an alternative structure to ORs: previous production studies using various elicitation techniques demonstrated an increasing preference in producing passive SRs in children from age 6 (and overwhelmingly in adults) when an OR is expected (e.g., Contemori & Belletti, 2013).

The majority of the ORs produced by children contained a resumptive clitic pronoun (*The cow that the goats are pushing it*-cl), a non-standard relativization strategy in Italian (Figure 3; e.g., Contemori & Belletti, 2013 for similar results using an elicitation task). For the statistical analysis, we only counted as correct the ORs with a gap produced by the children (as in (1)).

We conducted a between-subject priming analysis in which the number of ORs produced was compared between the OR-only condition and in the OR-and-passive SR condition. The analysis revealed a significant decrease in the number of ORs produced by the group tested with the OR-and-passive SR condition compared to the group tested with the OR-only condition (ß=-1.2, *SD*=0.4, t=-2.766, p<0.005), and a significant increase in the number of passive SRs produced (ß=2.7, *SD*=0.7, t=3.864, p<0.0001).

In a second analysis, we focused on the OR-and-passive SR condition, by comparing the amount of ORs produced after an OR prime (M=0.18; SD=0.38) to the amount of ORs produced after a passive SR prime (M=0.01; SD=0). The analysis showed a significant priming effect (ß=5.3, *SD*=1.7, t=3.074, p<0.002), with children producing more ORs with gap when an OR is primed than when a passive SR is primed (Figure 4).

The results of the study demonstrate that children can be primed to produce ORs, and that they have underlying representations for ORs with two animate noun phrases at age 6, contra Brandt et al. (2017). Our results are in line with previous studies suggesting that children have abstract representations for several types of syntactic structures (e.g., Shimpi et al., 2007; Thotatiri & Snedeker, 2008a). Additional testing is currently ongoing to investigate the priming effects for

ORs in children younger than 6, and to explore lexically-based priming in a condition of lexical overlap between the prime and the target.

**Figure 1. Example of a prime item**

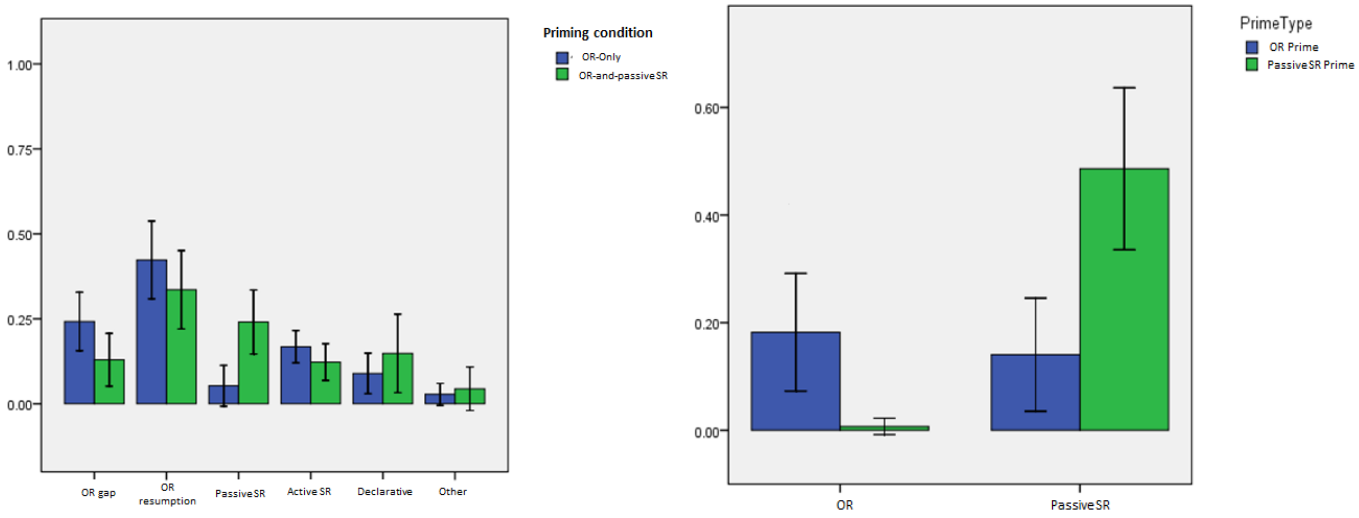
(1) *Prime of a OR*: Questa é la capra che le mucche spingono
This is the goat that the cows is pushing

(2) *Prime of a passive SR*: Questa é la capra che viene spinta dalle mucche
This is the goat that is being pushed by the cows

**Figure 2. Example of a target item**

Example of a target picture described by the child.
The experimenter points to the monkey in the left picture and says: Questa é…(This is….)

**Figure 3 (left). Proportion of responses in the two priming conditions (between-subjects analysis)**
**Figure 4 (right). Proportion of responses in the OR-and-passive SR condition as a function of prime type (within-subjects analysis)**

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